



City Council
Regular Meeting
AGENDA

Civic Center Council Chamber ♦ 300 Seminary Avenue ♦ Ukiah, CA 95482
Register for Ukiah City Council Regular Meeting at:

<https://attendee.gotowebinar.com/rt/4910662329263871245>

After registering, you will receive a confirmation email containing information about joining the webinar. Alternatively, you may view the meeting (without participating) by clicking on the name of the meeting at www.cityofukiah.com/meetings.

July 15, 2020 - 6:00 PM

1. ROLL CALL

2. PLEDGE OF ALLEGIANCE

3. PROCLAMATIONS/INTRODUCTIONS/PRESENTATIONS

4. PETITIONS AND COMMUNICATIONS

5. APPROVAL OF MINUTES

5.a. Approval of the Minutes for the July 1, 2020, Regular Meeting.

Recommended Action: Approve the Minutes of July 1, 2020, Regular Meeting, as submitted.

Attachments:

1. 2020-07-01 Draft Minutes

6. RIGHT TO APPEAL DECISION

Persons who are dissatisfied with a decision of the City Council may have the right to a review of that decision by a court. The City has adopted Section 1094.6 of the California Code of Civil Procedure, which generally limits to ninety days (90) the time within which the decision of the City Boards and Agencies may be judicially challenged.

7. CONSENT CALENDAR

The following items listed are considered routine and will be enacted by a single motion and roll call vote by the City Council. Items may be removed from the Consent Calendar upon request of a Councilmember or a citizen in which event the item will be considered at the completion of all other items on the agenda. The motion by the City Council on the Consent Calendar will approve and make findings in accordance with Administrative Staff and/or Planning Commission recommendations.

- 7.a. Designation of Voting Delegates and Alternates for the League of California Cities Annual Conference – October 7 - 9, 2020.
Recommended Action: Designate Councilmember Mulheren as the Voting Delegate, and Sage Sangiacomo, City Manager and Shannon Riley, Deputy City Manager as the Alternate(s) to represent the City of Ukiah for the 2020 League Annual Conference; and authorize the City Clerk to submit the Voting Delegate/Alternate Form on their behalf
 Attachments:
1. Conference Announcement
 2. Voting Procedures
 3. Voting Delegate Form
- 7.b. Council to Receive and File Adopted 2020-21 Fiscal Year City of Ukiah Budget Document.
Recommended Action: Receive and File adopted 2020-21 Fiscal Year City of Ukiah Budget Document.
 Attachments: None
- 7.c. Award Contract to Systems Integrated in the Amount of \$245,461 to Replace Lake Mendocino Hydroelectric Plant's Control System, Authorize the City Manager to Negotiate and Execute an Agreement, and Approve Corresponding Budget Amendment.
Recommended Action: Award contract to Systems Integrated in the amount of \$245,461 for the Hydroelectric Plant SCADA/PLC Replacement Project, authorize the City Manager to negotiate and execute an agreement, and approve corresponding budget amendment.
 Attachments:
1. RFP
 2. Proposal Evaluation Summary Hydro SCADA Upgrade
 3. Proposal - Systems Integrated

8. **AUDIENCE COMMENTS ON NON-AGENDA ITEMS**

The City Council welcomes input from the audience. If there is a matter of business on the agenda that you are interested in, you may address the Council when this matter is considered. If you wish to speak on a matter that is not on this agenda, you may do so at this time. In order for everyone to be heard, please limit your comments to three (3) minutes per person and not more than ten (10) minutes per subject. The Brown Act regulations do not allow action to be taken on audience comments in which the subject is not listed on the agenda.

9. **COUNCIL REPORTS**

10. **CITY MANAGER/CITY CLERK REPORTS**

11. **PUBLIC HEARINGS (6:15 PM)**

- 11.a. Consider Introduction by Title Only of the Ordinance Amending City Code Provisions Regulating Development of Accessory Dwelling Units.
Recommended Action: Introduce the Ordinance Amending City Code Provisions Regulating Development of Accessory Dwelling Units by title only.
 Attachments:
1. ADU Ordinance Amendment REDLINE
 2. ADU Ordinance Amendment CLEAN

12. **UNFINISHED BUSINESS**

- 12.a. Receive Status Report and Consider Any Action or Direction Related to the Novel Coronavirus (COVID-19) Emergency Including Operational Preparedness and Response; Continuity of City Operations and Services; Community and Business Impacts; and Any Other Related Matters.
Recommended Action: Receive status report and consider any action or direction related to the Novel Coronavirus (COVID-19) Emergency including operational preparedness and response; continuity of City operations and services; community and business impacts; and any other related matters.

Attachments: None

- 12.b. Discussion with Possible Direction to Staff Regarding Amendments to the City's HOME Tenant Based Rental Assistance Program Guidelines to Provide Rental and Utility Payment Assistance to Lower Income Households Impacted by the COVID-19 Pandemic.

Recommended Action: Discuss and possibly provide direction to Staff regarding amendments to the City's HOME Tenant Based Rental Assistance Program Guidelines to provide rental and utility payment assistance to lower income households impacted by the COVID-19 pandemic.

Attachments:

1. 16-HOME-11376 Standard Agreement
2. City of Ukiah 16-HOME-11376 Amendment Request 6-8-20
3. Ukiah HOME COVID TBRA Program Guidelines 7-9-20

13. NEW BUSINESS

- 13.a. Receive Updates on City Council Committee and Ad Hoc Assignments, and, if Necessary, Consider Modifications to Assignments and/or the Creation/Elimination of Ad Hoc(s).

Recommended Action: Receive report(s). The Council will consider modifications to committee and ad hoc assignments along with the creation/elimination ad hoc(s).

Attachments:

1. 2020 City Council Special Assignments - 07-06-20

14. CLOSED SESSION - CLOSED SESSION MAY BE HELD AT ANY TIME DURING THE MEETING

- 14.a. **Conference with Legal Counsel—Anticipated Litigation**

(Government Code Section 54956.9(d))

A. Initiation of litigation pursuant to paragraph (4) of subdivision (d) of Government Code Section 54956.9: (Number of potential cases: 1.)

B. Significant exposure to litigation pursuant to paragraph (2) or (3) of subdivision (d) of Section 54956.9: (Number of potential cases: 1)

Recommended Action: Confer in Closed Session

Attachments: None

- 14.b. **Conference with Legal Counsel—Anticipated Litigation**

(Government Code Section 54956.9(d)) Significant exposure to litigation pursuant to Government Code Section 54956.9(d)(1) (Number of potential case: 1)

Recommended Action: Confer in Closed Session

Attachments: None

- 14.c. **Conference with Legal Counsel – Existing Litigation**
(Government Code Section 54956.9(d)(1))
Name of case: Vichy Springs Resort v. City of Ukiah, Et Al; Case No. SCUk-CVPT-2018-70200
Recommended Action: Confer in Closed Session
Attachments: None
- 14.d. **Conference with Legal Counsel – Existing Litigation**
(Cal. Gov't Code Section 54956.9(d)(1))
Name of case: City of Ukiah v. Questex, LTD, et al, Mendocino County Superior Court, Case No. SCUk- CVPT-15-66036
Recommended Action: Confer in Closed Session
Attachments: None
- 14.e. **Conference with Real Property Negotiators**
(Cal. Gov't Code Section 54956.8)
Property: APN Nos: 157-050-03, 157-060-02, 157-050-04, 157-050-03, 157-030-02, 157-050-01, 157-050-02, 157-050-10, 157-050-09, 157-070-01, 157-070-02, 003-190-01
Negotiator: Sage Sangiacomo, City Manager;
Negotiating Parties: Dave Hull and Ric Piffero
Under Negotiation: Price & Terms of Payment
Recommended Action: Confer in Closed Session
Attachments: None
- 14.f. **Conference with Labor Negotiator (54957.6)**
Agency Representative: Sage Sangiacomo, City Manager
Employee Organizations: All Bargaining Units
Recommended Action: Confer in Closed Session
Attachments: None

15. **ADJOURNMENT**

Please be advised that the City needs to be notified 72 hours in advance of a meeting if any specific accommodations or interpreter services are needed in order for you to attend. The City complies with ADA requirements and will attempt to reasonably accommodate individuals with disabilities upon request. Materials related to an item on this Agenda submitted to the City Council after distribution of the agenda packet are available for public inspection at the front counter at the Ukiah Civic Center, 300 Seminary Avenue, Ukiah, CA 95482, during normal business hours, Monday through Friday, 8:00 am to 5:00 pm.

I hereby certify under penalty of perjury under the laws of the State of California that the foregoing agenda was posted on the bulletin board at the main entrance of the City of Ukiah City Hall, located at 300 Seminary Avenue, Ukiah, California, not less than 72 hours prior to the meeting set forth on this agenda.

Kristine Lawler, City Clerk
Dated: 7/10/2020

**CITY OF UKIAH
CITY COUNCIL MINUTES
Regular Meeting**

<https://attendee.gotowebinar.com/rt/4910662329263871245>

**July 1, 2020
6:00 p.m.**

1. ROLL CALL

Ukiah City Council met at a Regular Meeting on July 1, 2020, having been legally noticed on June 26, 2020. Mayor Crane called the meeting to order at 6:02 p.m. Roll was taken with the following **Councilmembers Present:** Maureen Mulheren, Jim O. Brown, Stephen G. Scalmanini, Juan V. Orozco, and Douglas F. Crane. **Staff Present:** Sage Sangiacomo, City Manager; David Rapport, City Attorney; and Kristine Lawler, City Clerk.

MAYOR CRANE PRESIDING.

2. PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was led by Sage Sangiacomo, City Manager.

3. PROCLAMATIONS/INTRODUCTIONS/PRESENTATIONS

4. PETITIONS AND COMMUNICATIONS

5. APPROVAL OF MINUTES

- a. Approval of the Minutes for the June 17, 2020, Special Meeting.
- b. Approval of the Minutes for the June 17, 2020, Regular Meeting.
- c. Approval of the Minutes for the June 18, 2020, Special Meeting.

Motion/Second: Orozco/Scalmanini to approve the Minutes of June 17, 2020, a special meeting; the Minutes of June 17, 2020, a regular meeting; and the Minutes of June 18, 2020, a special meeting as submitted. Motion **carried** by the following roll call votes: AYES: Mulheren, Brown, Scalmanini, Orozco, and Crane. NOES: None. ABSENT: None. ABSTAIN: None.

6. RIGHT TO APPEAL DECISION

7. CONSENT CALENDAR

- a. Authorize the City Manager to Execute an Agreement (COU No. 2021-082) with Psomas for Land Surveyor Services in an Amount of \$55,410.40 – *Water Resources*.
- b. Approval and Adoption of Resolution (2020-38) Amending and Extending Memoranda of Understanding (COU No. 2021-083 Fire Unit; COU No. 2021-084 OE3 Water Utilities and Mechanics Unit; COU No. 2021-085 OE3 Administrative and Maintenance Unit) with Employee Bargaining Units – *Human Resources*.
- c. Approve Change Order to Purchase Order #46601 to Vaughan's Industrial Repair Inc. to Rebuild two (2) Fairbanks Morse 10" VTSH Pumps for the Amount of \$46,634 – *Water Resources*.
- d. Receive Annual Report of Boards and Commission Term Expirations and Vacancies – *City Clerk*.

- e. Authorize the City Manager to Execute a Contract Amendment (COU No. 1213-130-A2) with Wagner and Bonsignore for Water Rights Consulting Services in an Amount of \$40,000 – *Water Resources*.
- f. Consideration of Approval of a Refund to the Federal Aviation Administration (FAA) in the Amount of \$29,067 for the Airport Improvement Program (AIP) Grant 16 Funds, Due to an FAA Clerical Error – *Airport*.
- g. Authorize the City Manager to Negotiate and Execute a Multi-function Copier Lease and Maintenance Contract (COU No. 2021-086) with Xerox for the Replacement of the Existing Machines – *Finance*.
- h. Award Contract (COU No. 2021-087) to C.V. Larsen Co. in the Amount of \$526,500 for the PZ2S Water Tank Replacement Project, Specification No. 20-02, Revision 1, and Approval of Corresponding Budget Amendment – *Water Resources*.
- i. Adoption of Amended Sewer Charges Ordinance – *Water Resources*.

ORDINANCE NO. 1203

ORDINANCE OF THE CITY COUNCIL OF THE CITY OF UKIAH AMENDING DIVISION 4, CHAPTER 2, ARTICLE 8 OF THE UKIAH CITY CODE, ENTITLED: SEWER CHARGES

Motion/Second: Scalmanini/Brown to approve Consent Calendar Items 7a-7i, as submitted. Motion **carried** by the following roll call votes: AYES: Mulheren, Brown, Scalmanini, Orozco, and Crane. NOES: None. ABSENT: None. ABSTAIN: None.

8. **AUDIENCE COMMENTS ON NON-AGENDA ITEMS**

No audience comments were received.

9. **COUNCIL REPORTS**

No reports were received.

10. **CITY MANAGER/CITY CLERK REPORTS**

Presenters: Sage Sangiacomo, City Manager.

- Construction Activity – Tim Eriksen, Public Works Director / City Engineer.

11. **PUBLIC HEARINGS (6:15 PM)**

a. Public Hearing on Financing Documentation for Facilities Acquisition, Enhancement, and Repair of Recently Acquired Property at 501 South State Street and Other Facilities (Recommended to be continued to a date certain of August 5, 2020).

Presenter: Sage Sangiacomo, City Manager

PUBLIC HEARING OPENED AT 6:23 P.M.

No public comment was received.

PUBLIC HEARING CLOSED AT 6:23 P.M.

Motion/Second: Scalmanini/Brown to continue the agenda item to a time/date certain of August 5, 2020, at 6:15 PM to conduct a public hearing on financing documentation for facility acquisition and improvements. Motion **carried** by the following roll call votes: AYES: Mulheren, Brown, Scalmanini, Orozco, and Crane. NOES: None. ABSENT: None. ABSTAIN: None.

12. UNFINISHED BUSINESS

- a. Approval of Agreement to Continue Registered Municipal Financial Advisory, Continuing Disclosure, Debt Issuance, and General Financial Consultancy Services with NHA Advisors.**

Presenter: Dan Buffalo, Finance Director.

Motion/Second: Scalmanini/Orozco to approve and authorize the City Manager or designee to negotiate final terms with NHA Advisors and execute an agreement (COU No. 2021-088) for continued financial advisory services. Motion **carried** by the following roll call votes: AYES: Mulheren, Brown, Scalmanini, Orozco, and Crane. NOES: None. ABSENT: None. ABSTAIN: None.

- b. Receive Status Report and Consider Any Action or Direction Related to the Novel Coronavirus (COVID-19) Emergency Including Operational Preparedness and Response; Continuity of City Operations and Services; Community and Business Impacts; and Any Other Related Matters.**

Presenters: Tami Bartolomei, Office of Emergency Management Coordinator and Sage Sangiacomo, City Manager.

Reports were received.

- c. Consider Request for Continuing Funding, in the Amount of \$50,000.00, for the Ongoing Potter Valley Project Licensing Efforts by the Mendocino County Inland Water and Power Commission.**

Presenter: Sean White, Water Resources Director.

Public Comment: Devon Jones, Mendocino County Farm Bureau, Executive Director (*read by clerk*) and Janet Pauli, Inland Power and Water Commission (IWPC) Executive Director.

Motion by Councilmember Brown, and Seconded by Mulheren for the recommended action with the request for a letter from the IWPC Director stating in simple terms of where funds will be used, how much cost is estimated for the next five years, and which agencies will be participating.

Upon public comment submitted by the IWPC Director, the Maker amended the motion to withdraw the special request, and the Second concurred.

Motion/Second: Brown/Mulheren to approve request for continuing funding, in the amount of \$50,000.00, for the ongoing Potter Valley Project Licensing Efforts by the Mendocino County Inland Water and Power Commission. Motion **carried** by the following roll call votes: AYES: Mulheren, Brown, Scalmanini, Orozco, and Crane. NOES: None. ABSENT: None. ABSTAIN: None.

13. NEW BUSINESS

- a. Award Contract to Excery for Project Management Services in the amount of \$143,131 for the Selection and Implementation of a Utility Billing Customer Information System, Authorize the City Manager to Negotiate and Execute an Agreement, and Approve Corresponding Budget Amendment.**

Presenters: Mary Horger, Financial Services Manager and Lori Martin Billing & Customer Services Manager.

Motion/Second: Brown/Orozco to award contract (COU No. 2021-089) to Excery for Project Management Services for the selection and implementation of a Utility Billing Customer Information System, authorize the City Manager to negotiate and execute an agreement, and approve corresponding budget Amendment. Motion **carried** by the following roll call votes: AYES: Mulheren, Brown, Scalmanini, Orozco, and Crane. NOES: None. ABSENT: None. ABSTAIN: None.

b. Receive Updates on City Council Committee and Ad Hoc Assignments and, if Necessary, Consider Modifications to Assignments and/or the Creation/Elimination of Ad hoc(s).

Presenter: Mayor Crane, Sage Sangiacomo, City Manager, Vice Mayor Orozco, and Councilmember Mulheren,

Motion/Second: Brown/Mulheren to form a Diversity and Equity ad hoc consisting of Vice Mayor Orozco and Councilmember Mulheren. Motion **carried** by the following roll call votes: AYES: Mulheren, Brown, Scalmanini, Orozco, and Crane. NOES: None. ABSENT: None. ABSTAIN: None.

THE CITY COUNCIL ADJOURNED TO CLOSED SESSION AT 7:41 P.M., AND RECONVENED IN OPEN SESSION AT 8:12 P.M.

c. Consideration of a Resolution Approving Service Level Changes Due to Economic Impacts Related to COVID-19 Pandemic and Other Service Level Reductions.

Presenter: Sage Sangiacomo, City Manager.

Motion/Second: Brown/Scalmanini to adopt a resolution (2020-39) approving service level changes due to economic impacts related to COVID-19 pandemic and other service level reductions. Motion **carried** by the following roll call votes: AYES: Mulheren, Brown, Scalmanini, Orozco, and Crane. NOES: None. ABSENT: None. ABSTAIN: None.

14. CLOSED SESSION

a. Conference with Legal Counsel—Anticipated Litigation

(Government Code Section 54956.9(d))

A. Initiation of litigation pursuant to paragraph (4) of subdivision (d) of Government Code Section 54956.9: (Number of potential cases: 1.)

B. Significant exposure to litigation pursuant to paragraph (2) or (3) of subdivision (d) of Section 54956.9: (Number of potential cases: 1)

b. Conference with Legal Counsel—Anticipated Litigation

Government Code Section 54956.9(d)(2)

Significant exposure to litigation pursuant to Government Code Section 54956.9(d)(1) (Number of potential case: 1)

c. Conference with Legal Counsel – Existing Litigation

(Government Code Section 54956.9(d)(1))

Name of case: *Vichy Springs Resort v. City of Ukiah, Et Al; Case No. SCU-K-CVPT-2018-70200*

d. Conference with Legal Counsel – Existing Litigation

(Cal. Gov't Code Section 54956.9(d)(1))

Name of case: *City of Ukiah v. Questex, LTD, et al, Mendocino County Superior Court, Case No. SCU-K- CVPT-15-66036*

e. Conference with Real Property Negotiators

(Cal. Gov't Code Section 54956.8)

Property: APN Nos: 002-192-14-00 (280 E. Standley)

Negotiator: Sage Sangiacomo, City Manager;

Negotiating Parties: Onetogether Solutions

Under Negotiation: Price & Terms of Payment

f. Conference with Labor Negotiator (54957.6)

Agency Representative: Sage Sangiacomo, City Manager

Employee Organizations: All Bargaining Units

No additional Closed Session was held, and no report was received.

15. ADJOURNMENT

There being no further business, the meeting adjourned at 8:14 p.m.

Kristine Lawler, City Clerk

DRAFT



AGENDA SUMMARY REPORT

SUBJECT: Designation of Voting Delegates and Alternates for the League of California Cities Annual Conference – October 7 - 9, 2020.

DEPARTMENT: City Clerk

PREPARED BY: Kristine Lawler, City Clerk

PRESENTER: Consent Calendar

ATTACHMENTS:

1. Conference Announcement
2. Voting Procedures
3. Voting Delegate Form

Summary: Council is to designate a voting delegate and alternate(s) for the 2020 League of California Cities Annual Conference and authorize the City Clerk to submit the Voting Delegate/Alternate Form on their behalf.

Background: The League of California Cities 2020 Annual Conference is scheduled for October 7 - 9, 2020, (Attachment 1). Although the conference is tentatively planned to be held in Long Beach, alternative procedures will be provided if COVID-19 restrictions prohibit the location. On Friday, October 9, the League will hold its Annual Business meeting where membership considers and takes action on resolutions that establish League policy. The League is requesting the City Council designate a voting delegate and, if desired, up to two voting delegate alternates to participate in this meeting (Attachment 2). Councilmember Mulheren is currently assigned to the League and plans to attend the conference virtually, even if the conference is held at the physical location in Long Beach.

Discussion: Staff is recommending that Council designate Councilmember Mulheren as the Voting Delegate and Sage Sangiacomo, City Manager and Shannon Riley, Deputy City Manager as the Alternate(s) for the 2020 League Annual Conference; and authorize the City Clerk to submit the Voting Delegate/Alternate Form (Attachment 3) on their behalf.

Recommended Action: Designate Councilmember Mulheren as the Voting Delegate, and Sage Sangiacomo, City Manager and Shannon Riley, Deputy City Manager as the Alternate(s) to represent the City of Ukiah for the 2020 League Annual Conference; and authorize the City Clerk to submit the Voting Delegate/Alternate Form on their behalf

BUDGET AMENDMENT REQUIRED: N/A

CURRENT BUDGET AMOUNT: N/A

PROPOSED BUDGET AMOUNT: N/A

FINANCING SOURCE: N/A

PREVIOUS CONTRACT/PURCHASE ORDER NO.: N/A

COORDINATED WITH: N/A

Approved: 
Sage Sangiacomo, City Manager



Council Action Advised by August 31, 2020
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June 30, 2020

TO: Mayors, City Managers and City Clerks

**RE: DESIGNATION OF VOTING DELEGATES AND ALTERNATES
League of California Cities Annual Conference & Expo – October 7 – 9, 2020**

The League's 2020 Annual Conference & Expo is scheduled for October 7 – 9. An important part of the Annual Conference is the Annual Business Meeting (during General Assembly) on Friday, October 9. At this meeting, the League membership considers and takes action on resolutions that establish League policy.

In order to vote at the Annual Business Meeting, your city council must designate a voting delegate. Your city may also appoint up to two alternate voting delegates, one of whom may vote in the event that the designated voting delegate is unable to serve in that capacity.

Please complete the attached Voting Delegate form and return it to the League's office no later than Wednesday, September 30. This will allow us time to establish voting delegate/alternate records prior to the conference.

Please note the following procedures are intended to ensure the integrity of the voting process at the Annual Business Meeting. These procedures assume that the conference will be held in-person at the Long Beach Convention Center as planned. Should COVID-19 conditions and restrictions prohibit the League from holding an in-person conference, new procedures will be provided.

- **Action by Council Required.** Consistent with League bylaws, a city's voting delegate and up to two alternates must be designated by the city council. When completing the attached Voting Delegate form, please attach either a copy of the council resolution that reflects the council action taken, or have your city clerk or mayor sign the form affirming that the names provided are those selected by the city council. Please note that designating the voting delegate and alternates must be done by city council action and cannot be accomplished by individual action of the mayor or city manager alone.
- **Conference Registration Required.** The voting delegate and alternates must be registered to attend the conference. They need not register for the entire conference; they may register for Friday only. Conference registration will open by the end of July at www.cacities.org. In order to cast a vote, at least one voter must be present at the Business Meeting and in possession of the voting delegate card. Voting delegates and alternates need to pick up their conference badges before signing in and picking up the voting delegate card at the Voting Delegate Desk. This will enable them to receive the



Annual Conference Voting Procedures

1. **One City One Vote.** Each member city has a right to cast one vote on matters pertaining to League policy.
2. **Designating a City Voting Representative.** Prior to the Annual Conference, each city council may designate a voting delegate and up to two alternates; these individuals are identified on the Voting Delegate Form provided to the League Credentials Committee.
3. **Registering with the Credentials Committee.** The voting delegate, or alternates, may pick up the city's voting card at the Voting Delegate Desk in the conference registration area. Voting delegates and alternates must sign in at the Voting Delegate Desk. Here they will receive a special sticker on their name badge and thus be admitted to the voting area at the Business Meeting.
4. **Signing Initiated Resolution Petitions.** Only those individuals who are voting delegates (or alternates), and who have picked up their city's voting card by providing a signature to the Credentials Committee at the Voting Delegate Desk, may sign petitions to initiate a resolution.
5. **Voting.** To cast the city's vote, a city official must have in his or her possession the city's voting card and be registered with the Credentials Committee. The voting card may be transferred freely between the voting delegate and alternates, but may not be transferred to another city official who is neither a voting delegate or alternate.
6. **Voting Area at Business Meeting.** At the Business Meeting, individuals with a voting card will sit in a designated area. Admission will be limited to those individuals with a special sticker on their name badge identifying them as a voting delegate or alternate.
7. **Resolving Disputes.** In case of dispute, the Credentials Committee will determine the validity of signatures on petitioned resolutions and the right of a city official to vote at the Business Meeting.


CITY: _____

**2020 ANNUAL CONFERENCE
VOTING DELEGATE/ALTERNATE FORM**

Please complete this form and return it to the League office by Wednesday, September 30, 2020. Forms not sent by this deadline may be submitted to the Voting Delegate Desk located in the Annual Conference Registration Area. Your city council may designate one voting delegate and up to two alternates.

In order to vote at the Annual Business Meeting (General Assembly), voting delegates and alternates must be designated by your city council. Please attach the council resolution as proof of designation. As an alternative, the Mayor or City Clerk may sign this form, affirming that the designation reflects the action taken by the council.

Please note: Voting delegates and alternates will be seated in a separate area at the Annual Business Meeting. Admission to this designated area will be limited to individuals (voting delegates and alternates) who are identified with a special sticker on their conference badge. This sticker can be obtained only at the Voting Delegate Desk.

1. VOTING DELEGATE

Name: _____

Title: _____

2. VOTING DELEGATE - ALTERNATE

Name: _____

Title: _____

3. VOTING DELEGATE - ALTERNATE

Name: _____

Title: _____

PLEASE ATTACH COUNCIL RESOLUTION DESIGNATING VOTING DELEGATE AND ALTERNATES.

OR

ATTEST: I affirm that the information provided reflects action by the city council to designate the voting delegate and alternate(s).

Name: _____

Email: _____

Mayor or City Clerk _____

Date _____ Phone _____

(circle one)

(signature)

Please complete and return by Wednesday, September 30, 2020

League of California Cities
ATTN: Darla Yacub
 1400 K Street, 4th Floor
 Sacramento, CA 95814

FAX: (916) 658-8240
 E-mail: dyacub@cacities.org
 (916) 658-8254



AGENDA SUMMARY REPORT

SUBJECT: Council to Receive and File Adopted 2020-21 Fiscal Year City of Ukiah Budget Document.

DEPARTMENT: Finance **PREPARED BY:** Daphine Harris, Management Analyst, Dan Buffalo, Finance Director
PRESENTER: Consent Calendar

ATTACHMENTS:

None

Summary: Council to receive and file adopted 2020-21 Fiscal Year City of Ukiah budget document.

Background: A budget for local government is meant to be a dynamic, malleable, and useful tool for decision-makers and the community. It conveys a number of different messages to the community served, including how available resources will be allocated. The budget is encapsulated in a single document to deliver that message. The City's Management Team recognizes and appreciates the City Council's support for a well-developed and clear budget document. The presented budget document represents a continued improvement in content, form, and presentation and is a continuation of the framework developed last year to meet the highest professional standards of budgeting.

Council received Departmental Presentations at a special meeting on June 18, 2020. Departments and divisions tailored their individual objectives and accomplishments with the effects of the COVID-19 pandemic. Council approved and adopted at that meeting the City's budget for the 2020-21 fiscal year and Gann Limit through resolution.

The budget document presents information and data at the fund level, a departmental/division summary level, and a department/division detail expenditure/revenue line level. The detail is delivered through OpenGov. From there, any reader of the budget can navigate and review any specific element of the budget.

Discussion: During Budget Unit presentations on Thursday, June 18, 2020, Council reviewed and discussed departmental struggles and expectations in relations to the COVID-19 pandemic.

The entire budget document is presented through the OpenGov platform, a web-based platform that allows for significant functionality when viewing and analyzing budgetary information. The budget through OpenGov can be found by following this link:

<https://stories.opengov.com/ukiahca/published/hKmhWPewF>

This page is the cover of the budget document, including a table of contents at the bottom. Each budget story can be accessed by clicking on its respective link in the table of contents.

The OpenGov platform is best viewed through the Google Chrome web browser. It is a free application and can be found at the following link, complete with download and installation instructions:

Recommended Action: Receive and File adopted 2020-21 Fiscal Year City of Ukiah Budget Document.

BUDGET AMENDMENT REQUIRED:

CURRENT BUDGET AMOUNT:

PROPOSED BUDGET AMOUNT:

FINANCING SOURCE:

PREVIOUS CONTRACT/PURCHASE ORDER NO.:

COORDINATED WITH:

Approved:


Sage Sangiacomo, City Manager



AGENDA SUMMARY REPORT

SUBJECT: Award Contract to Systems Integrated in the Amount of \$245,461 to Replace Lake Mendocino Hydroelectric Plant's Control System, Authorize the City Manager to Negotiate and Execute an Agreement, and Approve Corresponding Budget Amendment.

DEPARTMENT: Electric Utility **PREPARED BY:** Cindy Sauers, Assistant Electric Utility Director
PRESENTER: Consent Calendar

ATTACHMENTS:

1. RFP
2. Proposal Evaluation Summary Hydro SCADA Upgrade
3. Proposal - Systems Integrated

Summary: Council will consider awarding a contract to Systems Integrated in the amount of \$245,461.00 to replace, program and conduct performance testing of the Hydroelectric Plant's Supervisory Control and Data Acquisition (SCADA)/Programmable Logic Controllers (PLCs), authorize the City Manager to negotiate and execute an agreement, and approve corresponding budget amendment.

Background: The Lake Mendocino Hydroelectric Plant, located at the base of Coyote Valley Dam, became operational in 1986. The Hydro Plant provides up to 12% of the City's energy needs with green, renewable energy. The Electric Utility Department operates and maintains the plant generators, turbines, governors and control and communications systems that are critical in maintaining proper river flow and plant operation. This project is to replace the outdated control and communication equipment which are out of production, making parts unavailable.

Discussion: On February 19, 2020, a Request for Proposal was released for the upgrade of the Hydroelectric Plant SCADA/PLC system. Please refer to Attachment 1 for a copy of the RFP. Proposals were due by 5:00pm, Tuesday May 5, 2020. Proposals were received from six (6) vendors.

An evaluation team consisting of the Assistant Electric Utility Director, and two Electric Utility Technicians carefully reviewed and scored the proposals. Please refer to Attachment 2 for a copy of the evaluation results. Lighthouse Industrial Inc. in conjunction with In came in as the top firm, with a score of 92.

The proposal submitted by Systems Integrated is provided as Attachment 3, which proposes to provide the requested services in an amount not to exceed \$245,461. The proposal was found to be the most qualified for this project, with hydroelectric experience.

It is staff's recommendation that the contract be awarded to Systems Integrated for the SCADA/PLC upgrade in the amount of \$245,461, authorize the City Manager to negotiate and execute an agreement, and approve a corresponding budget amendment. Budget amendment requested includes an additional 10% of the project for unanticipated change orders.

Recommended Action: Award contract to Systems Integrated in the amount of \$245,461 for the Hydroelectric Plant SCADA/PLC Replacement Project, authorize the City Manager to negotiate and execute an agreement, and approve corresponding budget amendment.

BUDGET AMENDMENT REQUIRED: Yes

CURRENT BUDGET AMOUNT: 80126100.80230.18042: \$175,000

PROPOSED BUDGET AMOUNT: 80126100.80230.18042: Additional \$95,007 needed, for a revised budget amount of \$270,007.

FINANCING SOURCE: N/A

PREVIOUS CONTRACT/PURCHASE ORDER NO.: N/A

COORDINATED WITH: Mary Horger, Financial Services Manager

Approved: 
Sage Sangiacomo, City Manager



REQUEST FOR PROPOSAL

HYDRO PLANT SCADA/PLC UPGRADE

Request Date:

February 19, 2020

MANDATORY PRE-PROPOSAL MEETING:

11:00 a.m., March 4, 2020

Hydro Electric Plant

1229 Lake Mendocino Drive, Ukiah CA 95482

Deadline for Responses:

March 17, 2020, 5:00 P.M. (PST)

CITY OF UKIAH
Request for Proposal (RFP) – HYDRO PLANT SCADA/PLC UPGRADE

1.0 INTRODUCTION & BACKGROUND

The City of Ukiah is soliciting proposals for an upgrade of the existing SCADA system located at the Utility's Lake Mendocino hydro generation facility.

The City of Ukiah owns and operates a 3.5MW hydro generation facility at the Coyote Dam, located on the east fork of the Russian River in Mendocino County, California. The hydro plant powerhouse contains one 2.5MW generator and one 1.0MW generator. Both generators are operated independently or together as water flows permit. Water flow is controlled by the US Army Corps of Engineers, Northern California Power Agency (NCPA) and the City of Ukiah Electric Utility (EUD) with direction from Sonoma County Water Agency. A communication link is provided by the EUD to NCPA with a T1 line for remote operation.

The existing SCADA and PLC Systems are outdated and need replacement. See attached one line. The system consists of:

- System consists of 2 SCADA computers with windows XP.
- SCADA Software is GE Ifix 4.0 which is running on the 2 windows XP computers.
- Plant consists of 4 Allen Bradley PLCs SLC5/04 with DH+ communication to SCADA computers.
- SCADA computers are using Rslinx OPC IO server for communication.
- Scada1 computer has RSLogix 500 Software for PLC programming.
- NCPA communication to the Ukiah plant is through a leased T1 line via an Allen-Bradley 1770-KF2 DH+ to serial converter.
- Direct Alarm Notification to the EUD is not available.
- Remote Access by the EUD is not available.
- Time Synchronization from SEL-2407 to SCADA computers is not connected.

The existing PLCs have the following configuration:

SCADA PLC			
SLOT	PART NUMBER		DISCRIPTION
	1746-P4		POWER SUPPLY
	1746-A13		13 SLOT RACK
0	1747-L543C		5/04 CPU 64K MEM OS401 SERIES C FRN 3-8
1			
2	1746-IB32		32 INPUT (SINK) 24 VDC
3	1746-IB32		32 INPUT (SINK) 24 VDC
4	1746-IB32		32 INPUT (SINK) 24 VDC
5			
6	1746-OW16		16 OUTPUT (RELAY) 240 VAC
7	1746-OW16		16 OUTPUT (RELAY) 240 VAC
8			
9	1746-NI8		ANALOG 8 CHANNEL INPUT CLASS-3
10	1746-NI8		ANALOG 8 CHANNEL INPUT CLASS-3
11	1746-NI8		ANALOG 8 CHANNEL INPUT CLASS-3
12			

UNIT 1 PLC			
SLOT	PART NUMBER		DISCRIPTION
	1746-P4		POWER SUPPLY
	1746-A13		13 SLOT RACK
0	1747-L543C		5/04 CPU 64K MEM OS401 SERIES C FRN 10 & LATER
1			
2	1746-IB32		32 INPUT (SINK) 24 VDC
3	1746-IB32		32 INPUT (SINK) 24 VDC
4	1746-IB32		32 INPUT (SINK) 24 VDC
5			
6	1746-OW16		16 OUTPUT (RELAY) 240 VAC
7	1746-OW16		16 OUTPUT (RELAY) 240 VAC
8			
9	1746-NI8		ANALOG 8 CHANNEL INPUT CLASS-1
10	1746-NI8		ANALOG 8 CHANNEL INPUT CLASS-1
11			
12			

UNIT 2 PLC			
SLOT	PART NUMBER		DISCRIPTION
	1746-P4		POWER SUPPLY
	1746-A13		13 SLOT RACK
0	1747-L543C		5/04 CPU 64K MEM OS401 SERIES C FRN 3-8
1			
2	1746-IB32		32 INPUT (SINK) 24 VDC
3	1746-IB32		32 INPUT (SINK) 24 VDC
4	1746-IB32		32 INPUT (SINK) 24 VDC
5			
6	1746-OW16		16 OUTPUT (RELAY) 240 VAC
7	1746-OW16		16 OUTPUT (RELAY) 240 VAC
8			
9	1746-NI8		ANALOG 8 CHANNEL INPUT CLASS-1
10	1746-NI8		ANALOG 8 CHANNEL INPUT CLASS-1
11			
12			

AUX PLC			
SLOT	PART NUMBER		DISCRIPTION
	1746-P4		POWER SUPPLY
	1746-A13		13 SLOT RACK
0	1747-L541		5/04 CPU 16K MEM OS401
1			
2	1746-IB32		32 INPUT (SINK) 24 VDC
3			
4	1746-OW16		16 OUTPUT (RELAY) 240 VAC
5	1746-OW16		16 OUTPUT (RELAY) 240 VAC
6			
7	1746-NR8		ANALOG 8 CHANNEL RTD CLASS-1
8	1746-NR8		ANALOG 8 CHANNEL RTD CLASS-1
9	1746-NR8		ANALOG 8 CHANNEL RTD CLASS-1
10			
11	1746-NI8	-	ANALOG 8 CHANNEL INPUT CLASS-1

2.0 SCHEDULE OF EVENTS AND PROPOSAL SUBMITTAL INSTRUCTIONS

The schedule for this procurement is as follows:

Distribute Request for Proposals:	February 19, 2020
Mandatory Pre-Proposal Meeting*:	11:00 a.m., March 4, 2020
Deadline for Responses:	March 17, 2020, 5:00 P.M. (Pacific Time)
City Evaluation of Proposals:	By March 25, 2020
Interviews (if necessary)	By March 25, 2020
City Council approval requested for contract award (tentative):	April 1, 2020

The City must receive proposals no later than the time and date specified above. Those proposals received after this date and time will not be considered. One copy of the technical proposal shall be provided in hard copy, *and* a copy shall also be provided on a USB flash drive. Proposals are to be sent to the following:

Mary Horger, Financial Services Manager
City of Ukiah
411 West Clay Street
Ukiah, California 95482

The **mandatory pre-proposal meeting will be held to fully acquaint interested consultants with the project, so that he or she may fully understand the facilities, difficulties and restrictions. Failure to attend this mandatory pre-proposal meeting will be just cause for the proposal to be rejected. Oral statements or instructions made during this mandatory pre-proposal meeting will not constitute an amendment to this solicitation. The City will determine the appropriate action necessary, if any, and may issue a written addendum to this request for proposal.*



3.0 SCOPE OF WORK

The scope of services shall include tasks described below, as well as other elements or modifications, which may be suggested by consultants presenting proposals to better meet the needs of the City. All services shall be provided in accordance with the City's draft professional services agreement, a sample of which is attached as Attachment A.

The City desires to install the most efficient and updated system to replace existing SCADA and PLC system. In addition to completing all of the current functions, proposal must include provisions for complete redundancy should there be a server or computer failure. Unit 1 and Unit 2 temperature controls for the generators, currently housed in the Aux PLC (RTD Inputs) shall be moved to the Unit 1 and 2 PLCs. Auxiliary PLC to be eliminated. Consultant must provide engineering, installation and wiring for new PLC's, conversion of the general control programs to the new PLC's including documentation, all programming for the SCADA and alarms, testing of system, as built drawings and copies of all logic and programming.

Minimum requirements:

- Recommend, install and configure 2 new Windows "hot swappable" servers with USB interface and communication cards. Servers will be used to monitor and record operation data.
- Recommend upgrade or replacement of GE Ixix for the SCADA.
- Upgrade RSLogix to Studio 5000, or latest Allen Bradley Software, for the PLC's.
- SCADA to monitor and record relay data available from existing SEL 2032 Communications Processor.
- Recommend and install 2 workstations with a 24" monitor as operator interface – one workstation is to be redundant.
- Recommend and install one laptop with software license to interface with system.
- Recommend and install server rack connected to existing plant UPS and 24 port Network switch.
- Recommend and install replacement for the 4 Allen Bradley PLC's with the latest Allen Bradley technology.
- Recommend and replace local communication from DH+ to Ethernet/IP and remote communication over T1 line to DNP3.

4.0 REQUIRED PROPOSAL CONTENT

Firms interested in providing the services described in the section above must submit a proposal responding to all the questions below and providing all information requested in a format that mirrors the RFP by section and order listed. Proposals shall include at a minimum.

A. Cover Letter

The cover letter should contain the name, address, and brief history of the firm. The cover letter must be signed by an official authorized to bind the successful firm contractually and shall contain a statement to the effect that the proposal is a firm offer for a minimum period of sixty (60) days after the submittal date. The letter shall also provide the name, title, address, and telephone number of individuals with the authority to negotiate a contract and bind the consultant to the terms of the contract.

B. Project Understanding and Proposed Approach

Describe your firm's understanding of the project and how your firm intends to structure the project approach.

C. Project Team

Identify the key personnel to be assigned to this project, including the qualifications and experience as related to the project. Resumes for each of the key personnel are to be provided. Identify any sub-



consultants/subcontractors that will be used, including their qualifications and experience, as well as the work they will accomplish. Staff proposed to be in charge of the project must demonstrate significant experience supervising similar work. Describe the proposed organizational structure between consultant and sub-consultants/subcontractors, including current and previous work assignments.

D. Experience and References

Provide descriptions of related project experience for at least three similar projects on which the firm has performed work over the past ten years. Each project description shall be limited to 4 pages including project images and must provide client references and client contact information.

E. Cost Proposal

Provide a cost proposal based on an hourly rate schedule with a “not to exceed” maximum cost for all work identified in the Scope of Services. Provide a tabulation of the project staff and number of work hours for each task. Indicate if travel time, mileage, and per diem will be charged. Include any sub-consultant cost. Include all material costs, providing detail information of materials and equipment proposed, including manufacturer names and part numbers, with costs itemized. Additionally, please identify miscellaneous costs associated with this proposal. Also submit a copy of your firm’s current itemized hourly rate fee schedule.

F. Proposed Project Schedule

Provide a proposed schedule of completion for each task and list of task deliverables.

G. Exceptions

Identify any exceptions you are proposing with respect to the Scope of Services. Additionally, if there are any exceptions to the City’s insurance requirements and/or the City’s draft professional services agreement as shown in the attachments, the Consultant should list the exceptions in the proposal.

5.0 PROPOSAL EVALUATION

The following evaluation criteria will be used in evaluating and selecting candidates:

Evaluation Criteria	Maximum Score
1. Experience and expertise.	30
2. History of providing similar services.	25
3. Special or unique capabilities or services.	20
4. References.	5
5. Key Staff & Team Resumes.	10
6. Cost.	20
Totals:	100
Interviews (if held)	100
Totals:	200

The City reserves the right to reject any and all proposals. The City reserves the right to award a contract to the firm that presents the proposal, which in the sole judgment of the City best serves the City’s interest. The City reserves the right to reach out to consultants to ask questions after the proposals are received for clarification. The City reserves the right to reject any or all proposals, to waive minor irregularities in said proposals, and/or negotiate minor deviations with the successful firm.



6.0 CONTACT PERSON

Please contact Mary Horger, Financial Services Manager, if you have questions or require additional information. Questions must be submitted in writing via email. Contact information can be found below.

Mary Horger, Financial Services Manager
City of Ukiah
mhorger@cityofukiah.com

Communication between a proposing company and a member of the City staff, other than the Financial Services Manager, or between a proposing company and a non-designated City representative regarding the selection of a proposing company or award of this contract is explicitly prohibited from the time the RFP is advertised until the selection of a proposing company or award of the contract. Questions pertaining to this RFP shall be addressed to the party specified above. Failure of a proposing company, or any of its representatives, to comply with this paragraph will result in their proposal being rejected.

7.0 ADDENDA

If it becomes necessary to revise any part of this RFP, an addendum will be provided to all proposing companies in written or electronic (i.e., facsimile or email) form.

8.0 INSURANCE REQUIREMENTS

Provided as Attachment B are the City's complete insurance requirements. Awarded firm, prior to performing any work, shall procure and maintain for the duration of the contract insurance per the attached requirements.

9.0 CITY BUSINESS LICENSE

Awarded firm will be required to maintain a City business license for the duration of the contract. Information regarding the City business license can be found on the City website, at www.cityofukiah.com/businesses.

10.0 PUBLIC RECORDS

All materials submitted in response to this RFP are property of the City and will not be returned. The materials will be a public record subject to the disclosure provisions of the California Public Records Act and any other related public law or provision of such laws.

11.0 FINANCIAL RESPONSIBILITY

The City accepts no financial responsibility for any costs incurred by a firm in responding to this RFP. Submissions will become the property of the City and may be used by the City in any way deemed appropriate.



AGREEMENT FOR
PROFESSIONAL CONSULTING SERVICES

This Agreement, made and entered into this _____ day of _____, 2020 ("Effective Date"), by and between CITY OF UKIAH, CALIFORNIA, hereinafter referred to as "City" and _____, a _____ [sole proprietorship, corporation, partnership, limited partnership, limited liability company, etc.] organized and in good standing under the laws of the state of _____, hereinafter referred to as "Consultant".

RECITALS

This Agreement is predicated on the following facts:

- a. City requires consulting services related to _____.
- b. Consultant represents that it has the qualifications, skills, experience and properly licensed to provide these services, and is willing to provide them according to the terms of this Agreement.
- c. City and Consultant agree upon the Scope-of-Work and Work Schedule attached hereto as Attachment "A", describing contract provisions for the project and setting forth the completion dates for the various services to be provided pursuant to this Agreement.

TERMS OF AGREEMENT

1.0 DESCRIPTION OF PROJECT

- 1.1 The Project is described in detail in the attached Scope-of-Work (Attachment "A").

2.0 SCOPE OF SERVICES

- 2.1 As set forth in Attachment "A".
- 2.2. Additional Services. Additional services, if any, shall only proceed upon written agreement between City and Consultant. The written Agreement shall be in the form of an Amendment to this Agreement.

3.0 CONDUCT OF WORK

- 3.1 Time of Completion. Consultant shall commence performance of services as required by the Scope-of-Work upon receipt of a Notice to Proceed from City and shall complete such services within _____ from receipt of the Notice to Proceed. Consultant shall complete the work to the City's reasonable satisfaction, even if contract disputes arise or Consultant contends it is entitled to further compensation.

4.0 COMPENSATION FOR SERVICES

- 4.1 Basis for Compensation. For the performance of the professional services of this Agreement, Consultant shall be compensated on a time and expense basis not to exceed a guaranteed maximum dollar amount of \$-----. Labor charges shall be based upon hourly billing rates for the various classifications of personnel employed by Consultant to perform the Scope of Work as set forth in the attached Attachment B,

which shall include all indirect costs and expenses of every kind or nature, except direct expenses. The direct expenses and the fees to be charged for same shall be as set forth in Attachment B. Consultant shall complete the Scope of Work for the not-to-exceed guaranteed maximum, even if actual time and expenses exceed that amount.

4.2 Changes. Should changes in compensation be required because of changes to the Scope-of-Work of this Agreement, the parties shall agree in writing to any changes in compensation. "Changes to the Scope-of-Work" means different activities than those described in Attachment "A" and not additional time to complete those activities than the parties anticipated on the date they entered this Agreement.

4.3 Sub-contractor Payment. The use of sub-consultants or other services to perform a portion of the work of this Agreement shall be approved by City prior to commencement of work. The cost of sub-consultants shall be included within guaranteed not-to-exceed amount set forth in Section 4.1.

4.4 Terms of Payment. Payment to Consultant for services rendered in accordance with this contract shall be based upon submission of monthly invoices for the work satisfactorily performed prior to the date of the invoice less any amount already paid to Consultant, which amounts shall be due and payable thirty (30) days after receipt by City. The invoices shall provide a description of each item of work performed, the time expended to perform each task, the fees charged for that task, and the direct expenses incurred and billed for. Invoices shall be accompanied by documentation sufficient to enable City to determine progress made and to support the expenses claimed.

5.0 ASSURANCES OF CONSULTANT

5.1 Independent Contractor. Consultant is an independent contractor and is solely responsible for its acts or omissions. Consultant (including its agents, servants, and employees) is not the City's agent, employee, or representative for any purpose.

It is the express intention of the parties hereto that Consultant is an independent contractor and not an employee, joint venturer, or partner of City for any purpose whatsoever. City shall have no right to, and shall not control the manner or prescribe the method of accomplishing those services contracted to and performed by Consultant under this Agreement, and the general public and all governmental agencies regulating such activity shall be so informed.

Those provisions of this Agreement that reserve ultimate authority in City have been inserted solely to achieve compliance with federal and state laws, rules, regulations, and interpretations thereof. No such provisions and no other provisions of this Agreement shall be interpreted or construed as creating or establishing the relationship of employer and employee between Consultant and City.

Consultant shall pay all estimated and actual federal and state income and self-employment taxes that are due the state and federal government and shall furnish and pay worker's compensation insurance, unemployment insurance and any other benefits required by law for himself and his employees, if any. Consultant agrees to indemnify and hold City and its officers, agents and employees harmless from and against any claims or demands by federal, state or local government agencies for any such taxes or benefits due but not paid by Consultant, including the legal costs associated with defending against any audit, claim, demand or law suit.

Consultant warrants and represents that it is a properly licensed professional or professional organization with a substantial investment in its business and that it maintains its own offices and staff which it will use in performing under this Agreement.

- 5.2 Conflict of Interest. Consultant understands that its professional responsibility is solely to City. Consultant has no interest and will not acquire any direct or indirect interest that would conflict with its performance of the Agreement. Consultant shall not in the performance of this Agreement employ a person having such an interest. If the City Manager determines that the Consultant has a disclosure obligation under the City's local conflict of interest code, the Consultant shall file the required disclosure form with the City Clerk within 10 days of being notified of the City Manager's determination.

6.0 INDEMNIFICATION

- 6.1 Insurance Liability. Without limiting Consultant's obligations arising under Paragraph 6.2 Consultant shall not begin work under this Agreement until it procures and maintains for the full period of time allowed by law, surviving the termination of this Agreement insurance against claims for injuries to persons or damages to property, which may arise from or in connection with its performance under this Agreement.

A. Minimum Scope of Insurance

Coverage shall be at least as broad as:

1. Insurance Services Office ("ISO) Commercial General Liability Coverage Form No. CG 20 10 10 01 and Commercial General Liability Coverage – Completed Operations Form No. CG 20 37 10 01.
2. ISO Form No. CA 0001 (Ed. 1/87) covering Automobile Liability, Code 1 "any auto" or Code 8, 9 if no owned autos and endorsement CA 0025.
3. Worker's Compensation Insurance as required by the Labor Code of the State of California and Employers Liability Insurance.
4. Errors and Omissions liability insurance appropriate to the consultant's profession. Architects' and engineers' coverage is to be endorsed to include contractual liability.

B. Minimum Limits of Insurance

Consultant shall maintain limits no less than:

1. General Liability: \$1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage including operations, products and completed operations. If Commercial General Liability Insurance or other form with a general aggregate limit is used, the general aggregate limit shall apply separately to the work performed under this Agreement, or the aggregate limit shall be twice the prescribed per occurrence limit.
2. Automobile Liability: \$1,000,000 combined single limit per accident for bodily injury and property damage.

3. Worker's Compensation and Employers Liability: Worker's compensation limits as required by the Labor Code of the State of California and Employers Liability limits of \$1,000,000 per accident.
4. Errors and Omissions liability: \$1,000,000 per occurrence.

C. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects to the City, its officers, officials, employees and volunteers; or the Consultant shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

D. Other Insurance Provisions

The policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverages

- a. The City, its officers, officials, employees and volunteers are to be covered as additional insureds as respects; liability arising out of activities performed by or on behalf of the Consultant, products and completed operations of the Consultant, premises owned, occupied or used by the Consultant, or automobiles owned, hired or borrowed by the Consultant for the full period of time allowed by law, surviving the termination of this Agreement. The coverage shall contain no special limitations on the scope-of-protection afforded to the City, its officers, officials, employees or volunteers.
- b. The Consultant's insurance coverage shall be primary insurance as respects to the City, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees or volunteers shall be in excess of the Consultant's insurance and shall not contribute with it.
- c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the City, its officers, officials, employees or volunteers.
- d. The Consultant's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

2. Worker's Compensation and Employers Liability Coverage

The insurer shall agree to waive all rights of subrogation against the City, its officers, officials, employees and volunteers for losses arising from Consultant's performance of the work, pursuant to this Agreement.

3. Professional Liability Coverage

If written on a claims-made basis, the retroactivity date shall be the effective date of this Agreement. The policy period shall extend from ----- to -----.

4. All Coverages

Each Insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City.

E. Acceptability of Insurers

Insurance is to be placed with admitted California insurers with an A.M. Best's rating of no less than A- for financial strength, AA for long-term credit rating and AMB-1 for short-term credit rating.

F. Verification of Coverage

Consultant shall furnish the City with Certificates of Insurance and with original Endorsements effecting coverage required by this Agreement. The Certificates and Endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The Certificates and Endorsements are to be on forms provided or approved by the City. Where by statute, the City's Workers' Compensation - related forms cannot be used, equivalent forms approved by the Insurance Commissioner are to be substituted. All Certificates and Endorsements are to be received and approved by the City before Consultant begins the work of this Agreement. The City reserves the right to require complete, certified copies of all required insurance policies, at any time. If Consultant fails to provide the coverages required herein, the City shall have the right, but not the obligation, to purchase any or all of them. In that event, the cost of insurance becomes part of the compensation due the contractor after notice to Consultant that City has paid the premium.

G. Subcontractors

Consultant shall include all subcontractors or sub-consultants as insured under its policies or shall furnish separate certificates and endorsements for each subcontractor or sub-consultant. All coverage for sub-contractors or sub-consultants shall be subject to all insurance requirements set forth in this Paragraph 6.1.

- 6.2 Indemnification. Notwithstanding the foregoing insurance requirements, and in addition thereto, Consultant agrees, for the full period of time allowed by law, surviving the termination of this Agreement, to indemnify the City for any claim, cost or liability that arises out of, or pertains to, or relates to any negligent act or omission or the willful misconduct of Consultant in the performance of services under this contract by Consultant, but this indemnity does not apply to liability for damages for death or bodily injury to persons, injury to property, or other loss, arising from the sole negligence, willful misconduct or defects in design by the City, or arising from the active negligence of the City.

"Indemnify," as used herein includes the expenses of defending against a claim and the payment of any settlement or judgment arising out of the claim. Defense costs include all costs associated with defending the claim, including, but not limited to, the fees of attorneys, investigators, consultants, experts and expert witnesses, and litigation expenses.

References in this paragraph to City or Consultant, include their officers, employees, agents, and subcontractors.

7.0 CONTRACT PROVISIONS

- 7.1 Ownership of Work. All documents furnished to Consultant by City and all documents or reports and supportive data prepared by Consultant under this Agreement are owned and become the property of the City upon their creation and shall be given to City immediately upon demand and at the completion of Consultant's services at no additional cost to City. Deliverables are identified in the Scope-of-Work, Attachment "A". All documents produced by Consultant shall be furnished to City in digital format and hardcopy. Consultant shall produce the digital format, using software and media approved by City.
- 7.2 Governing Law. Consultant shall comply with the laws and regulations of the United States, the State of California, and all local governments having jurisdiction over this Agreement. The interpretation and enforcement of this Agreement shall be governed by California law and any action arising under or in connection with this Agreement must be filed in a Court of competent jurisdiction in Mendocino County.
- 7.3 Entire Agreement. This Agreement plus its Attachment(s) and executed Amendments set forth the entire understanding between the parties.
- 7.4 Severability. If any term of this Agreement is held invalid by a court of competent jurisdiction, the remainder of this Agreement shall remain in effect.
- 7.5 Modification. No modification of this Agreement is valid unless made with the agreement of both parties in writing.
- 7.6 Assignment. Consultant's services are considered unique and personal. Consultant shall not assign, transfer, or sub-contract its interest or obligation under all or any portion of this Agreement without City's prior written consent.
- 7.7 Waiver. No waiver of a breach of any covenant, term, or condition of this Agreement shall be a waiver of any other or subsequent breach of the same or any other covenant, term or condition or a waiver of the covenant, term or condition itself.
- 7.8 Termination. This Agreement may only be terminated by either party: 1) for breach of the Agreement; 2) because funds are no longer available to pay Consultant for services provided under this Agreement; or 3) City has abandoned and does not wish to complete the project for which Consultant was retained. A party shall notify the other party of any alleged breach of the Agreement and of the action required to cure the breach. If the breaching party fails to cure the breach within the time specified in the notice, the contract shall be terminated as of that time. If terminated for lack of funds or abandonment of the project, the contract shall terminate on the date notice of termination is given to Consultant. City shall pay the Consultant only for services

performed and expenses incurred as of the effective termination date. In such event, as a condition to payment, Consultant shall provide to City all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs and reports prepared by the Consultant under this Agreement. Consultant shall be entitled to receive just and equitable compensation for any work satisfactorily completed hereunder, subject to off-set for any direct or consequential damages City may incur as a result of Consultant's breach of contract.

7.9 Execution of Agreement. This Agreement may be executed in duplicate originals, each bearing the original signature of the parties. Alternatively, this Agreement may be executed and delivered by facsimile or other electronic transmission, and in more than one counterpart, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. When executed using either alternative, the executed agreement shall be deemed an original admissible as evidence in any administrative or judicial proceeding to prove the terms and content of this Agreement.

8.0 NOTICES

Any notice given under this Agreement shall be in writing and deemed given when personally delivered or deposited in the mail (certified or registered) addressed to the parties as follows:

CITY OF UKIAH _____
DEPT. OF _____
300 SEMINARY AVENUE _____
UKIAH, CALIFORNIA 95482-5400

9.0 SIGNATURES

IN WITNESS WHEREOF, the parties have executed this Agreement the Effective Date:

CONSULTANT

BY: _____

Date

PRINT NAME: _____

IRS IDN Number

CITY OF UKIAH

BY: _____

Date

CITY MANAGER

ATTEST

CITY CLERK

Date



INSURANCE REQUIREMENTS FOR CONSULTANTS

Consultant(s) shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Consultant(s), his agents, representatives, or employees.

I. Minimum Scope of Insurance

Coverage shall be at least as broad as:

- A. Insurance Services Office **Commercial General Liability** coverage (Form No. CG 20 10 10 01 and Commercial General Liability – Completed Operations Form No. CG 20 37 10 01).
- B. Insurance Services Office form number CA 0001 (Ed. 1/87) covering **Automobile Liability**, code 1 (any auto).
- C. **Workers' Compensation** insurance as required by the State of California and Employer's Liability Insurance.
- D. **Errors and Omissions liability** insurance appropriate to the consultant's profession. Architects' and engineers' coverage is to be endorsed to include contractual liability.

II. Minimum Limits of Insurance

Consultant shall maintain limits no less than:

- A. General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage including **operations, products and completed operations**, as applicable. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. Insurance must be written on an occurrence basis.
- B. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage. Insurance must be written on an occurrence basis.
- C. Workman's Compensation Employer's Liability: \$1,000,000 per accident for bodily injury or disease.
- D. Errors and Omissions liability: \$1,000,000 per occurrence. If written on a claims-made basis, insurance coverage must cover claims filed within 3 years after contract work completed.

III. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the City. The City may require the insurer to reduce or eliminate such deductibles or self-insured retentions with respect to the City, its officers, officials, employees and volunteers; or the Consultant to provide a financial guarantee satisfactory to the City guaranteeing payment of losses and related investigations, claim administration and defense expenses; or to approve the deductible without a guarantee.

IV. REQUIRED Insurance Provisions

Proof of **general liability and automobile liability** policies are to contain, or **be endorsed** to contain, the following provisions:

- A. The City, its officers, officials, employees, and volunteers are to be covered as **ADDITIONAL INSURED** with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the contractor; and with respect to liability arising out of work or operations performed by or on behalf of the Consultant including materials, parts or equipment, furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Consultant's insurance, or as a separate owner's policy.

B. **The workers' compensation policy is to be endorsed with a waiver of subrogation.** The insurance company, in its endorsement, agrees to waive all rights of subrogation against the City, its officers, officials, employees and volunteers for losses paid under the terms of this policy which arises from the work performed by the named insured for the City. NOTE: You cannot be added as an additional insured on a workers' compensation policy.

C. For any claims related to this project, the Consultant's insurance coverage shall be **primary insurance** with respect to the City, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, or volunteers shall be in excess of the Consultant's insurance and shall not contribute with it.

D. Each insurance policy required by this clause shall be endorsed to state that coverage shall **not be canceled** by either party, except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the City.

V. RATING - Acceptability of Insurers

Insurance is to be placed with admitted California insurers with a current A.M. Best's rating of no less than A- for financial strength, AA for long-term credit rating and AMB-1 for short-term credit rating.

VI. Verification of Coverage

Consultant shall furnish the City with original certificates and amendatory endorsements effecting coverage required by this clause. The endorsements should be **on forms provided by the City**. If endorsements are on forms other than the City's forms, those endorsements must provide coverage that is equivalent to or better than the forms requested by the City. All certificates and endorsements are to be received and approved by the City before work commences. The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications at any time.

**If you have questions regarding our insurance requirements contact:
Risk Manager
(707) 463-6287 or FAX (707) 463-6204**

CITY OF UKIAH

Lake Mendocino Power Plant

Supervisory Control And Data Acquisition System



Westin Project #7876

DRAWING SHEET
NUMBER NUMBER

G-1.1	1 of 44	Project Cover Sheet
G-2.1	2 of 44	Index of Drawings
G-3.1	3 of 44	Symbols and Abbreviations

REVISIONS				CONTRACT NUMBER	 CITY OF UTAH LAKE MENDOCINO POWER PLANT INDEX OF DRAWINGS
REV #	ISSD BY	DESIG BY	DATE	7876	
				DESIGN BY M. W. MCKEE	SCALE D 1" = 10'
				DESIGNED BY 10/09/08	
				DATE 10/09/08	
				APPROVED BY	
				O. SMITH 11/03/08	
					SCALE D 1" = 10'

ELECTRICAL SYMBOLS

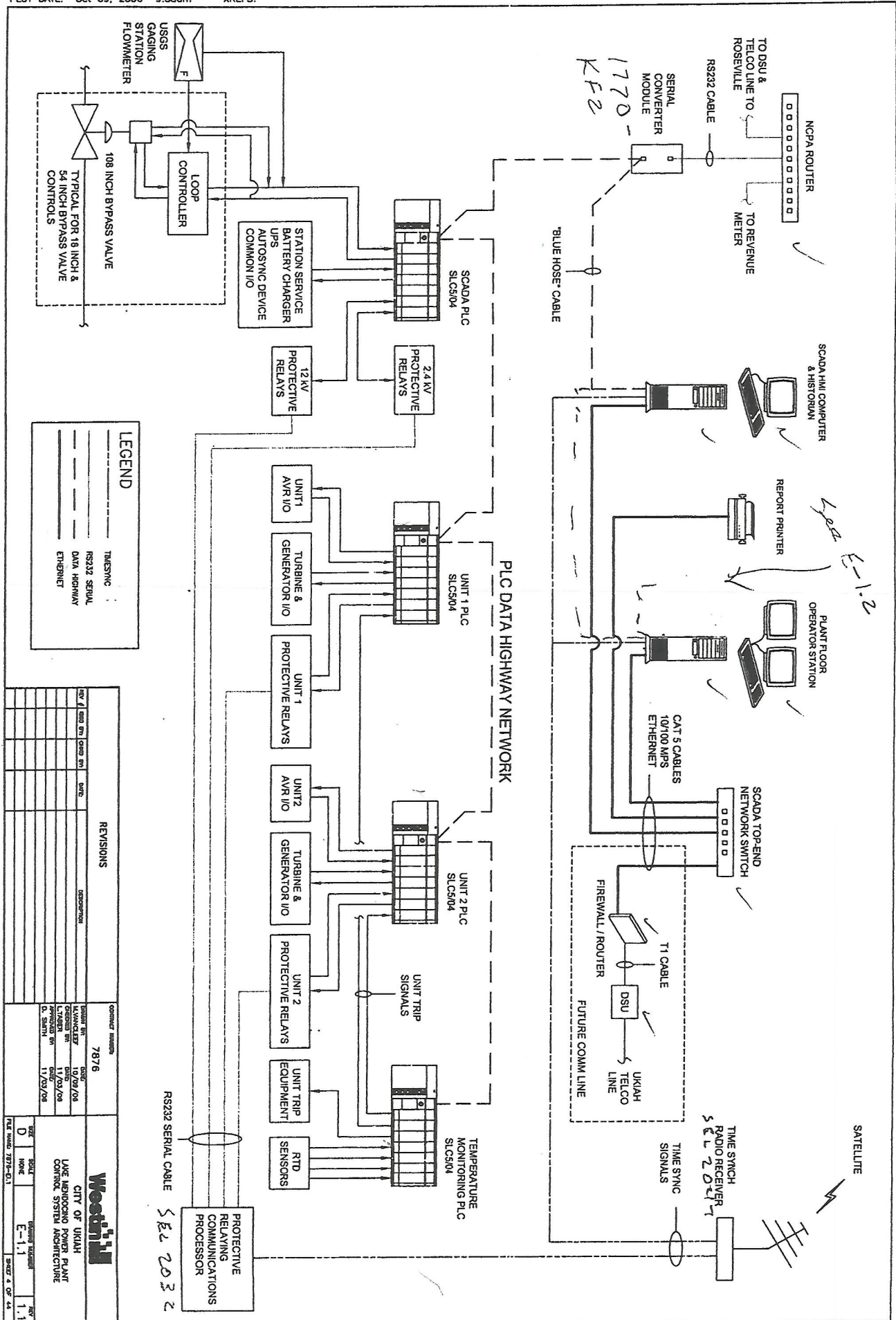
	WOUND ROTOR INDUCTION MOTOR, HP INDICATED
	MOTOR 100 HP NOTED
	MOTOR OVERLOAD RELAY
	TRANSFORMER WITH GROUND
	CONTROL RELAY OR COIL EXAMPLE: FOR THE DELAY RELAY NO.2 (CLOSING ON RISING TEMPERATURE) IN STARTER NO.1 MAIN COIL
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	NORMALLY OPENED LIMIT SWITCH
	NORMALLY CLOSED LIMIT SWITCH
	FLAT TYPE LIQUID LEVEL SWITCH, CLOSING ON RISING LEVEL
	FLAT TYPE LIQUID LEVEL SWITCH, OPENING ON RISING LEVEL
	VACUUM ON PRESSURE SWITCH, CLOSING ON RISING PRESSURE
	VACUUM ON PRESSURE SWITCH, OPENING ON RISING PRESSURE
	TEMPERATURE ACTUATED SWITCH, CLOSING ON RISING TEMPERATURE
	TEMPERATURE ACTUATED SWITCH, OPENING ON RISING TEMPERATURE
	FLOW SWITCH (AIR, WATER, ETC.), CLOSING ON FLOW INCREASE
	FLOW SWITCH (AIR, WATER, ETC.), OPENING ON FLOW INCREASE
	NORMALLY OPEN PUSHBUTTON, HOMERUNARY CLOSE
	NORMALLY CLOSED PUSHBUTTON, HOMERUNARY OPEN
	CONTROL SWITCH
	EMERGENCY STOP PUSHBUTTON
	NO/NC MAINTAINED PUSHBUTTON
	TWO-POSITION SELECTOR SWITCH, H-HAND, M-MANUAL, R-REMOTE, L-LOCK, A-AUTOMATIC, O-OFF
	THREE-POSITION SELECTOR SWITCH (SAME AS ABOVE)
	LOADED CASE CIRCUIT BREAKER
	OPERATING RELAY, COIL AND/OR STARTER

	THREE-POSITION SPRING RETURN-TO-CENTER MOMENTARY CONTACT SWITCH (LATCH-UNLATCH ON-OFF ETC.)
	SPEED SWITCH
	SINGLE POLE TOGGLE SWITCH (ON-OFF ETC.)
	GROUND CONNECTION
	OVERLOAD RELAY CONTACTS (MAGNETIC) THERMAL CONTACTS THERMAL ACTION DELAYED AFTER COOLING IS :
	DEENERGIZED NORMALLY OPEN WITH TIME DELAY CLOSING
	NORMALLY CLOSED WITH TIME DELAY OPENING
	DC-ENERGIZED NORMALLY OPEN WITH INSTANT CLOSING AND THE DELAY OPENING
	NORMALLY CLOSED WITH INSTANT OPENING AND THE DELAY CLOSING
	FUSE
	RESISTOR (FIXED)
	POTENTIOMETER TYPE RESISTOR (CONTINUOUSLY ADJUSTABLE)
	SEAL WATER SOLENOID VALVE
	PUSH-TO-TEST INDICATION LIGHT
	INDICATION LIGHT (G = GREEN R = RED)
	CROSSING OF CONDUCTORS NOT CONNECTED
	CONNECTION OF CONDUCTORS FITTING AS REQUIRED
	DISCONNECT SWITCH
	P.C. INPUT
	P.C. OUTPUT
	TERMINAL
	FREE WHEELING DIODE
	ACROSS THE LINE MAGNETIC MOTOR STARTER, NEMA SIZE INDICATED.
	LOCK-OUT-STOP P.A., HEAVY-DUTY NEMA-4 ENCLOSURE.
	ANALOG INPUT/OUTPUT DEVICE W/ 3 DATA FIELD SHOWN SELF POWERED
	CABLE SHIELD
	WRITE DSC, TB

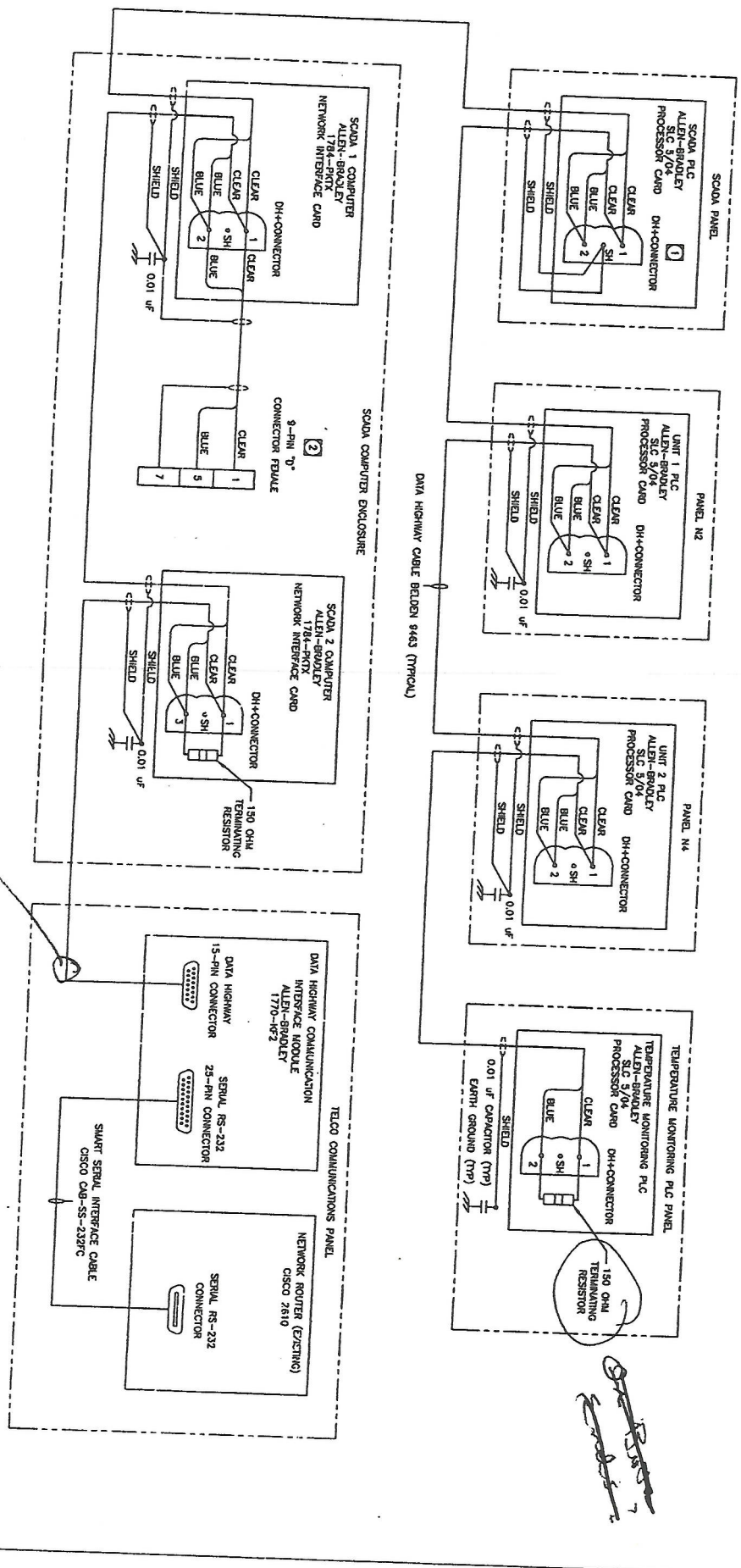
ABBREVIATIONS

AC	= AC
AD	= ADJUSTABLE FREQUENCY DRIVE
AI	= ANALOG INPUT
AM	= ALARM
AMP	= AMPERES, AMPERAGE
AO	= ANALOG OUTPUT
AWG	= AMERICAN WIRE GAUGE
BIDG	= BUILDING
C	= CIRCUIT
CB	= CIRCUIT BREAKER
CCP	= CHLORINATION CONTROL PANEL
CH	= CHANNEL
CL	= CLOSED
COAD	= COMMAND
COND	= COMMON
CONV	= CONVERT
CTL	= CONTROL
CP	= CONTROL PANEL
CR	= CONTROL RELAY
DCP	= DECHLORINATION CONTROL PANEL
DI	= DISCONNECT
DISC	= DISCRETE INPUT
DISCH	= DISCHARGE
DN	= DOWN
DNG	= DISCRETE OUTPUT
DP	= DOWN
EP	= EXPLOSION PROOF
FD	= FEEDBACK
FLA	= FULL LOAD AMPS
FLEX	= FLEXIBLE
FLTR	= FILTER
FO	= FIBER OPTIC
FT	= FEET
F.T. (f)	= FUTURE
GFCI	= GROUND FAULT INTERRUPTER
GRD, G	= GROUND
HA	= HIGH
HCB	= HAND - OFF - AUTOMATIC
HP	= HORSEPOWER
HPV	= HYPOCLORITE
I/O	= INPUT/OUTPUT
INDX	= INTERMEDIATES (TO CONTACT)
JB	= JUNCTION BOX
KVA	= KILOWATT AMPERE
LTV	= LIGHTING
LVL	= LEVEL
L/R	= LOCAL/REMOTE
LO	= LOW
LP	= LIGHTNING PANEL
UA	= ULTIMATE
UAX	= ULTIMATE
UCC	= MOTOR CONTROL CENTER
UCC	= THOUSAND CIRCULAR MILS
MCP	= MAIN CONTROL PANEL
MCR	= MASTER CONTROL RELAY
MAN	= MANUAL
M, MOT	= MOTOR
N	= NEUTRAL
(N)	= NEW
NC	= NORMALLY CLOSED, NOT CONNECTED
NEC	= NATIONAL ELECTRIC CODE
NEUT	= NEUTRAL
NC	= NOT IN CONTACT
NO, #	= NUMBER
NO	= NORMALLY OPEN
NIS	= NOT TO SCALE
NTS	= NOT TO SCALE
OP	= OPEN
PA	= PUSHTON
PH	= PHASE
PLC	= PROGRAMMABLE LOGIC CONTROLLER
PLND	= PANELBOARD
PRECSS	= PRESSURE
POS	= POSITIVE
PS	= POWER SUPPLY
PMP	= PUMP
REC'D	= REQUIRED
REL	= RELAY
RM	= RECYCLED WATER
SHLD	= SHIELDED
SHT	= SHEET
SP	= SPARE
SPD	= SPEED
STP	= STOP
STR	= START
SUCT	= SUCTION
SW	= SWITCH
SYS	= SYSTEM
SECT	= SECTION
TH	= THERMAL BLOCK
TRM	= THERMAL
TRM	= THE RELAY ON DE-ENERGIZATION
TRM	= THE RELAY ON DEENERGIZATION
TRM	= TYPICAL
TSP	= TWISTED SHIELDED PAIR
UL	= UNDERWRITERS LABORATORY
UPS	= UNINTERRUPTIBLE POWER SUPPLY
UTP	= UNSHIELDED TWISTED PAIR
V	= VOLTAGE, VOLTS
VAC	= VOLTS, ALTERNATING CURRENT
VAV	= VALVE
VCC	= VOLTS, DIRECT CURRENT
W	= WATTS, WIRE
WW	= WETWELL
XCC	= TRANSFORMER
XPR	= TRANSMITTER
2WR	= TWO WIRE
2W	= THREE WIRE
3W	= FOUR WIRE
4W	

REVISIONS				DRAWING NUMBER		CITY OF UTAH LAKE MENDOCINO POWER PLANT SYMBOLS AND ABBREVIATIONS	
REV	DESCRIPTION	DATE	BY	DATE	7876	SCALE	REVISION
1	ISSUED BY	03/09/06	DATE			D	1.1
2	CHANGED BY	11/03/06	DATE			G-3.1	
3	APPROVED BY	11/03/06	DATE				
4	DRAWN BY	11/03/06	DATE				



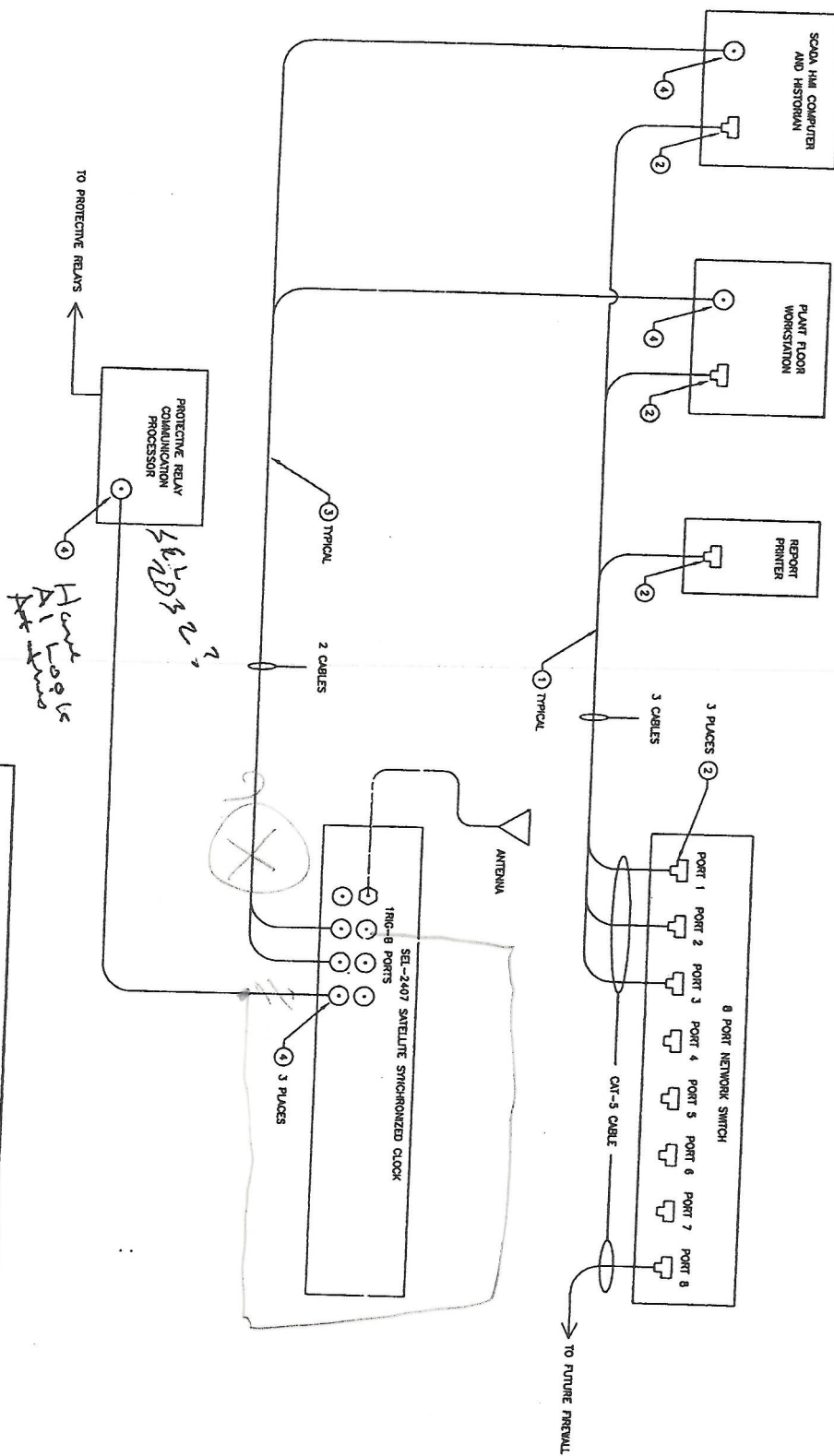
- NOTES**
1. CONNECT THE SHIELD OF THE DATA HIGHWAY CABLE TO THE SHIELD TERMINAL OF THE DH+ CONNECTOR ONLY AT THE SCDA PLC.
 2. CONNECT DATA HIGHWAY CABLE TO 9-PIN D+ STYLE FEMALE CONNECTOR AS A PLC PROGRAMMING COMPUTER INTERFACE.



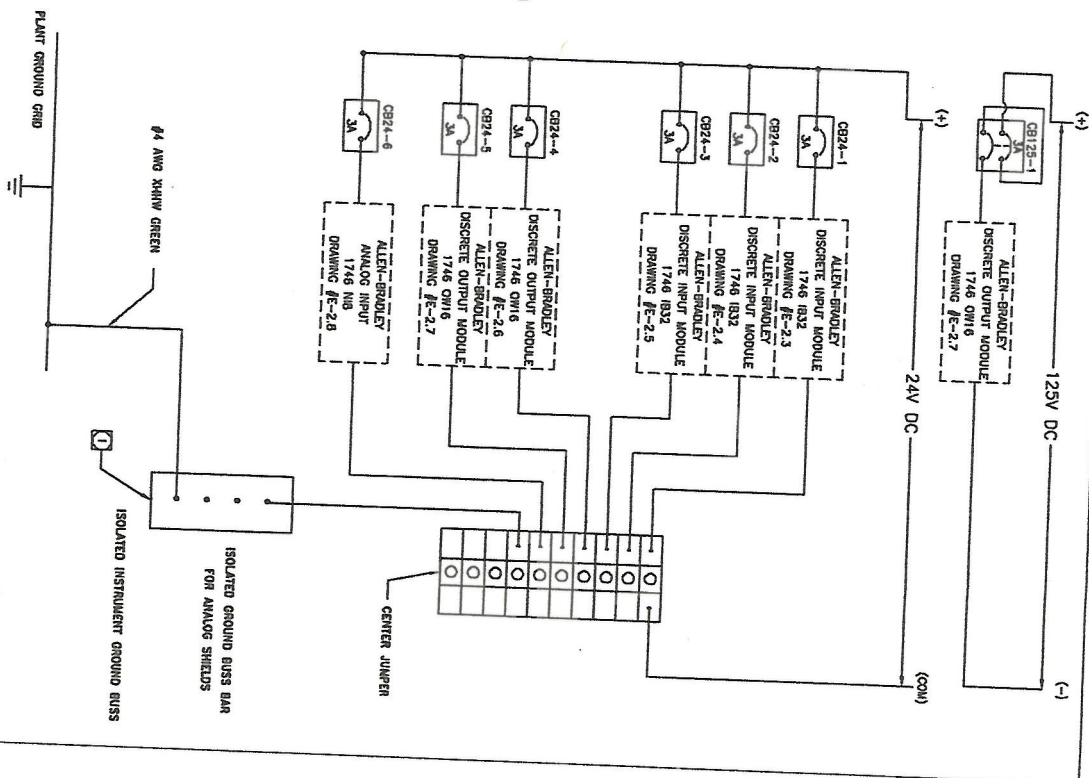
*Not for use in EMO
Node for DM EMO
Resistor*

REVISIONS				CONTRACT NUMBER			
REV	DATE	BY	CHKD	DESCRIPTION	DATE	BY	CHKD
1	10/09/08	WJW	WJW	7876	10/09/08	WJW	WJW
2	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
3	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
4	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
5	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
6	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
7	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
8	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
9	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
10	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
11	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
12	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
13	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
14	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
15	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
16	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
17	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
18	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
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20	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
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22	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
23	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
24	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
25	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
26	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
27	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW
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100	11/03/08	WJW	WJW	11/03/08	11/03/08	WJW	WJW

BILL OF MATERIALS			
ITEM	QTY	PART NO.	DESCRIPTION
1	1	ANT	ANTENNA
2	1	SEL-2407	SEL-2407 SATELLITE SYNCHRONIZED CLOCK
3	1	PRO-REL	PROTECTIVE RELAY COMMUNICATION PROCESSOR
4	1	SCQA-HM	SCQA-HM COMPUTER AND HISTORIAN
5	1	PLANT	PLANT FLOOR WORKSTATION
6	1	REPORT	REPORT PRINTER
7	1	8-PORT	8-PORT NETWORK SWITCH
8	1	CM-5	CM-5 CABLE
9	1	CON	CONNECTIONS
10	1	CON	CONNECTIONS
11	1	CON	CONNECTIONS
12	1	CON	CONNECTIONS
13	1	CON	CONNECTIONS
14	1	CON	CONNECTIONS
15	1	CON	CONNECTIONS
16	1	CON	CONNECTIONS
17	1	CON	CONNECTIONS
18	1	CON	CONNECTIONS
19	1	CON	CONNECTIONS
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32	1	CON	CONNECTIONS
33	1	CON	CONNECTIONS
34	1	CON	CONNECTIONS
35	1	CON	CONNECTIONS
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REVISIONS			
REV	BY	DATE	DESCRIPTION
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[illegible]

FIELD (NIC)

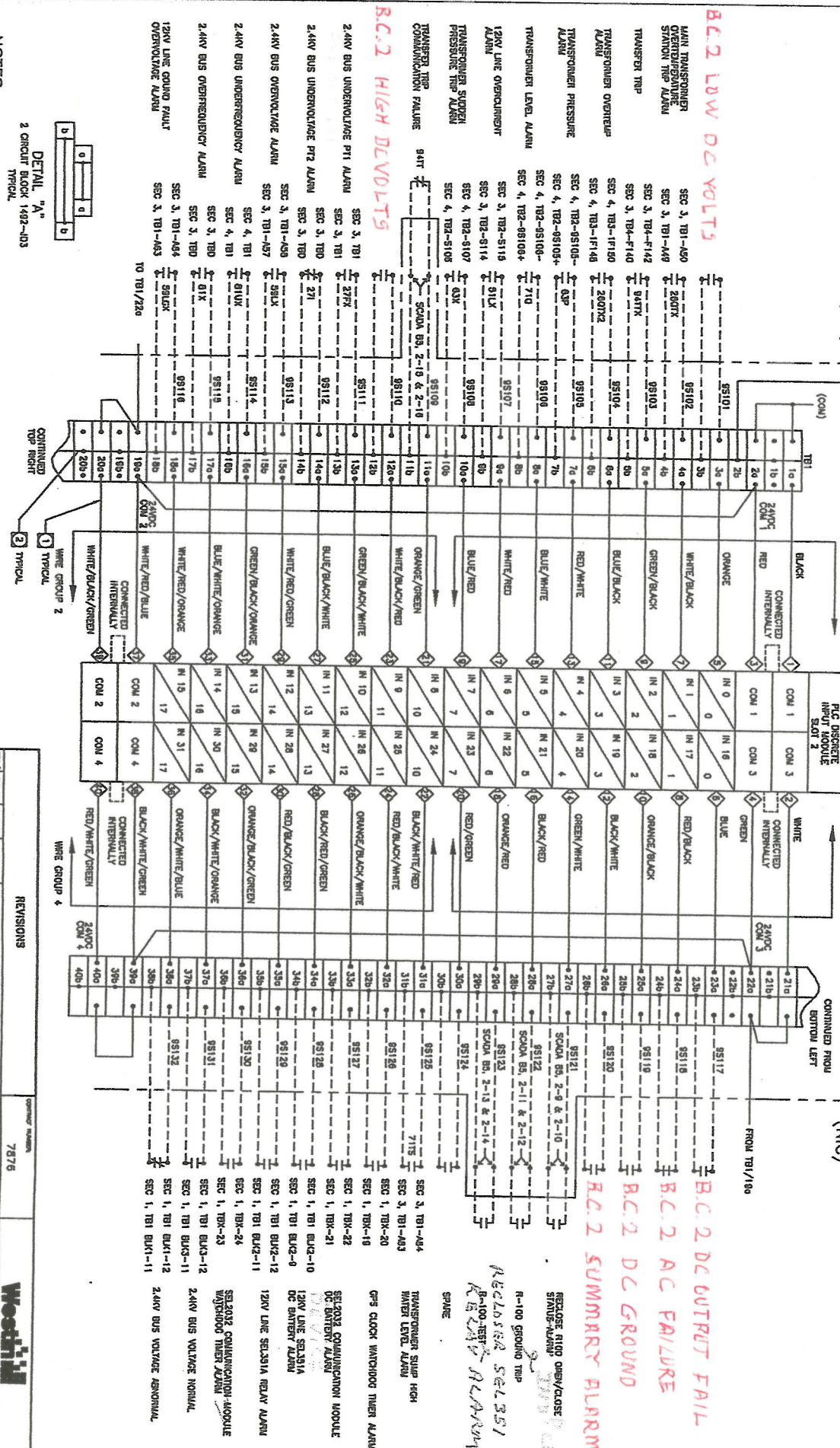
PLC PANEL

(+) 24V DC (GND-1, DMD E-2.2) WIRE GROUP 1

PLC PANEL

FIELD (NIC)

CONTINUED FROM BOTTOM LEFT



NOTES

- 1. USE PRE-PAID I/O READY CABLE (1492-CABLE 030N1).
- 2. WIRE COLOR DEFINITION: BLUE/WHITE/WHITE.
- 3. 2. CIRCUT BLOCK "A" CONTACTS ALIGNED WITH 1492-SIDA-10 JUMPER.

REVISIONS			
REV	DESCRIPTION	DATE	BY
1.0	ISSUED FOR CONSTRUCTION	11/14/04	7876
1.1	ISSUED FOR CONSTRUCTION	11/14/04	7876
1.2	ISSUED FOR CONSTRUCTION	11/14/04	7876
1.3	ISSUED FOR CONSTRUCTION	11/14/04	7876
1.4	ISSUED FOR CONSTRUCTION	11/14/04	7876

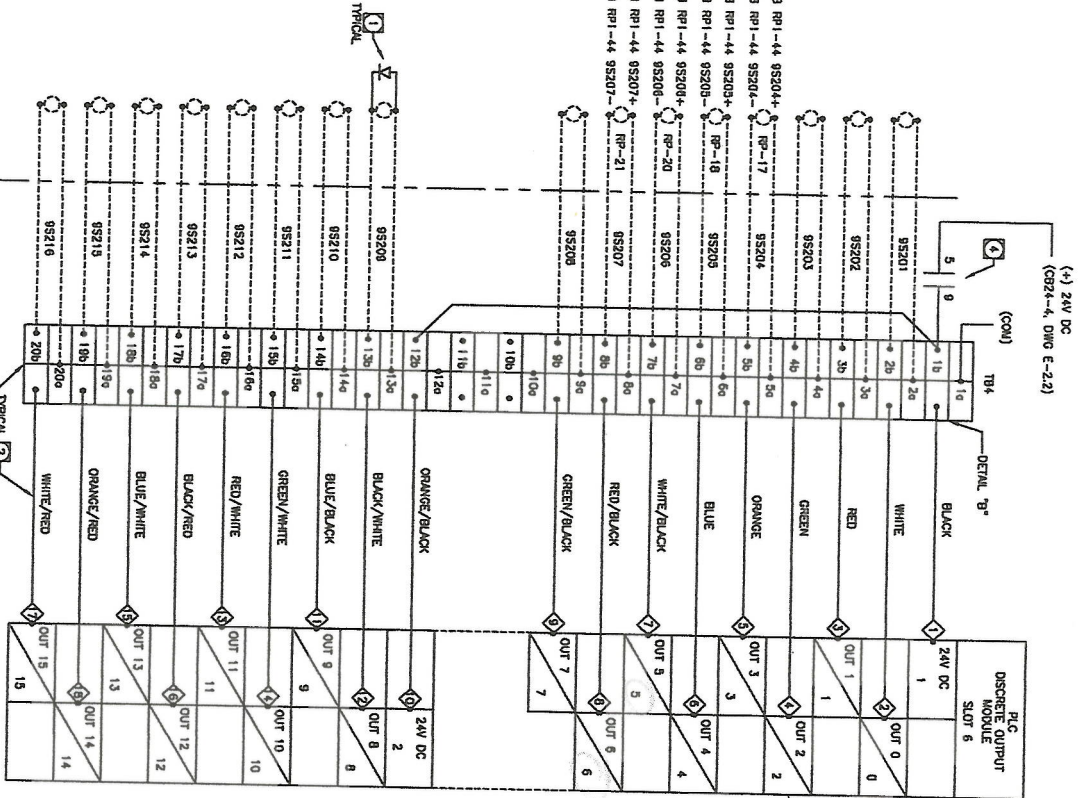
CITY OF UTAH
 WASHINGTON POWER PLANT
 SCADA PLC CONTROL PANEL
 DISCRETE INPUT SLT 12 CONNECTION DIAGRAM
 DATE: 11/14/04
 BY: 7876
 E-2.3
 1.4

100" BYPASS VALVE - OPEN COMMAND
 100" BYPASS VALVE - STOP COMMAND
 100" BYPASS VALVE - CLOSE COMMAND
 54" BYPASS VALVE - OPEN COMMAND
 54" BYPASS VALVE - CLOSE COMMAND
 18" BYPASS VALVE - OPEN COMMAND
 18" BYPASS VALVE - CLOSE COMMAND
 18" BYPASS VALVE - CLOSE COMMAND
 FLOW CONTROL, SPARE

FLOW CONTROL, SPARE
 FLOW CONTROL, SPARE
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 FLOW CONTROL, SPARE

FIELD (NIC)

PLC PANEL





ANALOG INPUTS



NOTES

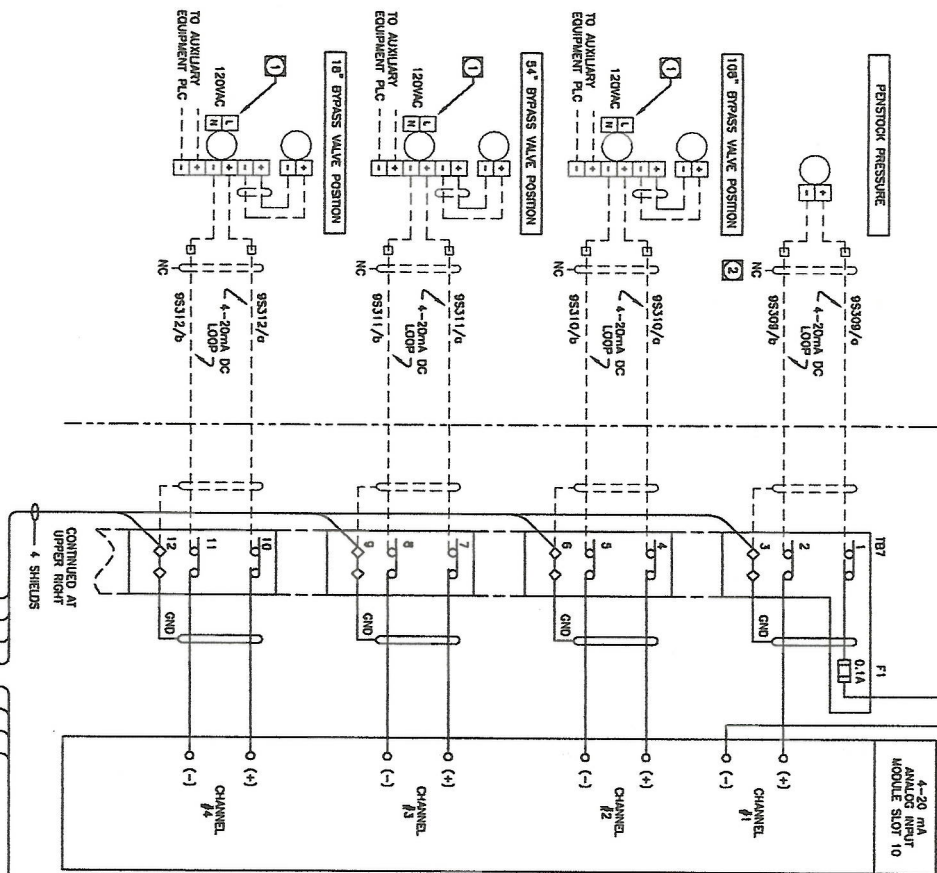
1 DO NOT GROUND SHIELD AT FIELD END OF CABLE.

[illegible]

ANALOG INPUTS

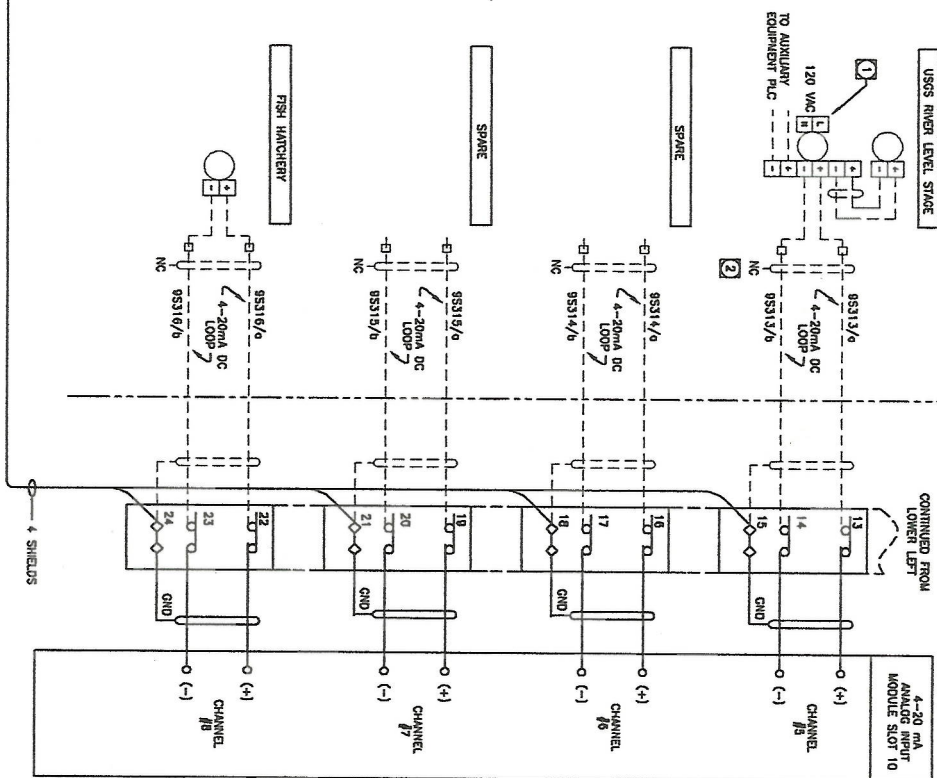
(+) 24V DC (C924-4, DMC E-2.2)

FIELD (INC) PLC PANEL



ANALOG INPUTS

FIELD (INC) PLC PANEL



NOTES

- 1 ANALOG SIGNAL SPLITTER INSTALLED AT FIELD LOCATION
- 2 DO NOT GROUND SHIELD AT FIELD END OF CABLE

REVISIONS				CITY OF UKIAH	
REV	BY	DATE	DESCRIPTION	DATE	BY
1.0	W. H. H.	11/14/08	ISSUED FOR CONSTRUCTION	11/14/08	W. H. H.
1.1	W. H. H.	11/14/08	ISSUED FOR CONSTRUCTION	11/14/08	W. H. H.
1.2	W. H. H.	11/14/08	ISSUED FOR CONSTRUCTION	11/14/08	W. H. H.
1.3	W. H. H.	11/14/08	ISSUED FOR CONSTRUCTION	11/14/08	W. H. H.
1.4	W. H. H.	11/14/08	ISSUED FOR CONSTRUCTION	11/14/08	W. H. H.
CITY OF UKIAH				LIVE WINDING POWER PLANT	
ANALOG INPUT				ANALOG INPUT	
CONNECTION				CONNECTION	
E-2.9				E-2.9	
REV 16 OF 48				REV 16 OF 48	

PURCHASING DEPARTMENT
411 West Clay Street, Ukiah CA 95482
(707) 463-6233
mhorgers@cityofukiah.com



REQUEST FOR PROPOSAL – HYDRO PLANT SCADA/PLC UPGRADE
Addendum No. 1
March 12, 2020

The following is Addendum No. 1 to Request for Proposal – Hydro Plant SCADA/PLC Upgrade

This Addendum is hereby made part of the Contract Documents to the same extent as though it were originally included therein.

I. Proposal schedule has changed as follows:

Deadline for Responses:	5:00 p.m., Friday, March 27, 2020
City Evaluation of Proposals:	By April 10, 2020
Interviews (if necessary):	By April 10, 2020
City approval requested	
For contract award (tentative):	April 15, 2020

II. The following are questions asked, and corresponding responses:

Q1: What are the characteristics of the T1 line?

A1: It's a 1.54Mbps 24 channel T1 using PPP encapsulation to the CAISO Energy Communication Network (ECN).

Q2: What is the communications "update or sampling rate" required by NCPA?

A2: NCPA doesn't have a hard set *required* minimum polling rate that must be met within NCPA's SCADA system, however there are a number of considerations that come into play when determining their *optimal* polling rate. Considerations should be made to ensure NCPA is receiving updates fast enough to successfully and safely operate the resource as well monitor and control of any associated process control variables. i.e. If a valve operates from fully closed to fully open in six minutes we would *optimally* like to see a status update every three minutes, faster if the infrastructure can support it. Essentially once at minute zero to gain the feedback for the issued open command, once at minute three to see the valve open approximately halfway and once again at minute six providing confirmation of the fully opened valve. Other continuously updating process variables may dictate a faster poll cycle/rate. Please note safety considerations also need to be made to ensure NCPA receives generated polled digital alarms from the remote site within a satisfactory time frame, typically based upon the City's most critical alarms. Keep in mind the above methodology is also highly dependent upon the infrastructure supporting the process. If the end to end infrastructure is a routable protocol, (TCP/IP) for example, polling rates can typically be somewhat faster when compared to other slower communication protocols and mediums.

As far as what NCPA is currently leveraging in production, a general overview of the poll cycles is provided below:

Site	Protocol	Poll Cycle
Ukiah Lake Mendo(PLC 10,11,12)	AB	3000 ms*
Ukiah Lake Mendo Meters	Modbus	500 ms*
Ukiah Orchard	Modbus	500 ms*

*Significant differential exists in poll cycles if a control command is issued from NCPA's SCADA system.

Q3: Are there any cyber security issues with our communications with NCPA that we need to address on our end with the upgrade?

A3: The communication between the NCPA Dispatch and Ukiah currently uses a VPN tunnel to encrypt Modbus data as it moves in and out of the networks. A PLC that has routable protocols (TCP/IP) should not be accessible to anyone on the open ECN. Further, if there is any kind of access controls on the PLC itself all the passwords should be changed at a minimum and turn off any services that don't need to be used.

Q4: Will the program or tag list be provided?

A4: Not for proposal preparation purposes, but will be provided to the selected candidate. Please see attached processor information for each PLC.

Q5: Do the wires need to be direct wired?

A5: Yes, if wires are too short, new wire must be pulled. The RTD wiring to the generator bearings should be continuous from the plc to the RTD. The RTD wiring to the generator winding RTD's should be continuous from the PLC to the terminal box located on each generator.

Q6: What are the downtime requirements?

A6: Contractor to include a proposed downtime to complete project as part of the project schedule, and will be considered as part of the proposal review. The City will schedule the plant to be off line.

Q7: Are the bypass valves part of the SCADA?

A7: Yes.

Q8: Do you have a copy of wiring diagrams?

A8: All available drawings are attached.

Q9: Is temperature monitoring all consolidated somewhere?

A9: The temperature monitoring is consolidated on one screen of GE Ifix SCADA software. Temperature limits set in the PLC's are associated with PLC outputs for over temperature trips.

Q10: Is there work in the CAL ISO cabinet?

A10: No.

Q11: Who is going to issue the tag list and or programs for each PLC, and how can we get the rest of the drawings for each PLC?

A11: The tag list is not available at this time, but will be issued to the successful bidder.

Q12: Is there anyone that can let me know how many screens are on your SCADA HMI System?

A12: There are eleven (11) main screens.

III. The following are additional clarifications and revisions:

1. There is currently one server located in the switchgear that will need to be removed, and a new server location will need to be identified. One computer could be located near the communication cabinet and the other will be located in the booth.
2. Contractor to remove auxiliary PLC as part of the proposal.
3. Current GE Ifix license serial number: GE Fanuc 100220950, iFIX Plus SCADA Pak 600 I/O, Runtime Version 4.0
4. License and Additional Requirements:

Compliance with Laws and Regulations: All materials, parts and equipment furnished pursuant to these specifications shall follow the laws and regulations of the State of California and OSHA. The contractor shall, if requested by the City, supply certification and evidence of such compliance.

Legal Requirements and Permits: The contractor will fully comply with all local, City, State and Federal laws, regulations and ordinances governing performance of contractual services required, and it will be the responsibility of the contractor to obtain any and all necessary licenses, permits or clearances, including the actual cost of licenses.

License Requirements:

- a) The Contractor shall possess a valid State of California **Class C10** license. Contractor shall provide proof of possession of the proper licenses and certificates of registration necessary to perform the work. Employees actually performing the tasks shall provide proof of proper certificates of registration for same.
- b) The contractor is required to have a City Business License if awarded the project.
- c) Where subcontractors/jobbers are used, bidder shall provide the City with proof of proper licenses, certificates and proof of insurance for work performed.
- d) Notice to Contractors – Contractor Registration and Prevailing Wages –*No contractor or subcontractor may be listed on a proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. The prime contractor shall be responsible for posting job site notices as prescribed by regulation. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.*

Each laborer or mechanic of Contractor or any subcontractor engaged in work on the project under this contract shall be paid, pursuant to provisions of Section 1770, including amendments thereof, of the Labor Code of the State of California, the Director of the Department of Industrial Relations, State of California, has ascertained the general prevailing rate of wages for straight time, overtime Saturdays, Sundays and Holidays including employer payment for health and welfare, vacation, pension and similar purposes, copies of the General Prevailing Wage Determination (applicable to the work), for the locality in which the work is to be done can be reviewed at Website: www.dir.ca.gov/dlsr/pwd/northern.html .

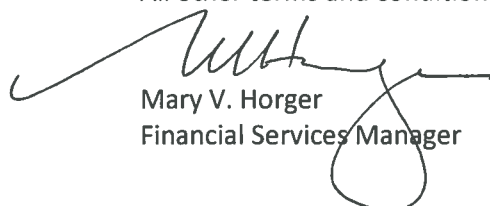
The Labor Commissioner through the Division of Labor Standards Enforcement (DLSE) require contractors and subcontractors must furnish electronic certified payroll records directly to the DLSE.

Important: Contractor shall include in your proposal the following information:

- Your California State Contractor License number.
 - Your Department of Industrial Relations Public Works Registration Number.
 - A list of any subcontractors you intend to use, including:
 - Their California State Contractor License number.
 - Their Department of Industrial Relations Public Works Registration Number.
 - Their business address.
 - What portion of work they will be performing.
5. Contractor Insurance Requirements Revised. Provided for as Attachment 1 are the revised insurance requirements. Awarded firm, prior to performing any work, shall procure and maintain for the duration of the contract insurance per the attached requirements.
6. City Draft Agreement. Provided for as Attachment 2 is the City's draft agreement. This replaces the sample agreement originally provided with the RFP.
7. Proposal Evaluation Criteria has been updated as follows:

Evaluation Criteria		Maximum Score
1.	Experience and expertise, and history of providing similar services.	30
2.	Project approach.	30
3.	Special or unique capabilities or services.	15
4.	References.	5
5.	Cost.	20
Totals:		100
Interviews (if held)		100
Totals:		200

All other terms and conditions remain in full force and effect.


 Mary V. Horger
 Financial Services Manager

ACKNOWLEDGMENT

I hereby acknowledge that I have received this Addendum No. 1 and have reviewed and considered it before submitting my proposal.

Signed: _____ Date: _____

Company Name: _____



ATTACHMENT 1 - INSURANCE REQUIREMENTS FOR CONTRACTORS

Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

I. Minimum Scope of Insurance

Coverage shall be at least as broad as:

- A. Insurance Services Office Commercial **General Liability coverage** (Form No. CG 20 10 10 01 and Commercial General Liability – Completed Operations Form No. CG 20 37 10 01).
- B. Insurance Services Office form number CA 0001 (Ed. 1/87) covering **Automobile Liability**, code 1 (any auto).
- C. **Worker's Compensation** insurance as required by the State of California and Employer's Liability Insurance.

II. Minimum Limits of Insurance

Contractor shall maintain limits no less than:

- A. General Liability: \$2,000,000 per occurrence for bodily injury, personal injury and property damage **including operations, products and completed operations**. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. Insurance must be written on an occurrence basis.
- B. Automobile Liability: \$2,000,000 per accident for bodily injury and property damage. Insurance must be written on an occurrence basis.
- C. Worker's Compensation Employer's Liability: \$1,000,000 per accident for bodily injury or disease.

III. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the City. The City may require the insurer to reduce or eliminate such deductibles or self-insured retentions with respect to the City, its officers, officials, employees and volunteers; or the Contractor to provide a financial guarantee satisfactory to the City guaranteeing payment of losses and related investigations, claim administration and defense expenses; or to approve the deductible without a guarantee.

IV. REQUIRED Insurance Provisions

Proof of **general liability and automobile liability** policies are to contain, or **be endorsed** to contain, the following provisions:

A. The City, its officers, officials, employees, and volunteers are to be covered as **ADDITIONAL INSURED** with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the contractor; and with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment, furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance, or as a separate owner's policy.

B. **The workers' compensation policy is to be endorsed with a waiver of subrogation.** The insurance company, in its endorsement, agrees to waive all rights of subrogation against the City, its officers, officials, employees and volunteers for losses paid under the terms of this policy which arises from the work performed by the named insured for the City. NOTE: You cannot be added as an additional insured on a workers' compensation policy.

C. For any claims related to this project, the Contractor's insurance coverage shall be **primary insurance** with respect to the City, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, or volunteers shall be in excess of the Contractor's insurance and shall not contribute with it.

D. Each insurance policy required by this clause shall be endorsed to state that coverage shall **not be canceled** by either party, except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the City.

E. **Note: (This protects the Contractor)** -Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Subdivision (b) of Section 2782 of Civil Code.

V. **RATING - Acceptability of Insurers**

Insurance is to be placed with admitted California insurers with a current A.M. Best's rating of no less than A- for financial strength, AA for long-term credit rating and AMB-1 for short-term credit rating.

VI. **Verification of Coverage**

Contractor shall furnish the City with original certificates and amendatory endorsements affecting coverage required by this clause. The endorsements should be on **forms provided by the City**. If endorsements are on forms other than the City's forms, those endorsements or policies must provide coverage that is equivalent to or better than the forms requested by the City. All certificates and endorsements are to be received and approved by the City before work commences. The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications at any time.

VII. **Subcontractors**

Contractor shall include all subcontractors as insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all of the requirements stated herein.

If you have questions regarding our insurance requirements contact:

**Risk Manager
(707) 463-6287 FAX (707) 463-6204**

ATTACHMENT 2 - SHORT FORM CONSTRUCTION CONTRACT

This Agreement is made and entered on _____, in Ukiah, California, by and between _____, a CA General Partnership [corporation, partnership, sole proprietor] ("Contractor") and the City of Ukiah ("City"), a general law municipal corporation.

RECITALS:

1. The plans and specifications for this work ("the Work") are contained in Exhibit A - Bid Specification, which is attached hereto and incorporated herein by this reference.

2. Contractor is properly licensed and qualified to perform the work.

3. Whenever this Agreement calls for City approval or notification, the approval or notification must be signed by the City Manager or his or her designee.

AGREEMENT:

Wherefore, in consideration of the foregoing facts and the terms and conditions as further stated herein, the parties hereby agree as follows.

1. PERFORMANCE OF THE WORK

Contractor will perform the Work as further provided herein.

1.1 Time of Performance. Contractor shall commence the Work when receiving a formal Notice to Proceed, and shall complete the Work by no later than _____.

1.1.1. ☐ [check if applicable] It is agreed by the parties to the contract that time is of the essence and that, in case all the work is not completed before or upon the expiration of the time limit as set forth, damage, other than those cost items identified in section 1.1.2, will be sustained by the City and that it is and will be impracticable to determine the actual amount of damage by reason of such delay; and it is therefore agreed that, subject to Sections 1.13-1.14, below, the Contractor will pay to the City the sum of five hundred dollars (\$500.00) per day for each and every calendar day's delay beyond the time prescribed.

1.1.2 ☐ [check if applicable] In case the work called for under this contract is not completed within the time limit stipulated herein, the City shall have the right as provided hereinabove, to extend the time of completion thereof. If the time limit be so extended, the City shall have the right to charge to the Contractor and to deduct from the final payment for the work the actual cost to the City of engineering, inspection, superintendence and other overhead expenses which are directly chargeable to the contract and which accrue during the period of such extension, except that the cost of final unavoidable delays shall not be included in such charges.

1.2 Construction of Contract Documents. Contractor will perform the Work in compliance with the plans and specifications set forth in the attached Exhibit A. If there is any inconsistency or conflict between the plans and the specifications, the specifications will prevail. If there is any inconsistency between the plans and the specifications and this agreement, the terms of this Agreement shall prevail, unless expressly stated otherwise in a particular specification.

1.3 Contractor furnished items. Contractor will furnish all necessary labor, materials, tools, equipment, and transportation necessary to perform the Work.

1.4 SB 854 requirements

1.4.1 No contractor or subcontractor may be listed on a bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

1.4.2 No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

1.4.3 This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

1.4.4 The Labor Commissioner through the Division of Labor Standards Enforcement (DLSE) may at any time require contractors and subcontractors to furnish electronic certified payroll records directly to DLSE. All contractors and subcontractors must furnish electronic certified payroll records directly to the DLSE.

1.4.5 The Prime Contractor is required to post job notices at the job site as prescribed by regulations (currently, 8 CCR §16451(d).)

1.5 Use of Employees.

1.5.1. Contractor and any subcontractors shall pay all mechanics and laborers employed by them to work upon the site of the work unconditionally and without subsequent deductions or rebate on any account the full amounts due at the time of payment at wage rates not less than those contained in the applicable prevailing wage determination, regardless of any contractual relationship which may be alleged to exist between the Contractor and subcontractors and such laborers and mechanics.

1.5.2. Contractor shall comply with the California Labor Code Section 1775. In accordance with said Section 1775, Contractor shall forfeit as a penalty to the City, \$50.00 for each calendar day or portion thereof, for each workman paid less than the stipulated prevailing rates for such work or craft in which such workman is employed for any work done under the Contract by him or her or by any subcontractor under him or her in violation of the provisions of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each workman for each calendar day or portion thereof for which each workman was paid less than the stipulated prevailing wage rate shall be paid to each workman by the Contractor.

1.5.3. Pursuant to the provision of Section 1770 of the Labor Code of the State of California, City has ascertained the general prevailing rate of wages (which rate includes employer payments for health and welfare, vacation, pension and similar purposes) applicable to the work to be done, for straight time work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification, or type of workers concerned. Copies of the General Prevailing Wage Determination are on file in the office of the City Engineer and are available to the Contractor on request. The Contractor shall post the wage determination at the site of work in a prominent place where the workers can easily see it.

1.5.4. City will not recognize any claim for additional compensation because the Contractor has paid any rate in excess of the prevailing wage rate obtained from the City Engineer. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his or her bid and will not in any circumstances be considered as the basis for a claim against the City.

1.5.5. Travel and Subsistence Payments.

Contractor shall make travel and subsistence payments to each worker needed to execute the work in accordance with the requirements in Section 1773.8 of the Labor Code (Chapter 880, Statutes of 1968).

1.5.6. Apprentices.

Attention is directed to the provisions in Sections 1777.5 (Chapter 1411, Statutes of 1968) and 1777.6 of the California Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under him. Contractor and any subcontractor under him or her shall comply with the requirements of said sections in the employment of apprentices.

Information relative to apprenticeship standards, wage schedules and other requirements may be obtained from the Director of Industrial Relations, ex officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

Copies of Labor Code Sections 1771 (requiring prevailing wages), 1775 (imposing penalties, including a \$50 per day, per worker forfeiture, for failure to pay prevailing wages), 1776 (requiring contractor to maintain available for inspection certified payroll records), 1777.5 (requiring certain apprenticeship programs), 1813 (imposing penalties for failure to make records available for inspection) and 1815 (requiring time and ½ for overtime) are available at the Department of Industrial Relations website at <http://www.dir.ca.gov/>

1.6 CITY Inspector. CITY may designate an architect, engineer, other design professional or other inspector ("Inspector") to supervise and/or inspect Contractor's performance of the Work. The

Inspector shall have no authority to change the Work, the compensation for performing the Work or the time for completing the Work without City's prior written approval. City shall notify the Contractor in writing, if it designates an Inspector.

1.7 Site Conditions. Contractor acknowledges that it has inspected the work site and any improvements involving the Work and satisfied itself as to the conditions which can affect the Work or its cost. Contractor has not relied on any representation by CITY or its officers or employees as to the condition of the site or the houses or any condition that might affect the cost of performing this Agreement.

1.8 New Products Required. All equipment, materials or fixtures furnished by Contractor under this Agreement shall be new and of the most suitable grade for the intended purpose, unless otherwise specifically provided.

1.9 Compliance with Laws. The Contractor shall give all notices and comply with all applicable laws, ordinances, codes, rules and regulations. The Contractor shall secure and pay for all permits, fees, and licenses necessary for the proper execution and completion of the work.

1.10 Protection of Site and Improvements. The Contractor shall preserve and protect the site, grounds and any involved improvements and shall not alter or damage any portion thereof, except as is absolutely necessary in order to perform the Work. The Contractor shall repair or replace, as directed by CITY, any property that it damages, looses or destroys in violation of this paragraph. Contractor shall assume full responsibility for maintaining the safety of the worksite in compliance with all applicable state and federal worker safety and protection laws and shall maintain the worksite in compliance with all such laws.

1.11 Inspection of Work. The Contractor shall ensure that the Work is available for inspection by CITY or its Inspector at all reasonable times and that no work is covered up or rendered incapable of inspection without prior notice to CITY or its Inspector and a reasonable opportunity for inspection. The presence or absence of an CITY inspector or the conduct of an inspection by CITY or its Inspector shall not relieve the Contractor from any contract requirement or compliance with Exhibit A.

1.12 Title. The Contractor warrants that it conveys full and complete title, free of all liens and encumbrances, to all materials, supplies, fixtures and equipment furnished to CITY under this Agreement and agrees to fully defend and indemnify CITY, its officers and employees, and the houses and homebuyers included in the Work from and against any claim, lien, charge, debt, cost, expense or liability arising from a breach of said warranty.

1.13 Warranties. In addition to any other warranties in this contract, the Contractor warrants that the Work conforms to the contract requirements and is free of any defect in equipment, material or workmanship for a period of one year from the date of final acceptance of the Work by CITY. If CITY accepts any part of the Work before final acceptance of the entire Work, the warranty shall continue for the period of one year from the date of such partial acceptance. The Contractor shall remedy, at the Contractor's expense, any failure to conform, or any defect. [Initial if following sentence applies /_/ /_/] CITY shall retain ___% of the Contract Amount to secure the Contractor's warranty and shall remit the unused portion of that amount at the end of the warranty period. The time limit of this warranty shall not apply to any latent defects, or gross negligence or fraud on the part of the Contractor.

1.14. Extension of Time. Should any delays occur which the City may consider unavoidable, as herein defined, the Contractor shall, pursuant to his or her application, be allowed an extension of time proportional to said delay or delays, beyond the time herein set forth, in which to complete this contract; and liquidated damages for delay shall not be charged against the Contractor by the City during an extension of time granted because of unavoidable delay or delays.

Any claim by Contractor for a time extension based on unavoidable delays shall be based on written notice delivered to the City within 15 days of the occurrence of the event giving rise to the claim. Failure to file said written notice within the time specified shall constitute a waiver of said claim. Notice of the full extent of the claim and all supporting data must be delivered to the City within 45 days of the occurrence unless the City specifies in writing a longer period. All claims for a time extension must be approved by the City and incorporated into a written change order.

1.15. Unfavorable Weather and Other Conditions. During unfavorable weather and other conditions, the Contractor

shall pursue only such portions of the work as shall not be damaged thereby. No portions of the work whose satisfactory quality or efficiency will be affected by any unfavorable conditions shall be constructed while these conditions remain, unless, by special means or precautions approved by the City, the Contractor shall be able to overcome them.

The Contractor shall be granted a time extension of one day for each unfavorable weather day that prevents him or her from placing concrete forms or placing and finishing concrete or asphalt concrete. Such unfavorable weather day is defined as a rain day where precipitation prevents the contractor from performing the work more than four (4) continuous hours within the authorized work period or a temperature day where the ambient temperature is below that specified for the placement of materials associated with the controlling work item for more than four (4) continuous work hours of the authorized work period.

1.16. Saturday, Sunday, Holiday and Night Work.

No work shall be done between the hours of 6 p.m. and 7 a.m., nor on Saturdays, Sundays or legal holidays except such work as is necessary for the proper care and protection of work already performed, or except in cases of absolute necessity and in any case only with the permission of the City.

It is understood, however, that night work may be established as a regular procedure by the Contractor if he or she first obtains the written permission of the City and that such permission may be revoked at any time by the City if the Contractor fails to maintain at night adequate force and equipment for reasonable prosecution and to justify inspection of the work.

1.17. Hours of Labor.

Eight (8) hours of labor shall constitute a legal day's work and the Contractor or any subcontractor shall not require or permit more than eight hours of labor in a day from any person employed by him or her in the performance of the work under this contract, unless paying compensation for all hours worked in excess of eight (8) hours per day at not less than 1 ½ times the basic rate of pay. The Contractor shall forfeit to the City, as a penalty, the sum of twenty-five dollars (\$25.00) for each workman employed in the execution of the contract by him or her or by any subcontractor, for each calendar day during which such laborer, workman, or mechanic is required or permitted to labor more than eight hours in

violation of the provisions of Section 1810 to 1816, inclusive, (Article 3, Chapter 1, Part 7, Division 2) of the Labor Code of the State of California and any acts amendatory thereof.

2. CONTRACT PRICE

CITY shall pay the Contractor for performance of this Agreement time and materials with a total not to exceed amount of _____.

3. PAYMENT OF CONTRACT PRICE

3.1 City shall pay any invoice for completed work, and approved by the City, within thirty (30) days of its receipt by City. All payments under this contract shall be made upon the presentation of certificates in writing from the City and shall show that the work covered by the payments has been done and the payments thereof are due in accordance with this contract.

4. INDEMNIFICATION AND INSURANCE.

4.1 Indemnification. The Contractor shall do all of the work and furnish all labor, materials, tools and appliances, except as otherwise herein expressly stipulated, necessary or proper for performing and completing the work herein required in the manner and within the time herein specified. The mention of any specific duty or liability imposed upon the Contractor shall not be construed as a limitation or restriction of any general liability or duty imposed upon the Contractor by this contract, said reference to any specific duty or liability being made herein merely for the purpose of explanation.

The right of general supervision by the City shall not make the Contractor an agent of the City and the liability of the Contractor for all damages to persons or to public or private property, arising from the Contractor's execution of the work, shall not be lessened because of such general supervision.

Until the completion and final acceptance by the City of all the work under and implied by this contract, the work shall be under the Contractor's responsible care and charge. The Contractor shall rebuild, repair, restore and make good all injuries, damages, re-erections and repairs, occasioned or rendered necessary by causes of any nature whatsoever, excepting only acts of God and none other, to all or any portions of the work, except as otherwise stipulated.

To the fullest extent permitted by law, Contractor shall indemnify and hold harmless the City and its officers, directors, agents, and employees from and against all claims, damages, losses and expenses including but not limited to attorneys' fees, costs of suit, expert witness fees and expenses and fees and costs of any necessary private investigators arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, other than the work itself, including the loss of use resulting therefrom and (2) is caused in whole or in part by any act or omission of the Contractor, any subcontractor, or anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder, or by the negligence or omission of a party indemnified herein.

In any and all claims against the City or any of its agents or employees by any employee of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts. The obligation to indemnify shall extend to and include acts of the indemnified party which may be negligent or omissions which may cause negligence.

The City shall have the right to estimate the amount of such damage and to cause the City to pay the same and the amount so paid for such damage shall be deducted from the money due the Contractor under this contract; or the whole or so much of the money due or to become due the Contractor under this contract as may be considered necessary by the City, shall be retained by the City until such suits or claims for damages shall have been settled or otherwise disposed of and satisfactory evidence to that effect furnished to the City.

4.2 Insurance. Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection

with the performance of the work hereunder by the Contractor, his or her agents, representatives, employees or subcontractors.

4.2.1. Minimum Scope of Insurance

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial Liability Coverage (occurrence form CG 0001).
2. Insurance Services Office form number CA 0001 (Ed. 1/87) covering Automobile Liability, code 1 (any auto).
3. Worker's Compensation insurance as required by the State of California and Employer's Liability Insurance.

4.2.2. Minimum Limits of Insurance

Contractor shall maintain limits no less than:

1. General Liability: \$2,000,000 per occurrence for bodily injury, personal injury, and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: \$2,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: \$1,000,000 per accident for bodily injury and property damage.

4.2.3. Deductibles and Self-insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the City, its officers, officials, employees and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the City guaranteeing payment of losses and related investigations, claim administration and defense expenses.

4.2.4. Other Insurance Provisions

The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The City, its officers, officials, employees, and volunteers are to be covered as insureds with respect to liability arising out of automobiles owned, leased, hired or borrowed by or on behalf of the contractor; and with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance, or as a separate owner's policy.

2. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects the City, its officers, officials, employees, volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, or volunteers, shall be excess of the Contractor's insurance and shall not contribute with it.

3. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the City.

4.2.5. Acceptability of Insurers

Insurance is to be placed with admitted California insurers with an A.M. Best's rating of no less than A- for financial strength, aa for long-term credit rating and AMB-1 for short-term credit rating.

4.2.6. Verification of Coverage

Contractor shall furnish the City with original certificates and amendatory endorsements effecting coverage required by this clause. The endorsements shall be on forms provided by the City or on other than the City's forms, provided those endorsements or policies conform to the requirements. All certificates and endorsements are to be received within 15 days from written notice of contract award, and the work shall not

commence until the certificates and endorsements have been approved by the City. The City reserves the right to require complete certified copies of all required insurance policies, including endorsements effecting the coverage required by these Special Provisions at any time.

4.2.7. Subcontractors

Contractor shall include all subcontractors as insureds under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

5. TERMINATION.

This Agreement may only be terminated by City: 1) for breach of the agreement; 2) because funds are no longer available to pay Contractor for services provided under this Agreement; or 3) City has abandoned and does not wish to complete the project for which Contractor was retained. City shall notify Contractor of any alleged breach of the agreement and of the action required to cure the breach. If Contractor fails to cure the breach within the time specified in the notice, the contract shall be terminated as of that time. If terminated for lack of funds or abandonment of the project, the contract shall terminate on the date notice of termination is given to Contractor. City shall pay the Contractor only for services performed and expenses incurred as of the effective termination date, unless terminated because the Contractor has failed to satisfactorily cure a breach after notice in which event City shall:

- a. retain any amounts earned under the Contract but not yet paid by City;
- b. take possession of all material and fixtures on the job site;
- c. have the right to complete the Work and recover from Contractor any increased cost to complete the Work above the amounts that would have been paid to Contractor hereunder, together with any other damages suffered by City as a result of said breach.

6. MODIFICATION OF AGREEMENT.

City may, from time to time, request changes in the Work, the time to complete the work or the compensation to be paid for the Work. Such changes must be incorporated in written amendments to this Agreement. To be effective, all such changes as referred to in this section must be agreed upon in writing by both parties to this agreement.

7. ASSIGNMENT.

The Contractor shall not assign any interest in this Agreement, and shall not transfer any interest in the same (whether by assignment or novation), without the prior written consent of City.

8. APPLICATION OF LAWS.

The parties hereby agree that all applicable Federal, State and local rules, regulations and guidelines not written into this Agreement shall hereby prevail during the period of this Agreement.

9. INDEPENDENT CONTRACTOR.

It is the express intention of the parties hereto that Contractor is an independent contractor and not an employee, joint venturer, or partner of City for any purpose whatsoever. City shall have no right to, and shall not control the manner or prescribe the method of accomplishing those services contracted to and performed by Contractor under this Agreement, and the general public and all governmental agencies regulating such activity shall be so informed.

Those provisions of this Agreement that reserve ultimate authority in City have been inserted solely to achieve compliance with federal and state laws, rules, regulations, and interpretations thereof. No such provisions and no other provisions of this Agreement shall be interpreted or construed as creating or establishing the relationship of employer and employee between Contractor and City.

Contractor shall pay all estimated and actual federal and state income and self-employment taxes that are due the state and federal government and shall furnish and pay worker's compensation insurance, unemployment insurance and any other benefits required by law for himself and his employees, if any. Contractor agrees to indemnify

and hold City and its officers, agents and employees harmless from and against any claims or demands by federal, state or local government agencies for any such taxes or benefits due but not paid by Contractor, including the legal costs associated with defending against any audit, claim, demand or law suit.

Contractor warrants and represents that it is a properly licensed for the work performed under this Agreement with a substantial investment in its business and that it maintains its own offices and staff which it will use in performing under this Agreement.

10. GOVERNING LAW.

This Agreement shall be governed by and construed in accordance with the laws of the State of California and any legal action concerning the agreement must be filed and litigated in the proper court in Mendocino County, each party consenting to jurisdiction and venue of California state courts in Mendocino County.

11. SEVERABILITY.

If any provision of the Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions shall nevertheless continue in full force and effect without being impaired or invalidated in any way.

12. INTEGRATION.

This Agreement, including the exhibits attached hereto, contains the entire agreement among the parties and supersedes all prior and contemporaneous oral and written agreements, understandings, and representations among the parties. No amendments to this Agreement shall be binding unless executed in writing by all of the parties.

13. WAIVER.

No waiver of any of the provisions of this Agreement shall be deemed, or shall constitute a waiver of any other provision, nor shall any waiver constitute a continuing waiver. No waiver shall be binding unless executed in writing by the party making the waiver.

14. NOTICES.

Whenever notice, payment or other communication is required or permitted under this Agreement, it shall be deemed to have been given when personally delivered, emailed, telefaxed or deposited in the United States mail with proper first class postage affixed thereto and addressed as follows:

CONTRACTOR

Email:
FAX:

CITY

City of Ukiah
300 Seminary Ave.
Ukiah, CA. 95482
Email:
FAX:

Service by telefax shall bear a notation of the date and place of transmission and the facsimile telephone number to which transmitted.

Either party may change the address to which notices must be sent by providing notice of that change as provided in this paragraph.

15. PARAGRAPH HEADINGS.

The paragraph headings contained herein are for convenience and reference only and are not intended to define or limit the scope of this agreement.

16. EXECUTION OF AGREEMENT.

This Agreement may be executed in duplicate originals, each bearing the original signature of the parties. Alternatively, this Agreement may be executed and delivered by facsimile or other electronic transmission, and in more than one counterpart, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. When executed using either alternative, the executed agreement shall be deemed an original admissible as evidence in any administrative or judicial proceeding to prove the terms and content of this Agreement.

WHEREFORE, the parties have entered this Agreement on the date first written above.

CONTRACTOR

CITY OF UKIAH

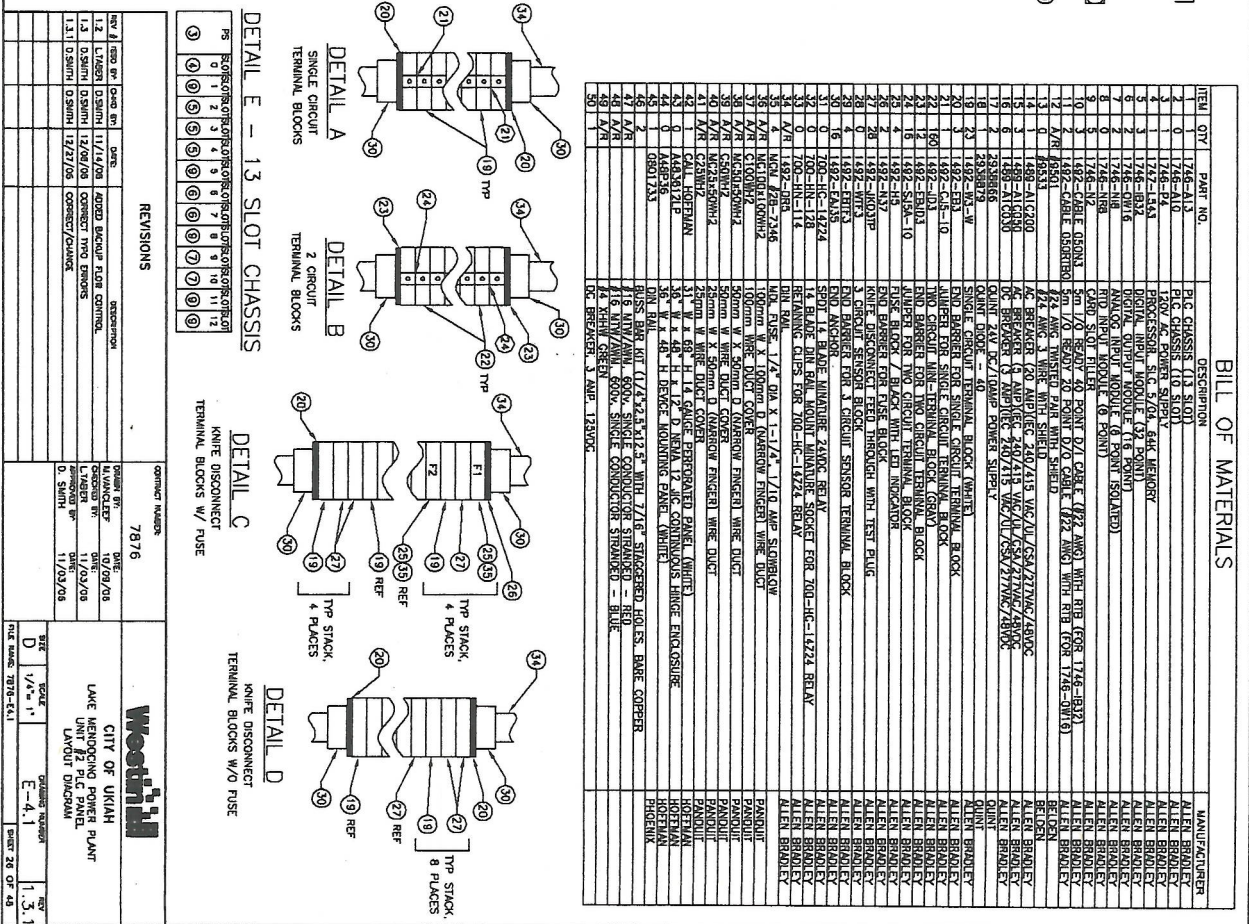
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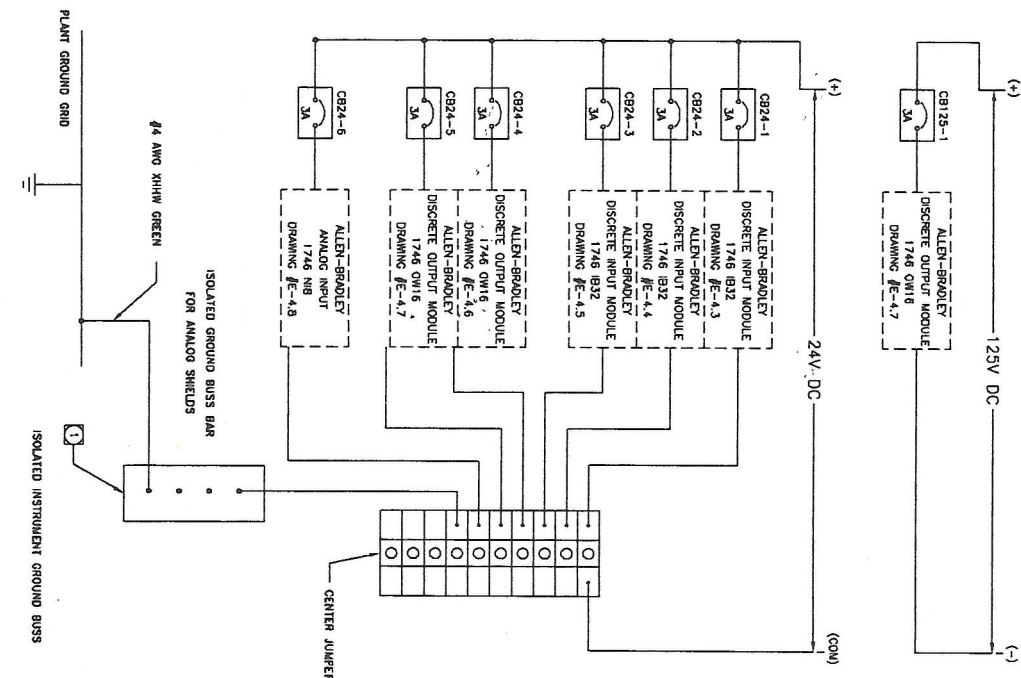
By:_____

Sage Sangiacomo
City Manager

California Contractor's License Number _____ [Number or N/A]

DRAFT

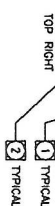




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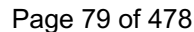
- 1** BUSS BAR KIT
1" X 2.5" X 12.5"
7" STAGGERED HOLES BARE COPPER

[illegible]



- 1 USE PRE-FAB I/O READY CABLE (1492-CABLE 050N3).
WIRE COLOR DENOTATION: BASE/STRIPED/STRIPED.
- 2 CIRCUIT BLOCK "b" CONTACTS JUMPED WITH
1492-SUSA-10 JUMPER.

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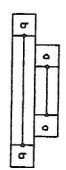
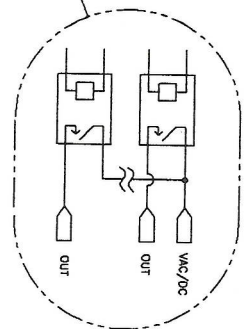
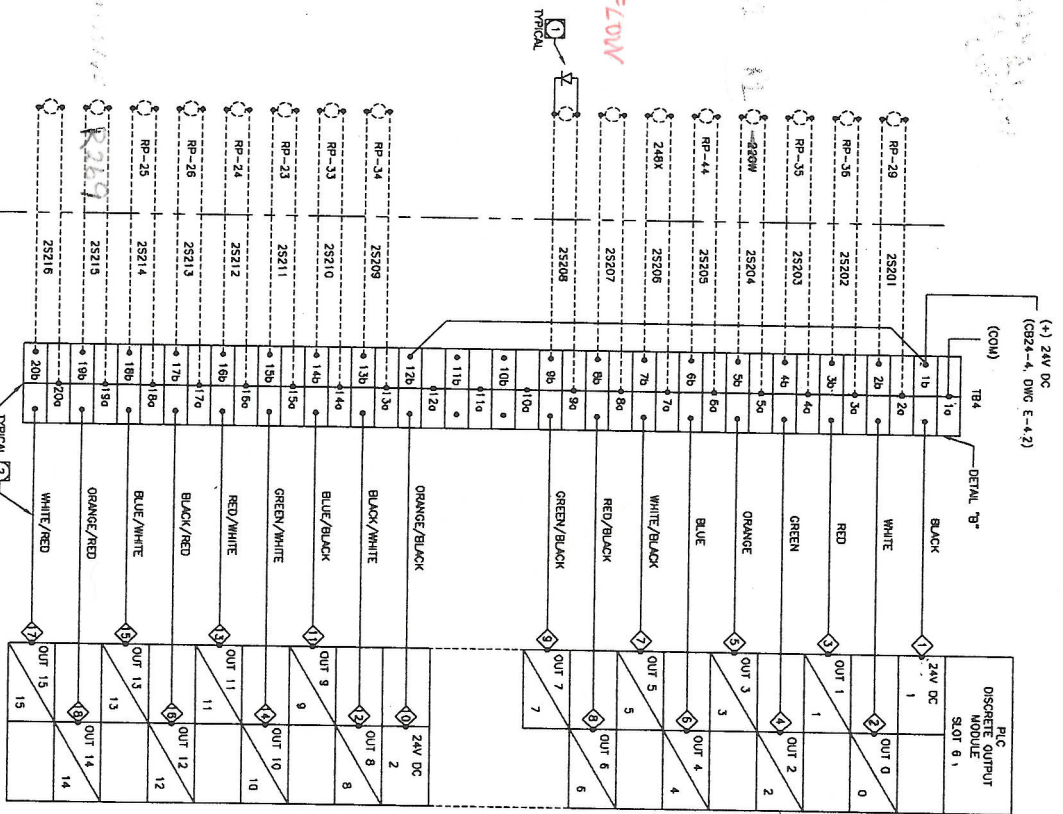


TURBINE/GEN NO. 2 - ENERGIZE SHUTDOWN SOLENOID
 TURBINE/GEN NO. 2 - NORMAL SHUTDOWN LATCH
 TURBINE/GEN NO. 2 - RESTART H.O.L.O
 TURBINE/GEN NO. 2 - COOLING WATER SV
 TURBINE/GEN NO. 2 - COOLING WATER LOW DISABLE
 TURBINE/GEN NO. 2 - INCOMPLETE SEQUENCE

2805WX SHAFT WATER LOW FLOW

TURBINE/GEN NO. 2 - ENERGIZE BRAKES
 TURBINE/GEN NO. 2 - RELEASE BRAKES
 TURBINE/GEN NO. 2 - OPEN TSV
 TURBINE/GEN NO. 2 - CLOSE TSV
 TURBINE/GEN NO. 2 - LOCK WICKET GATE
 TURBINE/GEN NO. 2 - UNLOCK WICKET GATE
 SPARE
 SPARE

FIELD (NIC)
 PLC PANEL



NOTES

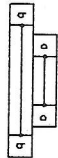
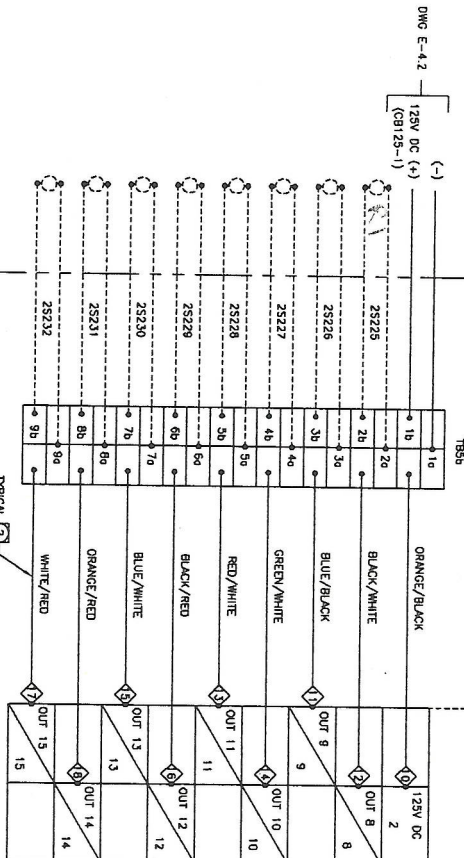
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- 2 USE PRE-FAB I/O READY CABLE (1492 CABLE 0500700).
- 3 2 CIRCUIT BLOCK "B" CONTACTS JUMPERED WITH 1492-S55A-10 JUMPER

REVISIONS			
REV #	DATE	DESCRIPTION	BY
1.1	11/11/06	ADDED BLOCK 1492-103	WJ
1.2	12/23/06	ADDED BLOCK 1492-103	WJ
1.3	11/03/09	ADDED BLOCK 1492-103	WJ
1.4	11/03/09	ADDED BLOCK 1492-103	WJ
1.5	11/03/09	ADDED BLOCK 1492-103	WJ

DATE	7/8/06	BY	WJ
DATE	11/11/06	BY	WJ
DATE	12/23/06	BY	WJ
DATE	11/03/09	BY	WJ
DATE	11/03/09	BY	WJ
DATE	11/03/09	BY	WJ

DATE	7/8/06	BY	WJ
DATE	11/11/06	BY	WJ
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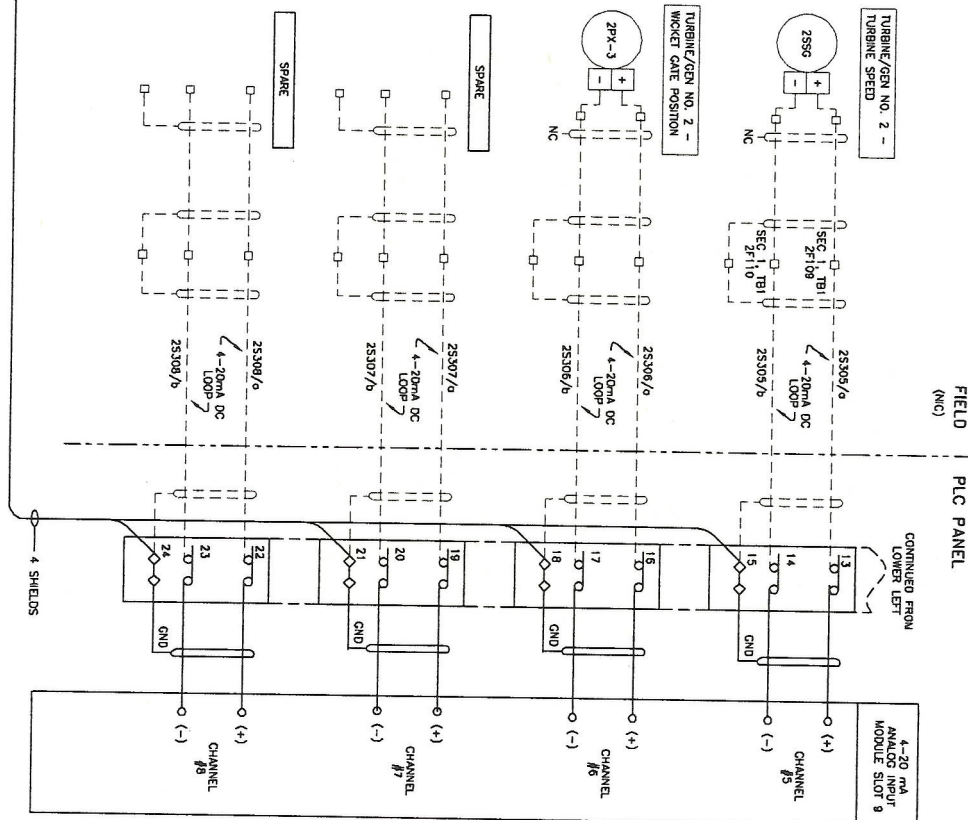
GENERATION PROTECTION OUTPUT 5



- 1 SURGE PROTECTION DIODES (1N4004) TO BE INSTALLED ON ALL FIELD RELAY COILS
- 2 USE PRE-FAB I/O READY CABLE (1492 CABLE 0500R00). WIRE COLOR DEFINITION: BASE/STRIPE
- 3 2 CIRCUIT BLOCK "0" CONTACTS JUMPERED WITH 1492-SSDA-10 JUMPER

FIELD (NIC)	PLC PANEL

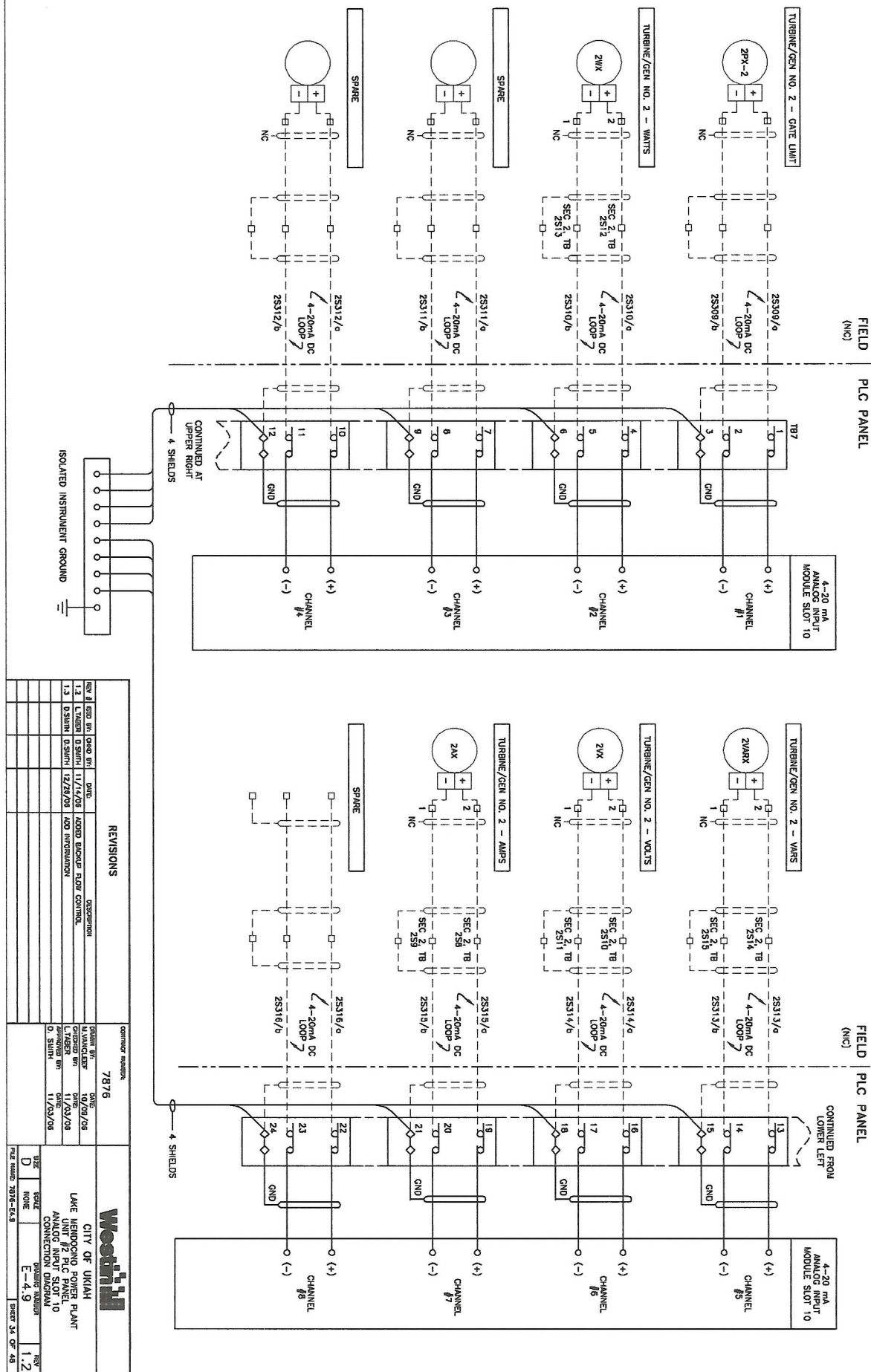
ANALOG INPUTS

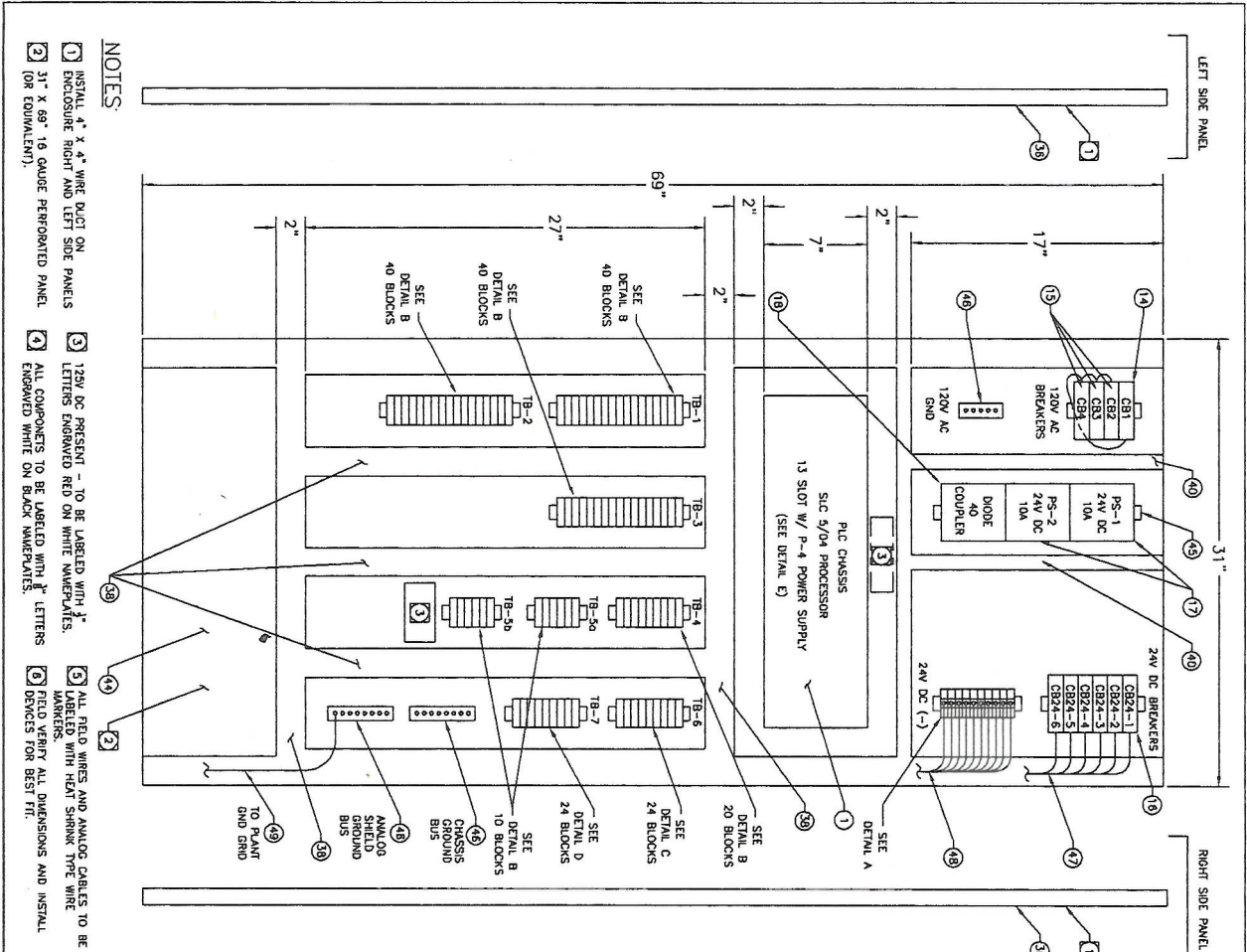


FILE NAME: 7878-E4,8	PAGE 33 OF 48
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ANALOG INPUTS

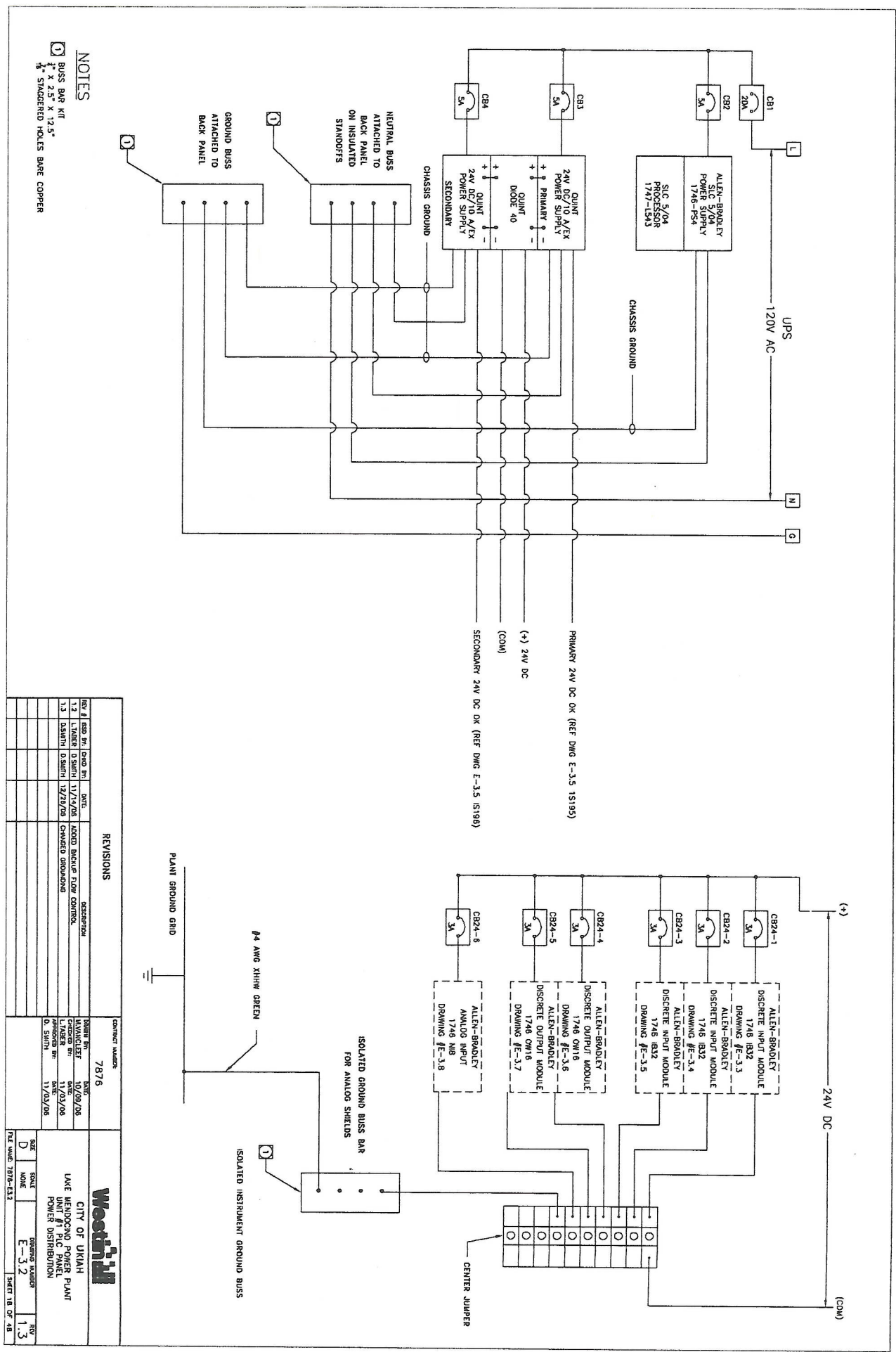
ANALOG INPUTS





- NOTES**
- INSTALL 4" x 4" WIRE DUCT ON ENCLOSURE RIGHT AND LEFT SIDE PANELS (ON EQUIVALENT).
 - 125V DC PRESENT - TO BE LABELED WITH 3" LETTERS ENGRAVED RED ON WHITE NAMEPLATES.
 - ALL COMPONENTS TO BE LABELED WITH 3" LETTERS ENGRAVED WHITE ON BLACK NAMEPLATES.
 - ALL FIELD WIRES AND ANALOG CABLES TO BE LABELED WITH HEAT SHRINK TUBE WIRE MARKERS.
 - FIELD VERIFY ALL DIMENSIONS AND INSTALL DEVICES FOR BEST FIT.

ITEM		QTY	PART NO.	DESCRIPTION	MANUFACTURER
1	1746-A13	1	1746-A13	PLC CHASSIS (13 SLOT)	ALLEN BRADLEY
2	1746-A10	1	1746-A10	PLC CHASSIS (10 SLOT)	ALLEN BRADLEY
3	1746-A13	1	1746-A13	PROCESSOR SIC 5/04, 64K MEMORY	ALLEN BRADLEY
4	1746-A13	1	1746-A13	DIGITAL INPUT MODULE (16 POINT)	ALLEN BRADLEY
5	1746-A13	1	1746-A13	DIGITAL OUTPUT MODULE (16 POINT)	ALLEN BRADLEY
6	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
7	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
8	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
9	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
10	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
11	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
12	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
13	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
14	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
15	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
16	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
17	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
18	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
19	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
20	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
21	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
22	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
23	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
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28	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
29	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
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35	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
36	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
37	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
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45	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
46	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
47	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
48	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY
49	1746-A13	1	1746-A13	16 POINT I/O MODULE (16 POINT)	ALLEN BRADLEY

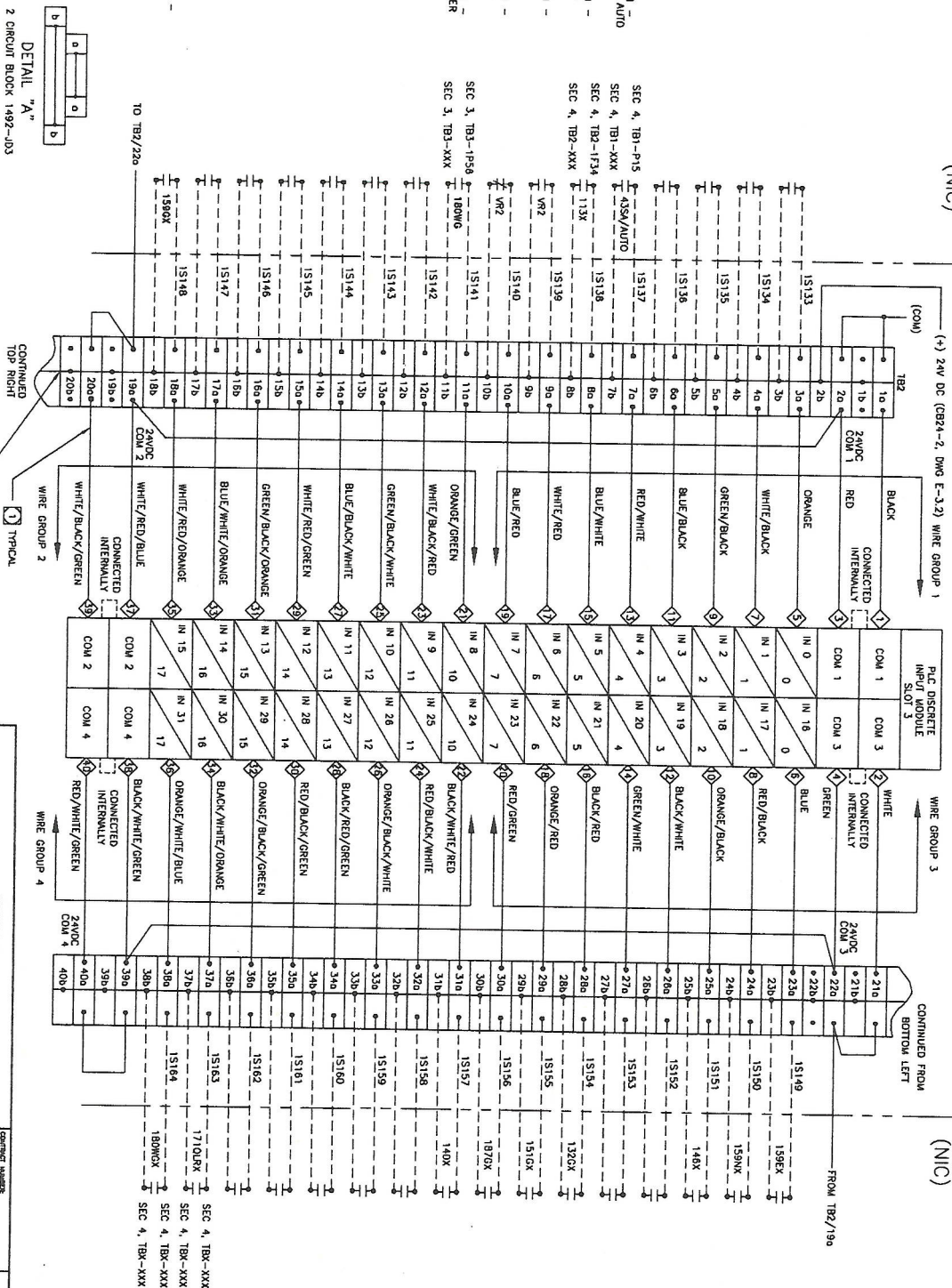


FIELD
(NIC)

PLC PANEL

PLC PANEL

FIELD
(NIC)



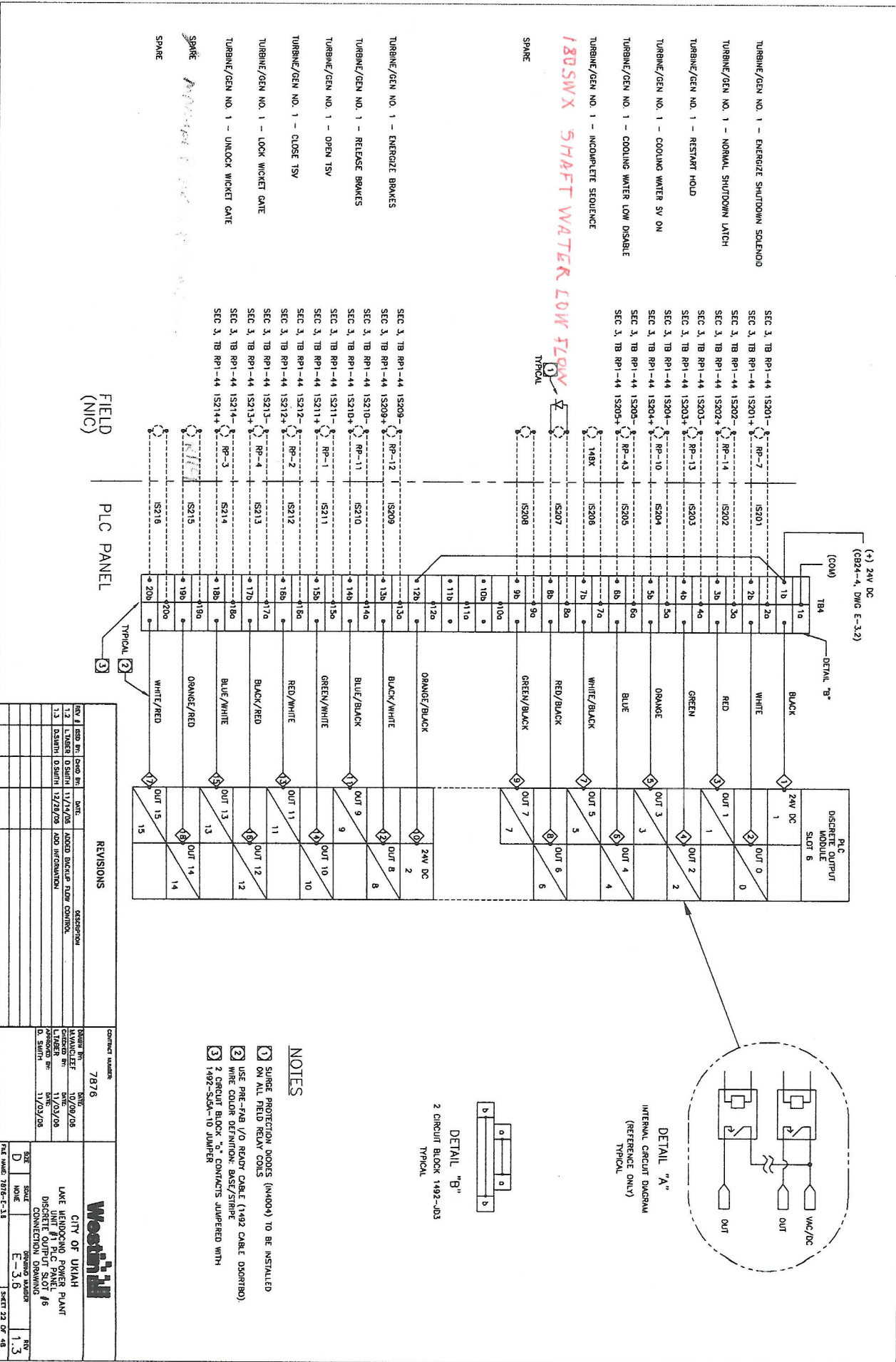
NOTES

1. USE PRE-AB I/O READY CABLE (1492-CABLE 0500M).
2. WIRE COLOR DEFINITION: BASE/STRIP/STRIP.
3. 2 CIRCUIT BLOCK 3" CONTACTS JUMPED WITH 1492-SSA-10 JUMPER.

REVISIONS				CONTACT NUMBER	
REV	DATE	DESCRIPTION	DATE	7676	
1.1	11/17/08	ADDED BACKUP FLOW CONTROL	11/17/08		
1.2	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.3	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.4	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.5	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.6	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.7	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.8	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.9	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.10	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.11	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.12	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.13	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.14	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.15	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.16	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.17	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.18	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.19	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.20	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
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1.22	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.23	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.24	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.25	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.26	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.27	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.28	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.29	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.30	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.31	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
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1.33	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
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1.96	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.97	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
1.98	12/21/08	ADDED BACKUP FLOW CONTROL	12/21/08		
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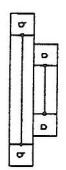
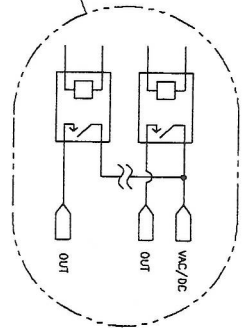
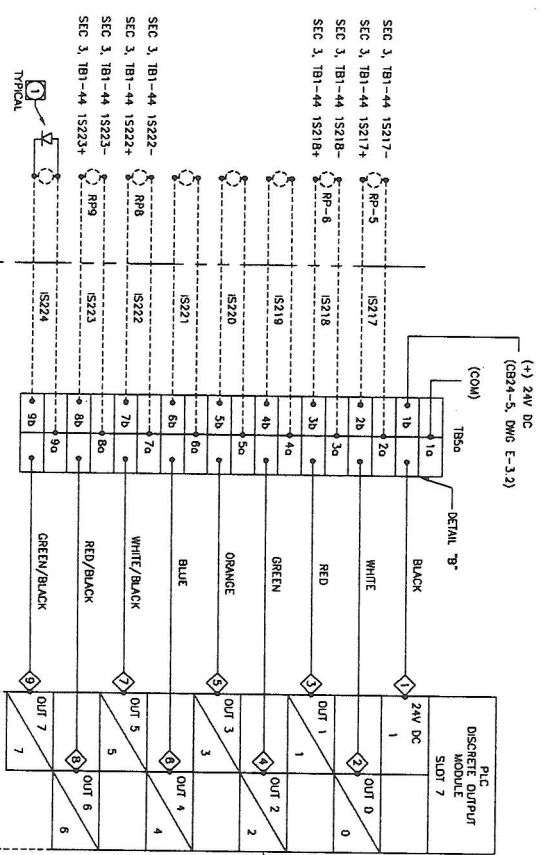
Weather

CITY OF UTAH
LAME HERRING POWER PLANT
DISCRETE INPUT SLOT #3 CONNECTION DIAGRAM
SHEET 20 OF 44



TURBINE/GEN NO. 1 - FASE WICKET GATE LIMIT
 TURBINE/GEN NO. 1 - LOWER WICKET GATE LIMIT
 TURBINE/GEN NO. 1 - SYNCH 143-1X RELAY
 TURBINE/GEN NO. 1 - SYNCH 143-2X RELAY
 TURBINE/GEN NO. 1 - STOP
 UNIT 1 HPCU CONTROL POWER AUTO ON
 SPARE

TURBINE/GEN NO. 1 - OPEN BACKFILL VALVE
 AIR ALARM RESET
 AIR VAP/PT CONTROL
 GENERATION PROTECTION OUTPUT 1
 GENERATION PROTECTION OUTPUT 2
 GENERATION PROTECTION OUTPUT 3
 GENERATION PROTECTION OUTPUT 4
 GENERATION PROTECTION OUTPUT 5



NOTES

- 1 SURGE PROTECTION DEVICES (M4004) TO BE INSTALLED ON ALL FIELD RELAY COILS
- 2 USE PRE-FA8 I/O READY CABLE (1492 CABLE 050R190). WIRE COLOR DEFINITION: BASE/STRIP
- 3 2 CIRCUIT BLOCK "a" CONTACTS JUMPERED WITH 1492-SEA-10 JUMPER

FIELD (NIC) | PLC PANEL

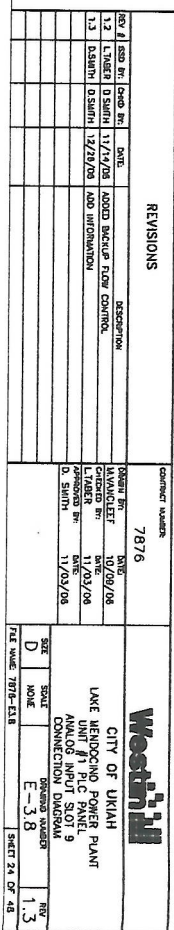
REVISIONS				CONTRACT NUMBER			
REV	DESCRIPTION	DATE	BY	7876			
1.1	ADD IN: 11/14/05	11/14/05	ADD DISCRETE FLOW CONTROL	11/14/05			
1.2	ADD IN: 12/28/05	12/28/05	ADD INFORMATION	12/28/05			
1.3	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			
1.4	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			
1.5	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			
1.6	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			
1.7	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			
1.8	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			
1.9	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			
1.10	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			
1.11	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			
1.12	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			
1.13	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			
1.14	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			
1.15	ADD IN: 11/03/06	11/03/06	ADD INFORMATION	11/03/06			

Westinghouse

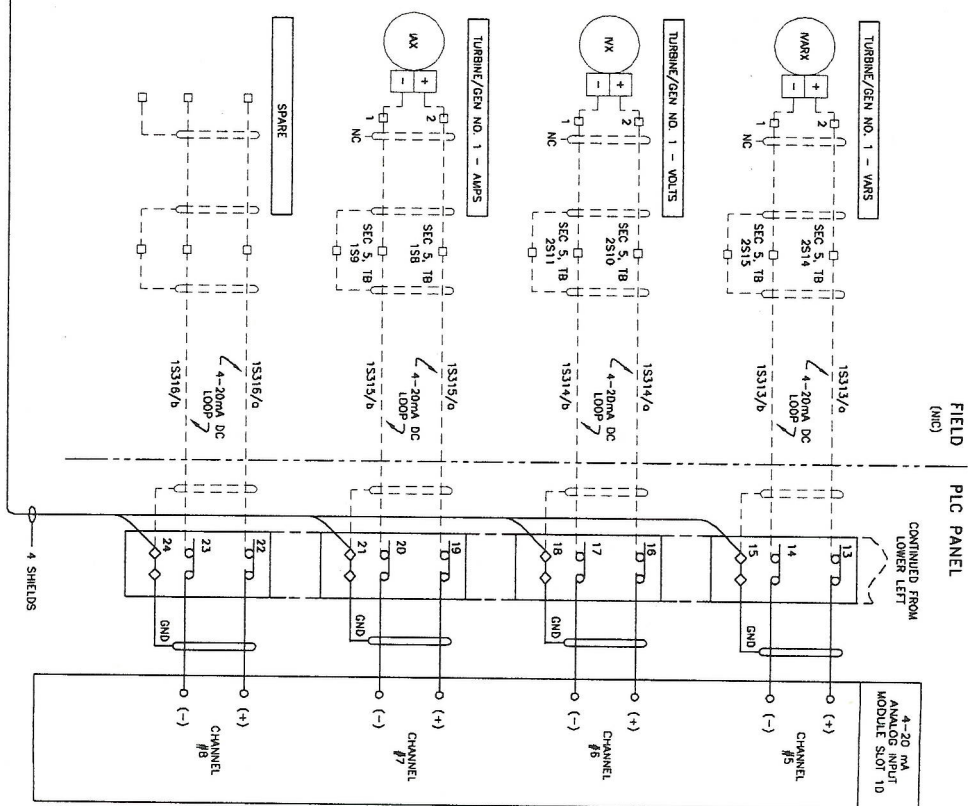
CITY OF UTAH
 LAKE MICHIGAN POWER PLANT
 UNIT #1 PLC PANEL #7
 DISCRETE OUTPUT SLOT #7
 CONNECTION DRAWING

DATE: 11/14/05
 DRAWN BY: 11/14/05
 CHECKED BY: 11/14/05
 DESIGNED BY: 11/14/05
 PROJECT NUMBER: E-3.1
 SHEET 23 OF 48

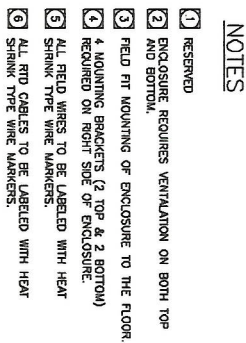
ANALOG INPUTS



ANALOG INPUTS



FILE NAME: 7876-EJ9	SHEET 25 OF 48
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PS	0	1	2	3	4	5	6	7	8	9	10	11	12
(3)	(4)	(9)	(5)	(9)	(6)	(6)	(9)	(6)	(8)	(8)	(9)	(7)	(9)

USPS

DETAIL A
SINGLE CIRCUIT
TERMINAL BLOCK

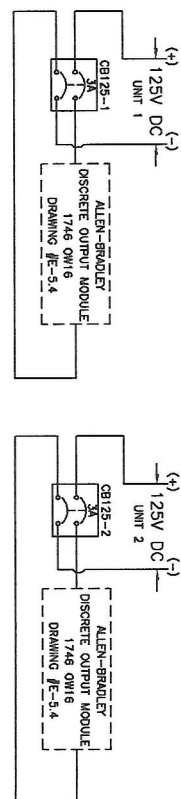
DETAIL B
2 CIRCUIT
TERMINAL BLOCKS

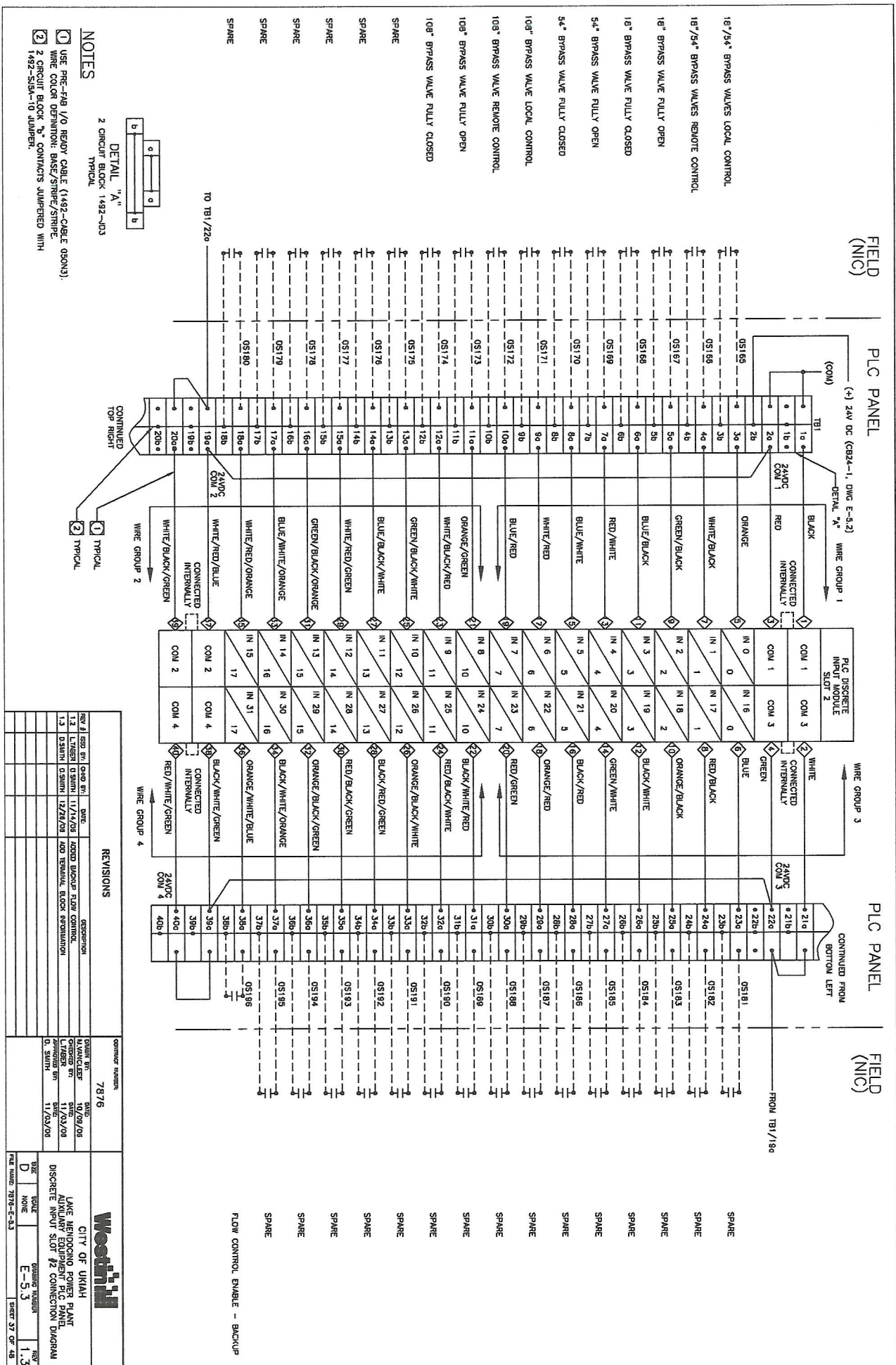
DETAIL C
3 CIRCUIT SENSOR
TERMINAL BLOCKS W/O FUSE

DETAIL D
KNIFE DISCONNECT
TERMINAL BLOCKS W/O FUSE

USPS

Page 93 of 478

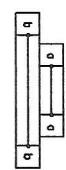
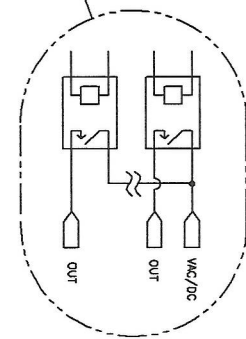
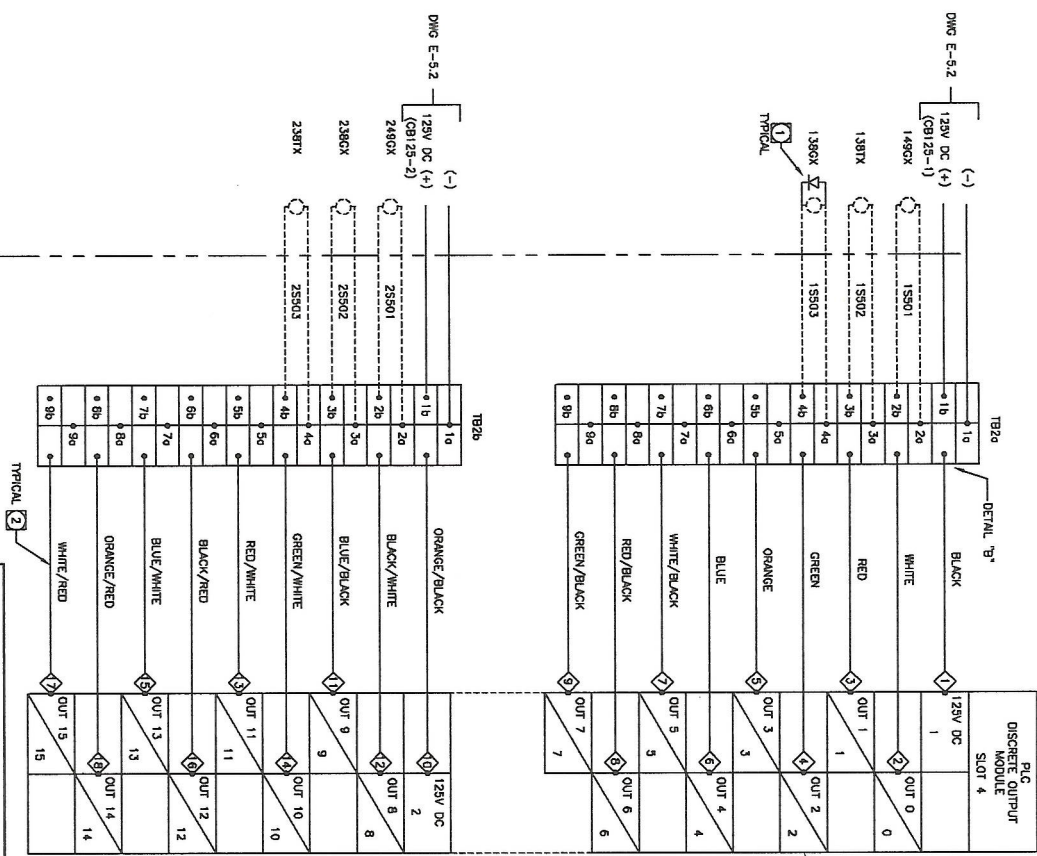




TURBINE/GEN NO. 1 - STATOR TEMP TRIP
 TURBINE/GEN NO. 1 - THRUST BEARING TEMP TRIP
 TURBINE/GEN NO. 1 - GUIDE BEARING TEMP TRIP

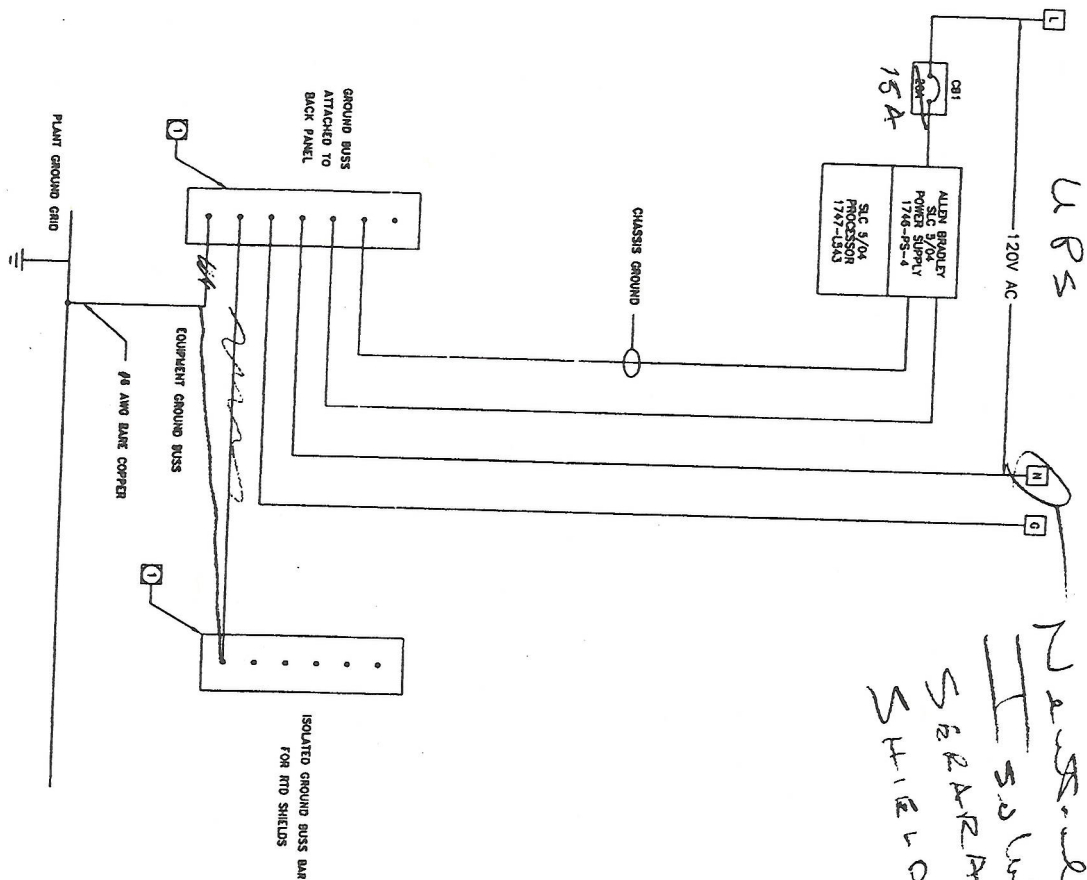
TURBINE/GEN NO. 2 - STATOR TEMP TRIP
 TURBINE/GEN NO. 2 - THRUST BEARING TEMP TRIP
 TURBINE/GEN NO. 2 - GUIDE BEARING TEMP TRIP

FIELD (NIC)
 PLC PANEL



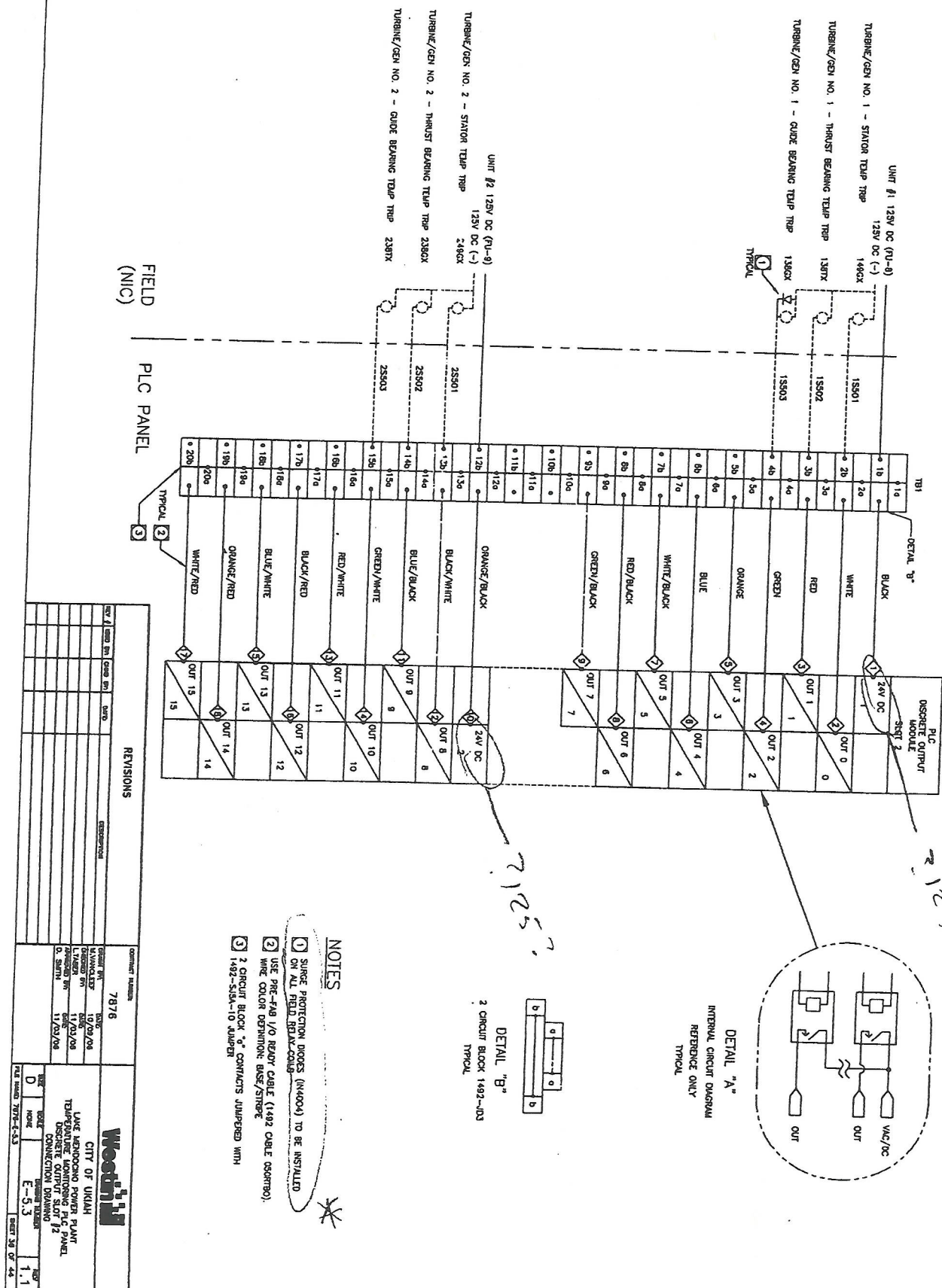
- NOTES**
- 1 SURGE PROTECTION DIODES (N44004) TO BE INSTALLED ON ALL FIELD RELAY COILS
 - 2 USE PRE-FAB I/O READY CABLE (1492 CABLE ORPRTBO).
 - 3 WIRE COLOR DEFINITION: BASE/STRIP

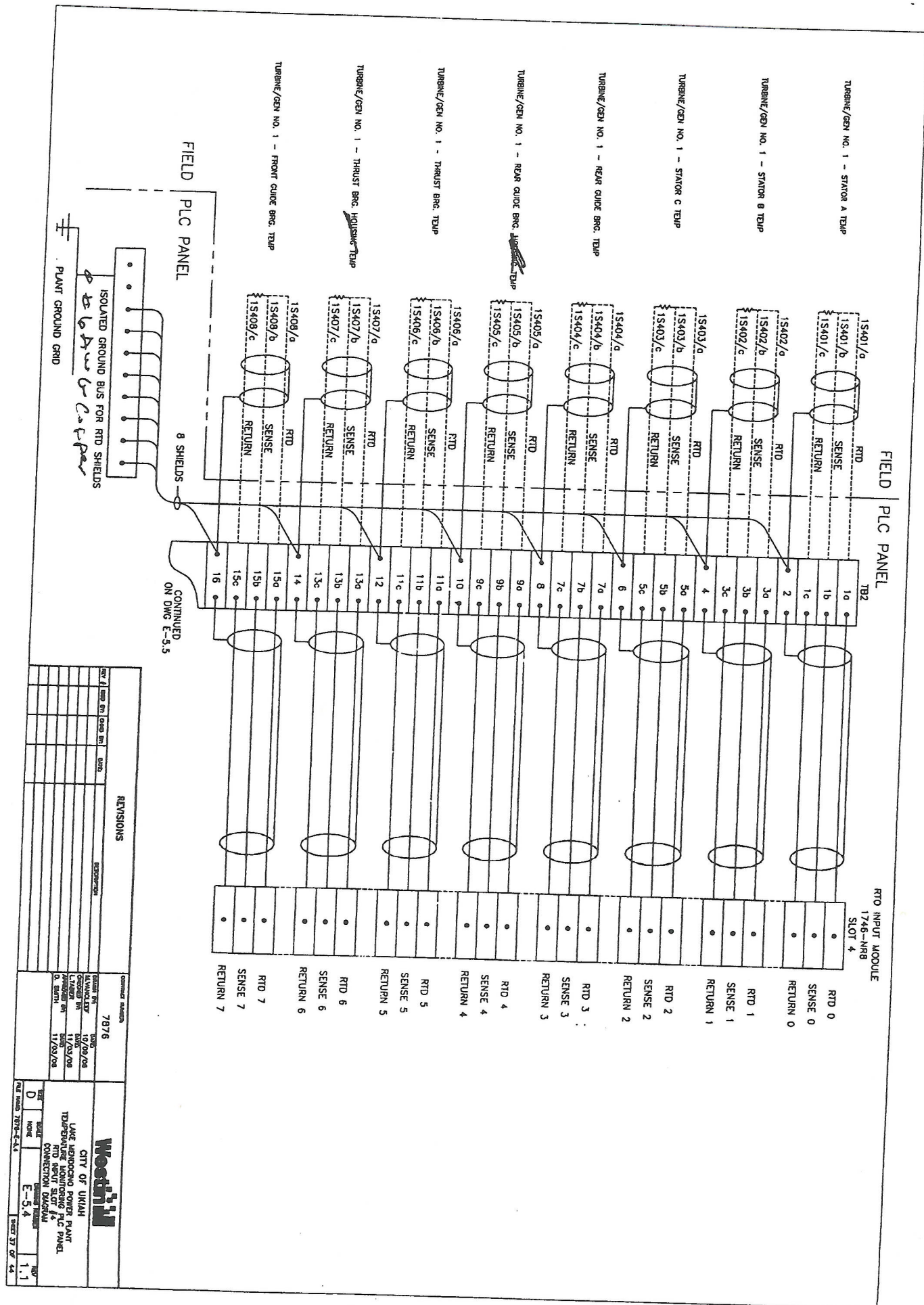
REVISIONS				DATE				DESCRIPTION			
REV	BY	DATE	DESCRIPTION	REV	BY	DATE	DESCRIPTION	REV	BY	DATE	DESCRIPTION
1.2	CSM	11/17/05	ADDED BACKUP FLOW CONTROL	1.3	CSM	12/23/05	ADD INFORMATION	1.4	CSM	11/03/06	ADDED FLOW CONTROL
1.5	CSM	11/03/06	ADDED FLOW CONTROL	1.6	CSM	11/03/06	ADDED FLOW CONTROL	1.7	CSM	11/03/06	ADDED FLOW CONTROL
1.8	CSM	11/03/06	ADDED FLOW CONTROL	1.9	CSM	11/03/06	ADDED FLOW CONTROL	1.10	CSM	11/03/06	ADDED FLOW CONTROL
1.11	CSM	11/03/06	ADDED FLOW CONTROL	1.12	CSM	11/03/06	ADDED FLOW CONTROL	1.13	CSM	11/03/06	ADDED FLOW CONTROL
1.14	CSM	11/03/06	ADDED FLOW CONTROL	1.15	CSM	11/03/06	ADDED FLOW CONTROL	1.16	CSM	11/03/06	ADDED FLOW CONTROL
1.17	CSM	11/03/06	ADDED FLOW CONTROL	1.18	CSM	11/03/06	ADDED FLOW CONTROL	1.19	CSM	11/03/06	ADDED FLOW CONTROL
1.20	CSM	11/03/06	ADDED FLOW CONTROL	1.21	CSM	11/03/06	ADDED FLOW CONTROL	1.22	CSM	11/03/06	ADDED FLOW CONTROL
1.23	CSM	11/03/06	ADDED FLOW CONTROL	1.24	CSM	11/03/06	ADDED FLOW CONTROL	1.25	CSM	11/03/06	ADDED FLOW CONTROL
1.26	CSM	11/03/06	ADDED FLOW CONTROL	1.27	CSM	11/03/06	ADDED FLOW CONTROL	1.28	CSM	11/03/06	ADDED FLOW CONTROL
1.29	CSM	11/03/06	ADDED FLOW CONTROL	1.30	CSM	11/03/06	ADDED FLOW CONTROL	1.31	CSM	11/03/06	ADDED FLOW CONTROL
1.32	CSM	11/03/06	ADDED FLOW CONTROL	1.33	CSM	11/03/06	ADDED FLOW CONTROL	1.34	CSM	11/03/06	ADDED FLOW CONTROL
1.35	CSM	11/03/06	ADDED FLOW CONTROL	1.36	CSM	11/03/06	ADDED FLOW CONTROL	1.37	CSM	11/03/06	ADDED FLOW CONTROL
1.38	CSM	11/03/06	ADDED FLOW CONTROL	1.39	CSM	11/03/06	ADDED FLOW CONTROL	1.40	CSM	11/03/06	ADDED FLOW CONTROL
1.41	CSM	11/03/06	ADDED FLOW CONTROL	1.42	CSM	11/03/06	ADDED FLOW CONTROL	1.43	CSM	11/03/06	ADDED FLOW CONTROL
1.44	CSM	11/03/06	ADDED FLOW CONTROL	1.45	CSM	11/03/06	ADDED FLOW CONTROL	1.46	CSM	11/03/06	ADDED FLOW CONTROL
1.47	CSM	11/03/06	ADDED FLOW CONTROL	1.48	CSM	11/03/06	ADDED FLOW CONTROL	1.49	CSM	11/03/06	ADDED FLOW CONTROL
1.50	CSM	11/03/06	ADDED FLOW CONTROL	1.51	CSM	11/03/06	ADDED FLOW CONTROL	1.52	CSM	11/03/06	ADDED FLOW CONTROL
1.53	CSM	11/03/06	ADDED FLOW CONTROL	1.54	CSM	11/03/06	ADDED FLOW CONTROL	1.55	CSM	11/03/06	ADDED FLOW CONTROL
1.56	CSM	11/03/06	ADDED FLOW CONTROL	1.57	CSM	11/03/06	ADDED FLOW CONTROL	1.58	CSM	11/03/06	ADDED FLOW CONTROL
1.59	CSM	11/03/06	ADDED FLOW CONTROL	1.60	CSM	11/03/06	ADDED FLOW CONTROL	1.61	CSM	11/03/06	ADDED FLOW CONTROL
1.62	CSM	11/03/06	ADDED FLOW CONTROL	1.63	CSM	11/03/06	ADDED FLOW CONTROL	1.64	CSM	11/03/06	ADDED FLOW CONTROL
1.65	CSM	11/03/06	ADDED FLOW CONTROL	1.66	CSM	11/03/06	ADDED FLOW CONTROL	1.67	CSM	11/03/06	ADDED FLOW CONTROL
1.68	CSM	11/03/06	ADDED FLOW CONTROL	1.69	CSM	11/03/06	ADDED FLOW CONTROL	1.70	CSM	11/03/06	ADDED FLOW CONTROL
1.71	CSM	11/03/06	ADDED FLOW CONTROL	1.72	CSM	11/03/06	ADDED FLOW CONTROL	1.73	CSM	11/03/06	ADDED FLOW CONTROL
1.74	CSM	11/03/06	ADDED FLOW CONTROL	1.75	CSM	11/03/06	ADDED FLOW CONTROL	1.76	CSM	11/03/06	ADDED FLOW CONTROL
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1.80	CSM	11/03/06	ADDED FLOW CONTROL	1.81	CSM	11/03/06	ADDED FLOW CONTROL	1.82	CSM	11/03/06	ADDED FLOW CONTROL
1.83	CSM	11/03/06	ADDED FLOW CONTROL	1.84	CSM	11/03/06	ADDED FLOW CONTROL	1.85	CSM	11/03/06	ADDED FLOW CONTROL
1.86	CSM	11/03/06	ADDED FLOW CONTROL	1.87	CSM	11/03/06	ADDED FLOW CONTROL	1.88	CSM	11/03/06	ADDED FLOW CONTROL
1.89	CSM	11/03/06	ADDED FLOW CONTROL	1.90	CSM	11/03/06	ADDED FLOW CONTROL	1.91	CSM	11/03/06	ADDED FLOW CONTROL
1.92	CSM	11/03/06	ADDED FLOW CONTROL	1.93	CSM	11/03/06	ADDED FLOW CONTROL	1.94	CSM	11/03/06	ADDED FLOW CONTROL
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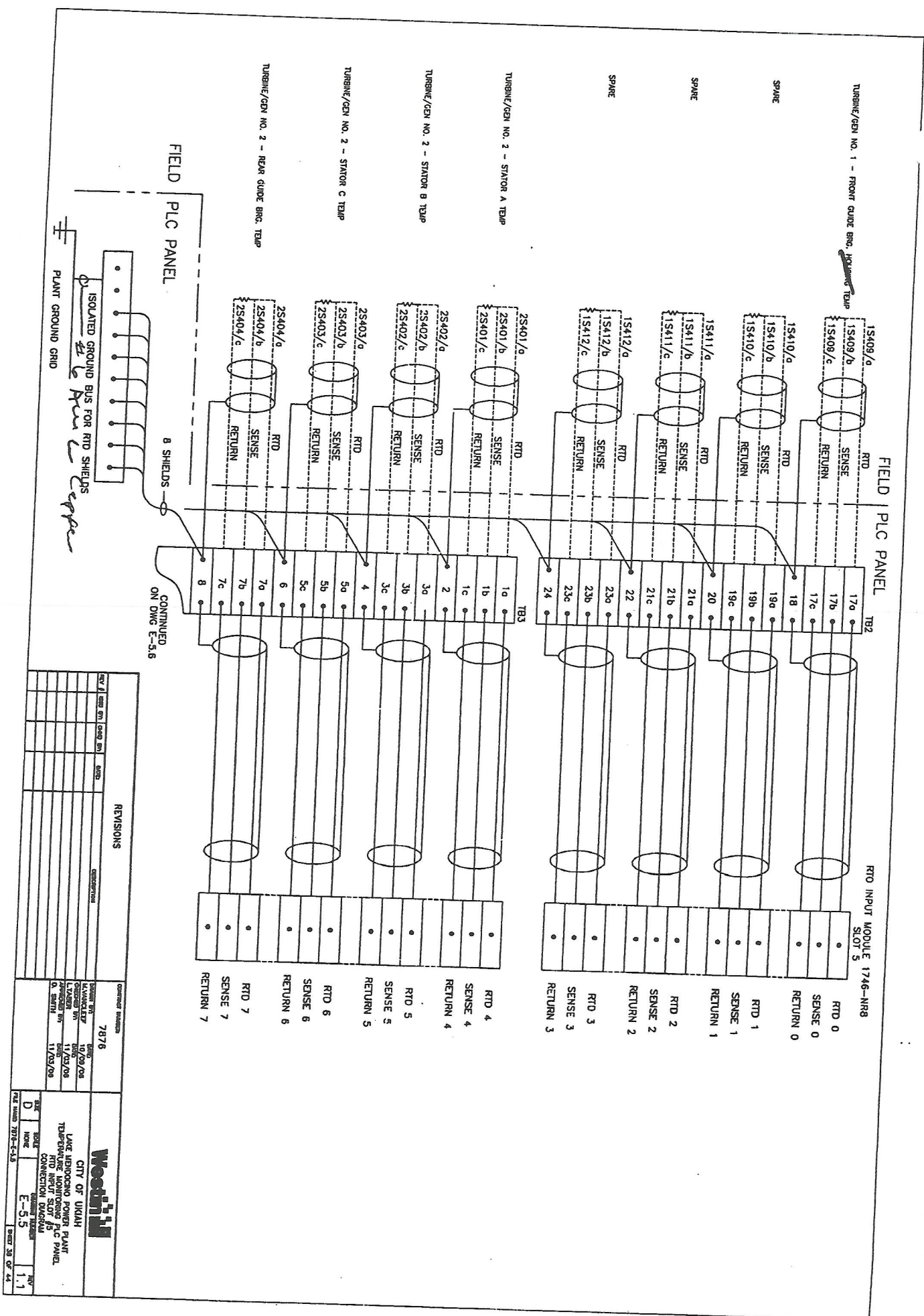


NOTES

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REVISIONS				CHANGED STATUSES			
REV	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE
1	10/29/08	7876	REVISION	10/29/08	7876	REVISION	10/29/08
2	11/03/08	7876	REVISION	11/03/08	7876	REVISION	11/03/08
3	11/03/08	7876	REVISION	11/03/08	7876	REVISION	11/03/08

WESTERN

CITY OF UTAH

LARGE MHDPCO POWER PLANT

TEMPERATURE MONITORING PLC PANEL

CONNECTION DIAGRAM

DATE

10/29/08

BY

7876

CHK

7876

DATE

10/29/08

BY

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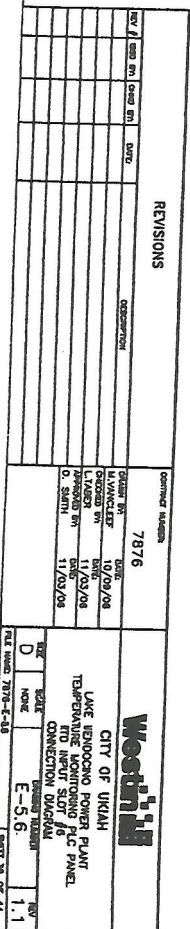
10/29/08

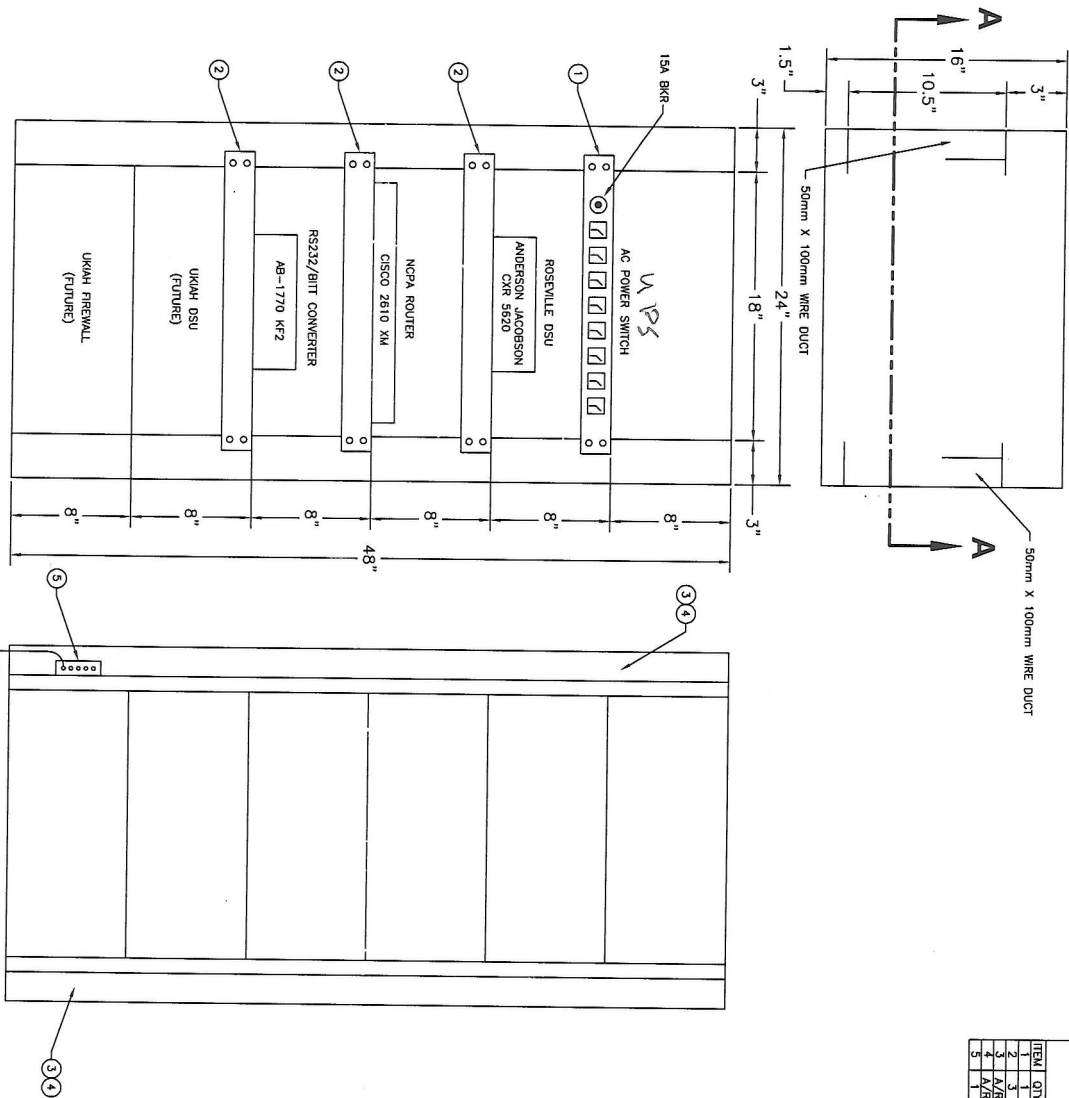
BY

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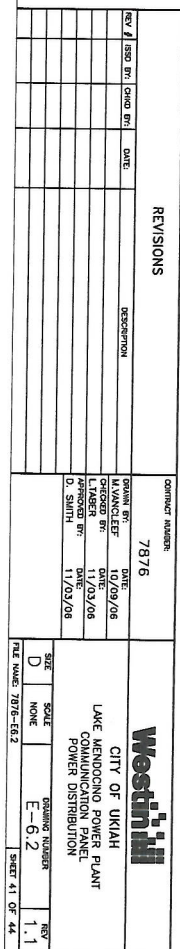


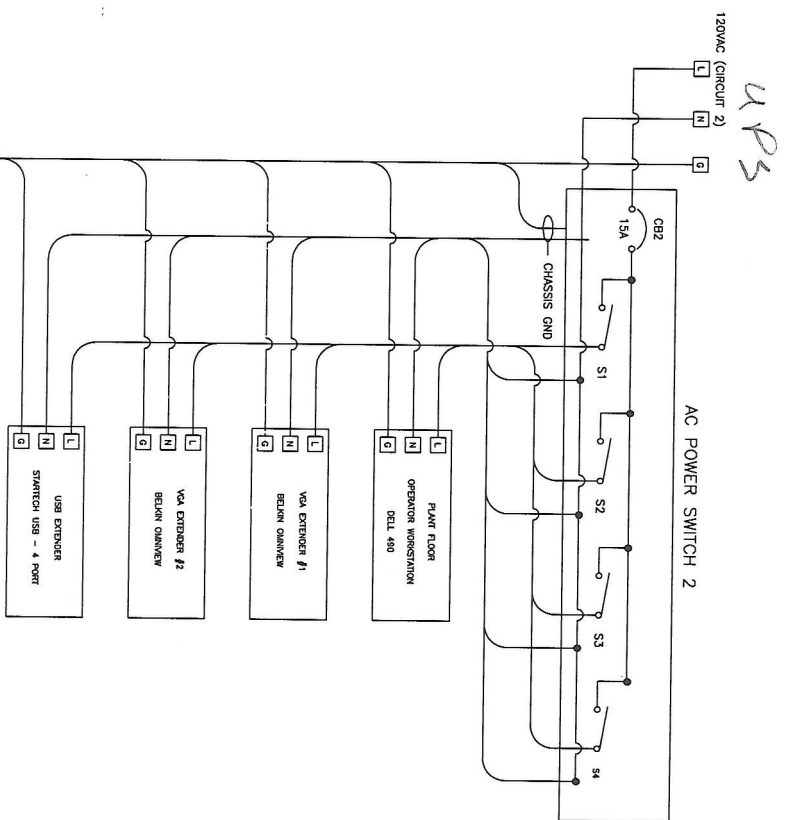
SECTION **A-A**

#6 AWG BARE TO PLANT GND GRID

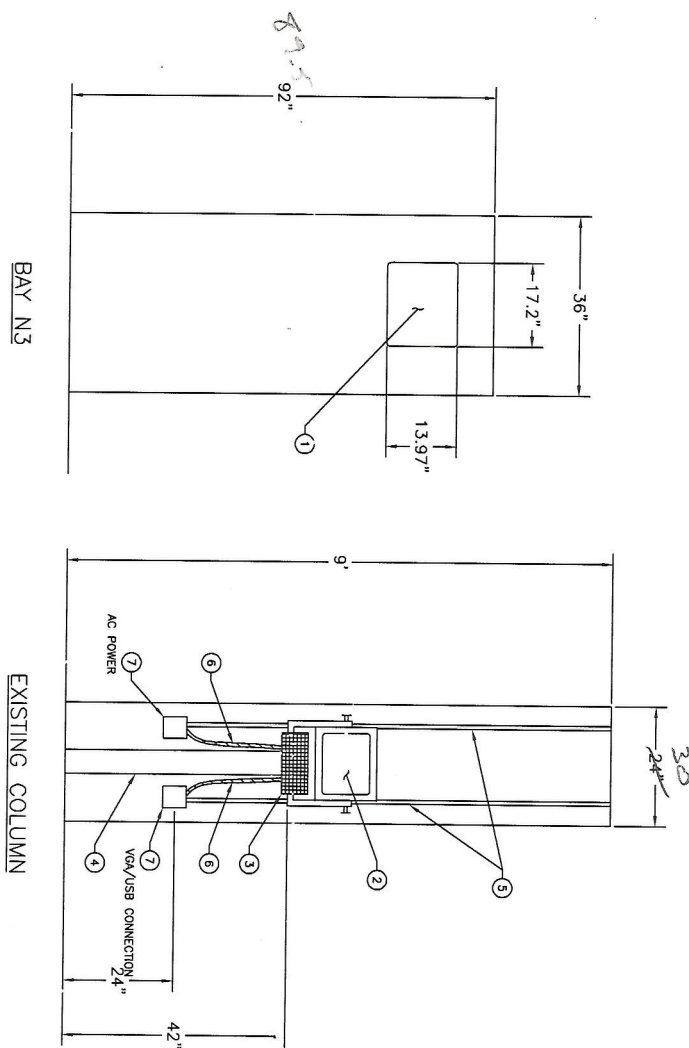
ITEM	QTY	PART NO.	DESCRIPTION	MANUFACTURER
2		PS-2000	8 - 1/4" OUTLET POWER STRIP	ROCK SOLUTIONS
3		21US1-022-041-150YU	13 DRED RELAY BACK SHEET	ROCK SOLUTIONS
4	A/R	MC50-100M2	50mm W/ WIRE DUCT COPE	PANDUIT
5		CS0M2	50mm W/ WIRE DUCT COPE	PANDUIT
5	1	RUSS BAR KIT (1/2"x2.6"x12.6" W/ 7/16" SPACED HOLES, BARE COPPER		

[illegible]



[illegible]

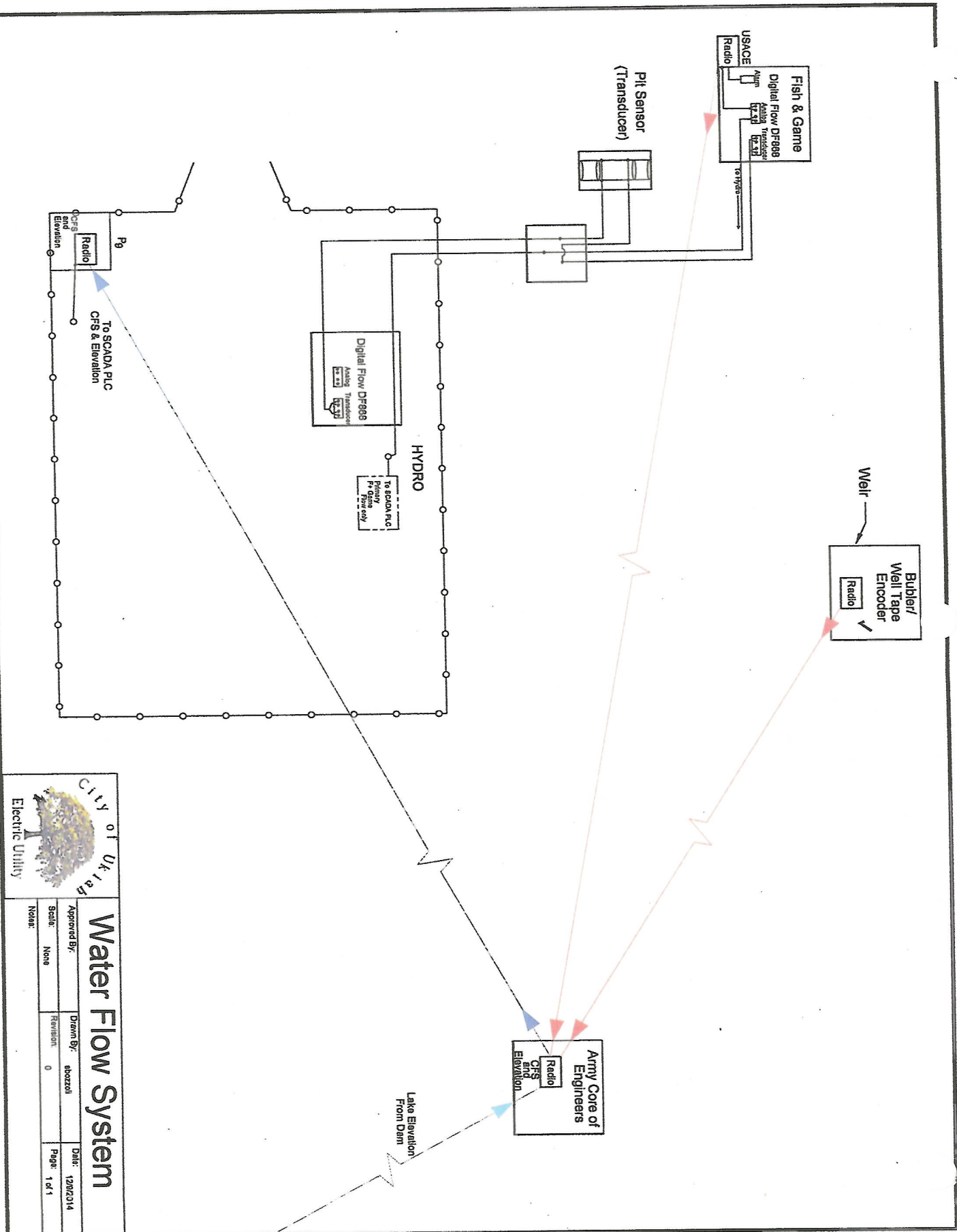
ITEM	QTY	PART NO.	DESCRIPTION	MANUFACTURER
1	1	HIS-11.7-C08B	17" NEUA & PAVEL MOUNT LCD MONITOR	HOPE INDUSTRIAL SYSTEM
2	1	HIS-11.7-C08B	17" NEUA & PAVEL MOUNT LCD MONITOR	HOPE INDUSTRIAL SYSTEM
3	1	HIS-11.7-C08B	17" NEUA & PAVEL MOUNT LCD MONITOR	HOPE INDUSTRIAL SYSTEM
4	1	HP-517-BLK-N12	17" ROSE AND FERGUSON MOUNT	NETING
5	1		17" ROSE AND FERGUSON MOUNT	NETING
6	4		17" ROSE CONDUIT	PACK SOLUTIONS
7	4		4" X 4" X 4" ROSE CONDUIT	PACK SOLUTIONS
8	1		17" ROSE CONDUIT	PACK SOLUTIONS
9	1		17" ROSE CONDUIT	PACK SOLUTIONS
10	1		17" ROSE CONDUIT	PACK SOLUTIONS
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12	1		17" ROSE CONDUIT	PACK SOLUTIONS
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89	1		17" ROSE CONDUIT	PACK SOLUTIONS
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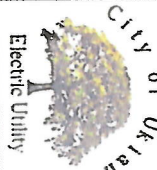


NOTES

1 REMOVE EXISTING ANNUNCIATOR PANEL

[illegible]





City of Ukiah
Electric Utility

Water Flow System

Approved By:	Drawn By: sbkzoi	Date: 12/2/2014
Scale: None	Revision: 0	Page: 1 of 1
Notes:		

Processor Information

Processor Type: 1747-L543C 5/04 CPU - 64K Mem. OS401 Series C FRN 3-8

Processor Name: SCADA

Total Memory Used: 6707 Instruction Words Used - 3609 Data Table Words Used

Total Memory Left: 54077 Instruction Words Left

Program Files: 31

Data Files: 21

Program ID: 72a2

I/O Configuration

0	1747-L543C	5/04 CPU - 64K Mem. OS401 Series C F
1		
2	1746-IB32	32-Input (SINK) 24 VDC
3	1746-IB32	32-Input (SINK) 24 VDC
4	1746-IB32	32-Input (SINK) 24 VDC
5		
6	1746-OW16	16-Output (RLY) 240 VAC
7	1746-OW16	16-Output (RLY) 240 VAC
8		
9	1746-NI8	Analog 8 Channel Input - Class 3
10	1746-NI8	Analog 8 Channel Input - Class 3
11	1746-NI8	Analog 8 Channel Input - Class 3
12		

Channel Configuration

GENERAL

Channel 1 Write Protected: No
Channel 1 Edit Resource/Owner Timeout: 60
Channel 1 Passthru Link ID: 2

Channel 0 Write Protected: No
Channel 0 Edit Resource/Owner Timeout: 60
Channel 0 Passthru Link ID: 1
Channel 0 Current Mode: System
Channel 0 Mode Change Enabled: No
Channel 0 Mode Change Attention Character: \1b
Channel 0 Mode Change System Character: S
Channel 0 Mode Change User Character: U

CHANNEL 1 (SYSTEM) - Driver: DH+
Node : 12 (octal)
Baud: 57.6K

CHANNEL 0 (SYSTEM) - Driver: Df1 Full Duplex
Source ID: 9 (decimal)
Baud: 19200
Parity: NONE
Stop Bits: 1
Control Line : No Handshaking
Error Detection: CRC
Embedded Responses: Enabled
Duplicate Packet Detect: Yes
ACK Timeout: 50
NAK Retries: 3
ENQ Retries: 3

CHANNEL 0 (USER) - Driver: ASCII
Baud: 19200
Parity: NONE
Stop Bits: 1
Data Bits: 8
Control Line : No Handshaking
Delete mode: Ignore
Echo: No
XON/XOFF: No
Termination Character 1: \d
Termination Character 2: \ff
Append Character 1: \d
Append Character 2: \a

Processor Information

Processor Type: 1747-L543C 5/04 CPU - 64K Mem. OS401 Series C FRN 10 and later

Processor Name: UNIT1

Total Memory Used: 2400 Instruction Words Used - 2646 Data Table Words Used

Total Memory Left: 59040 Instruction Words Left

Program Files: 19

Data Files: 37

Program ID: d726

I/O Configuration

0	1747-L543C	5/04 CPU - 64K Mem. OS401 Series C F
1		
2	1746-IB32	32-Input (SINK) 24 VDC
3	1746-IB32	32-Input (SINK) 24 VDC
4	1746-IB32	32-Input (SINK) 24 VDC
5		
6	1746-OW16	16-Output (RLY) 240 VAC
7	1746-OW16	16-Output (RLY) 240 VAC
8		
9	1746-NI8	Analog 8 Channel Input - Class 1
10	1746-NI8	Analog 8 Channel Input - Class 1
11		
12		

Channel Configuration

GENERAL

Channel 1 Write Protected: No
 Channel 1 Edit Resource/Owner Timeout: 60
 Channel 1 Passthru Link ID: 2

Channel 0 Write Protected: No
 Channel 0 Edit Resource/Owner Timeout: 60
 Channel 0 Passthru Link ID: 1
 Channel 0 Current Mode: System
 Channel 0 Mode Change Enabled: No
 Channel 0 Mode Change Attention Character: \1b
 Channel 0 Mode Change System Character: S
 Channel 0 Mode Change User Character: U

CHANNEL 1 (SYSTEM) - Driver: DH+
 Node : 13 (octal)
 Baud: 57.6K

CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex
 Source ID: 5 (decimal)
 Baud: 19200
 Parity: NONE
 Stop Bits: 1
 Control Line : No Handshaking
 Error Detection: CRC
 Embedded Responses: Enabled
 Duplicate Packet Detect: Yes
 ACK Timeout: 50
 NAK Retries: 3
 ENQ Retries: 3

CHANNEL 0 (USER) - Driver: ASCII
 Baud: 1200
 Parity: NONE
 Stop Bits: 1
 Data Bits: 8
 Control Line : No Handshaking
 Delete mode: Ignore
 Echo: No
 XON/XOFF: No
 Termination Character 1: \d
 Termination Character 2: \ff
 Append Character 1: \d
 Append Character 2: \a

Processor Information

Processor Type: 1747-L543C 5/04 CPU - 64K Mem. OS401 Series C FRN 3-8

Processor Name: UNIT2

Total Memory Used: 2330 Instruction Words Used - 2321 Data Table Words Used

Total Memory Left: 59110 Instruction Words Left

Program Files: 19

Data Files: 21

Program ID: ff1d

I/O Configuration

0	1747-L543C	5/04 CPU - 64K Mem. OS401 Series C F
1		
2	1746-IB32	32-Input (SINK) 24 VDC
3	1746-IB32	32-Input (SINK) 24 VDC
4	1746-IB32	32-Input (SINK) 24 VDC
5		
6	1746-OW16	16-Output (RLY) 240 VAC
7	1746-OW16	16-Output (RLY) 240 VAC
8		
9	1746-NI8	Analog 8 Channel Input - Class 1
10	1746-NI8	Analog 8 Channel Input - Class 1
11		
12		

Channel Configuration

GENERAL

Channel 1 Write Protected: No
 Channel 1 Edit Resource/Owner Timeout: 60
 Channel 1 Passthru Link ID: 2

 Channel 0 Write Protected: No
 Channel 0 Edit Resource/Owner Timeout: 60
 Channel 0 Passthru Link ID: 1
 Channel 0 Current Mode: System
 Channel 0 Mode Change Enabled: No
 Channel 0 Mode Change Attention Character: \1b
 Channel 0 Mode Change System Character: S
 Channel 0 Mode Change User Character: U

CHANNEL 1 (SYSTEM) - Driver: DH+
 Node : 14 (octal)
 Baud: 57.6K

CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex
 Source ID: 5 (decimal)
 Baud: 19200
 Parity: NONE
 Stop Bits: 1
 Control Line : No Handshaking
 Error Detection: CRC
 Embedded Responses: Enabled
 Duplicate Packet Detect: Yes
 ACK Timeout: 50
 NAK Retries: 3
 ENQ Retries: 3

CHANNEL 0 (USER) - Driver: ASCII
 Baud: 1200
 Parity: NONE
 Stop Bits: 1
 Data Bits: 8
 Control Line : No Handshaking
 Delete mode: Ignore
 Echo: No
 XON/XOFF: No
 Termination Character 1: \d
 Termination Character 2: \ff
 Append Character 1: \d
 Append Character 2: \a

Processor Information

Processor Type: 1747-L543C 5/04 CPU - 64K Mem. OS401 Series C FRN 3-8

Processor Name: AUX

Total Memory Used: 1327 Instruction Words Used - 2620 Data Table Words Used

Total Memory Left: 60113 Instruction Words Left

Program Files: 19

Data Files: 37

Program ID: 562f

I/O Configuration

0	1747-L543C	5/04 CPU - 64K Mem. OS401 Series C F
1		
2	1746-IB32	32-Input (SINK) 24 VDC
3		
4	1746-OW16	16-Output (RLY) 240 VAC
5	1746-OW16	16-Output (RLY) 240 VAC
6		
7	1746-NR8	Analog 8 Ch. RTD - Class 1
8	1746-NR8	Analog 8 Ch. RTD - Class 1
9	1746-NR8	Analog 8 Ch. RTD - Class 1
10		
11	1746-NI8	Analog 8 Channel Input - Class 1
12		

Channel Configuration

GENERAL

Channel 1 Write Protected: No
 Channel 1 Edit Resource/Owner Timeout: 60
 Channel 1 Passthru Link ID: 2

 Channel 0 Write Protected: No
 Channel 0 Edit Resource/Owner Timeout: 60
 Channel 0 Passthru Link ID: 1
 Channel 0 Current Mode: System
 Channel 0 Mode Change Enabled: No
 Channel 0 Mode Change Attention Character: \1b
 Channel 0 Mode Change System Character: S
 Channel 0 Mode Change User Character: U

CHANNEL 1 (SYSTEM) - Driver: DH+
 Node : 15 (octal)
 Baud: 57.6K

CHANNEL 0 (SYSTEM) - Driver: DF1 Full Duplex
 Source ID: 5 (decimal)
 Baud: 19200
 Parity: NONE
 Stop Bits: 1
 Control Line : No Handshaking
 Error Detection: CRC
 Embedded Responses: Enabled
 Duplicate Packet Detect: Yes
 ACK Timeout: 50
 NAK Retries: 3
 ENQ Retries: 3

CHANNEL 0 (USER) - Driver: ASCII
 Baud: 1200
 Parity: NONE
 Stop Bits: 1
 Data Bits: 8
 Control Line : No Handshaking
 Delete mode: Ignore
 Echo: No
 XON/XOFF: No
 Termination Character 1: \d
 Termination Character 2: \ff
 Append Character 1: \d
 Append Character 2: \a

PURCHASING DEPARTMENT
411 West Clay Street, Ukiah CA 95482
(707) 463-6233
mhorger@cityofukiah.com



REQUEST FOR PROPOSAL – HYDRO PLANT SCADA/PLC UPGRADE
Addendum No. 2
March 20, 2020

The following is Addendum No. 2 to Request for Proposal – Hydro Plant SCADA/PLC Upgrade

This Addendum is hereby made part of the Contract Documents to the same extent as though it were originally included therein.

I. In consideration of the current COVID-19 event, the proposal schedule has changed as follows:

Deadline for Responses:	5:00 p.m., Friday, April 10, 2020
City Evaluation of Proposals:	By April 24, 2020
Interviews (if necessary):	By April 24, 2020
City approval requested	
For contract award (tentative):	May 6, 2020

II. The following are questions asked, and corresponding responses:

Q1: Addenda cover letter states that all contractors and subs shall have a contractor license and DIR number – please verify if all subs are required to have both? This is not normal.

A1: Since the contract will involve construction work, the Prime contractor (the company the resulting contract will be issued to) will need to hold the C-10 Contractor's license and DIR number. The subs, if any, will need them only if they are performing construction-type work that requires that licensing and registration.

Q2: Attachment 2 (to Addendum 1) – short form construction contract references, Exhibit A – Bid specifications, which is not a design package, nor does it have any specifications for installation work and programming. Later in section 1.2 there is additional reference to "Plans and Spec" which does not exist. Our concern is for the City and their exposure to risk of change orders by going with a Contractor, it was not set up for this nor should a contractor be leading up this Upgrade.

A2: The attachment to this agreement would be the Scope of Work developed for this work as a result of the RFP. The intent was to revise the agreement to work for this specific project. I have further revised and attached another revision.

Q3: Quals was issued as professional agreement and now addenda changes that to a construction contract which is a complete reversal. What is the driver for this change?

A3: This was changed due to being late to realize that both professional services and construction activities would be involved, and trying to cover the additional requirements for the construction part.

Q4: Is the Prime on the project required to carry a C-10 license or can this be a Professional engineering Assessment and Design firm that plans to carry C-10 licensed contractors to perform the physical installation?

A4: Please see response to Q1.

Q5: Is engineering and programming work being considered contractor work by the Owner?

A5: This work is included in the scope being requested of the one contract.

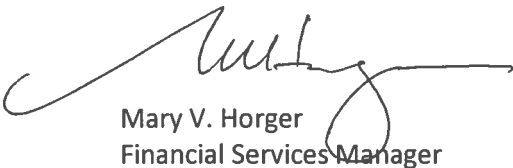
Q6: This contract in the Addenda is not for professional services which engineering and programming would fall under. There was no mention of Contractor requirements in the RFQ or RFP? We need to understand the reasoning for this and add our Construction partner if necessary.

A6: The RFQ that you are referring to was for our Water Treatment Plant, and is for a totally separate project. Please see response to Q3.

III. The following are additional clarifications and revisions:

1. For further clarity, the draft agreement has been revised (please see Attachment 1) and replaces all prior sample agreements previously provided.

All other terms and conditions remain in full force and effect.



Mary V. Horger
Financial Services Manager

ACKNOWLEDGMENT

I hereby acknowledge that I have received this Addendum No. 2 and have reviewed and considered it before submitting my proposal.

Signed: _____

Date: _____

Company Name: _____

HYDRO PLANT SCADA/PLC UPGRADE

This Agreement is made and entered on _____, 2020, in Ukiah, California, by and between _____, a CA _____ ("Contractor") and the City of Ukiah ("City"), a general law municipal corporation.

RECITALS:

1. The work is for the Hydro Plant SCADA/PLC Upgrade, ("the Work") as described in Exhibit __, which is attached hereto and incorporated herein by this reference.
2. Contractor is properly licensed and qualified to perform the work.
3. Whenever this Agreement calls for City approval or notification, the approval or notification must be signed by the City Manager or his or her designee.

AGREEMENT:

Wherefore, in consideration of the foregoing facts and the terms and conditions as further stated herein, the parties hereby agree as follows.

1. PERFORMANCE OF THE WORK

Contractor will perform the Work as further provided herein.

1.1 Time of Performance. Time is of the essence, and the Contractor shall commence making the services available to the City upon the receipt of a Notice to Proceed, and they shall be available thereafter upon request for service by City, and as per schedule provided in Exhibit ____.

1.2 Construction of Contract Documents. Contractor will perform the Work in compliance with the attached Exhibit _____. If there is any inconsistency or conflict between Exhibit ____, and this agreement, the terms of this Agreement shall prevail, unless expressly stated otherwise in an Amendment to this agreement.

1.3 Contractor furnished items. Contractor will furnish all necessary labor, materials, tools, equipment, and transportation necessary to perform the Work.

1.4 SB 854 requirements

1.4.1 No contractor or subcontractor may be listed on a proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for proposal purposes only under Labor Code section 1771.1(a)].

1.4.2 No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

1.4.3 This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

1.4.4 The Labor Commissioner through the Division of Labor Standards Enforcement (DLSE) may at any time require contractors and subcontractors to furnish electronic certified payroll records directly to DLSE. All contractors and subcontractors must furnish electronic certified payroll records directly to the DLSE.

1.4.5 The Prime Contractor is required to post job notices at the job site as prescribed by regulations (currently, 8 CCR §16451(d).)

1.5 Use of Employees.

1.5.1. Contractor and any subcontractors shall pay all mechanics and laborers employed by them to work upon the site of the work unconditionally and without subsequent deductions or rebate on any account the full amounts due at the time of payment at wage rates not less than those contained in the applicable prevailing wage determination, regardless of any contractual relationship which may be alleged to exist between the Contractor and subcontractors and such laborers and mechanics.

1.5.2. Contractor shall comply with the California Labor Code Section 1775. In accordance with said Section 1775, Contractor shall forfeit as a penalty to the City, \$50.00 for each calendar day or portion thereof, for each workman paid less than the stipulated prevailing rates for such work or craft in which such workman is employed for any work done under the Contract by him or her or by any subcontractor under him or her in violation of the provisions of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each workman for each calendar day or portion thereof for which each workman was paid less than the stipulated prevailing wage rate shall be paid to each workman by the Contractor.

1.5.3. Pursuant to the provision of Section 1770 of the Labor Code of the State of California, City has ascertained the general prevailing rate of wages (which rate includes employer payments for health and welfare, vacation, pension and similar purposes) applicable to the work to be done, for straight time work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification, or type of workers concerned. Copies of the General Prevailing Wage Determination are on file in the office of the City Engineer and are available to the Contractor on request. The Contractor shall post the

wage determination at the site of work in a prominent place where the workers can easily see it.

1.5.4. City will not recognize any claim for additional compensation because the Contractor has paid any rate in excess of the prevailing wage rate obtained from the City Engineer. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his or her proposal and will not in any circumstances be considered as the basis for a claim against the City.

1.5.5. Travel and Subsistence Payments.

Contractor shall make travel and subsistence payments to each worker needed to execute the work in accordance with the requirements in Section 1773.8 of the Labor Code (Chapter 880, Statutes of 1968).

1.5.6. Apprentices.

Attention is directed to the provisions in Sections 1777.5 (Chapter 1411, Statutes of 1968) and 1777.6 of the California Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under him. Contractor and any subcontractor under him or her shall comply with the requirements of said sections in the employment of apprentices.

Information relative to apprenticeship standards, wage schedules and other requirements may be obtained from the Director of Industrial Relations, ex officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

Copies of Labor Code Sections 1771 (requiring prevailing wages), 1775 (imposing penalties, including a \$50 per day, per worker forfeiture, for failure to pay prevailing wages), 1776 (requiring contractor to maintain available for inspection certified payroll records), 1777.5 (requiring certain apprenticeship programs), 1813 (imposing penalties for failure to make records available for inspection) and 1815 (requiring time and ½ for overtime) are available at the Department of Industrial Relations website at <http://www.dir.ca.gov/>

1.6 CITY Inspector. CITY may designate an architect, engineer, other design professional or other inspector ("Inspector") to supervise and/or inspect Contractor's performance of the Work. The Inspector shall have no authority to change the Work, the compensation for performing the Work or the time for completing the Work without City's prior written approval. City shall notify the Contractor in writing, if it designates an Inspector.

1.7 Site Conditions. Contractor acknowledges that it has inspected the work site and any improvements involving the Work and satisfied itself as to the conditions which can affect the Work or its cost. Contractor has not relied on any representation by CITY or its officers or employees as to the condition of the site or the houses or any condition that might affect the cost of performing this

Agreement.

1.8 New Products Required. All equipment, materials or fixtures furnished by Contractor under this Agreement shall be new and of the most suitable grade for the intended purpose, unless otherwise specifically provided.

1.9 Compliance with Laws. The Contractor shall give all notices and comply with all applicable laws, ordinances, codes, rules and regulations. The Contractor shall secure and pay for all permits, fees, and licenses necessary for the proper execution and completion of the work.

1.10 Protection of Site and Improvements. The Contractor shall preserve and protect the site, grounds and any involved improvements and shall not alter or damage any portion thereof, except as is absolutely necessary in order to perform the Work. The Contractor shall repair or replace, as directed by CITY, any property that it damages, looses or destroys in violation of this paragraph. Contractor shall assume full responsibility for maintaining the safety of the worksite in compliance with all applicable state and federal worker safety and protection laws and shall maintain the worksite in compliance with all such laws.

1.11 Inspection of Work. The Contractor shall ensure that the Work is available for inspection by CITY or its Inspector at all reasonable times and that no work is covered up or rendered incapable of inspection without prior notice to CITY or its Inspector and a reasonable opportunity for inspection. The presence or absence of an CITY inspector or the conduct of an inspection by CITY or its Inspector shall not relieve the Contractor from any contract requirement or compliance with Exhibit 1.

1.12 Title. The Contractor warrants that it conveys full and complete title, free of all liens and encumbrances, to all materials, supplies, fixtures and equipment furnished to CITY under this Agreement and agrees to fully defend and indemnify CITY, its officers and employees, and the houses and homebuyers included in the Work, from and against any claim, lien, charge, debt, cost, expense or liability arising from a breach of said warranty.

1.13 Warranties. In addition to any other warranties in this contract, the Contractor warrants that the Work conforms to the contract requirements and is free of any defect in equipment, material or workmanship for a period of one year from the date of final acceptance of the Work by CITY. If CITY accepts any part of the Work before final acceptance of the entire Work, the warranty shall continue for the period of one year from the date of such partial acceptance. The Contractor shall remedy, at the Contractor's expense, any failure to conform, or any defect.

1.14 Extension of Time. Should any delays occur which the City may consider unavoidable, as herein defined, the Contractor shall, pursuant to his or her application, be allowed an extension of time proportional to said delay or delays, beyond the time herein set forth, in which to complete this contract.

Any claim by Contractor for a time extension based on unavoidable delays shall be based on written notice delivered to the City within 15 days of the occurrence of the event giving rise to the claim. Failure to file said written notice within the time specified shall constitute a waiver of said claim. Notice of the full extent of the claim and all supporting data must be delivered to the City within 45 days of the occurrence unless the City specifies in writing a longer period. All claims for a time extension must be approved by the City and incorporated into a written amendment.

1.15. Unfavorable Weather and Other Conditions. During unfavorable weather and other conditions, the Contractor shall pursue only such portions of the work as shall not be damaged thereby. No portions of the work whose satisfactory quality or efficiency will be affected by any unfavorable conditions shall be constructed while these conditions remain, unless, by special means or precautions approved by the City, the Contractor shall be able to overcome them.

The Contractor shall be granted a time extension of one day for each unfavorable weather day that prevents him or her from placing concrete forms or placing and finishing concrete or asphalt concrete. Such unfavorable weather day is defined as a rain day where precipitation prevents the contractor from performing the work more than four (4) continuous hours within the authorized work period or a temperature day where the ambient temperature is below that specified for the placement of materials associated with the controlling work item for more than four (4) continuous work hours of the authorized work period.

1.16. Saturday, Sunday, Holiday and Night Work. No work shall be done between the hours of 6 p.m. and 7 a.m., nor on Saturdays, Sundays or legal holidays except such work as is necessary for the proper care and protection of work already performed, or except in cases of absolute necessity and in any case only with the permission of the City.

It is understood, however, that night work may be established as a regular procedure by the Contractor if he or she first obtains the written permission of the City and that such permission may be revoked at any time by the City if the Contractor fails to maintain at night adequate force and equipment for reasonable prosecution and to justify inspection of the work.

1.17. Hours of Labor. Eight (8) hours of labor shall constitute a legal day's work and the Contractor or any subcontractor shall not require or permit more than eight hours of labor in a day from any person employed by him or her in the performance of the work under this contract, unless paying compensation for all hours worked in excess of eight (8) hours per day at not less than 1 ½ times the basic rate of pay. The Contractor shall forfeit to the City, as a penalty, the sum of twenty-five dollars (\$25.00) for each workman employed in the execution of the contract by him or her or by any subcontractor, for each calendar day during which such laborer, workman, or mechanic is required or permitted to labor more than eight hours in violation of the provisions of Section 1810 to 1816, inclusive, (Article 3, Chapter 1, Part 7, Division 2) of the Labor Code of the State of California and any acts amendatory thereof.

2. CONTRACT PRICE

CITY shall pay the Contractor for performance of this Agreement time and materials not-to-exceed _____.

3. PAYMENT OF CONTRACT PRICE

City shall pay any invoice for completed work, and approved by the City, within thirty (30) days of its receipt by City. All payments under this contract shall be made upon the presentation of certificates in writing from the City and shall show that the work covered by the payments has been done and the payments thereof are due in accordance with this contract.

4. INDEMNIFICATION AND INSURANCE.

4.1 Indemnification. The Contractor shall do all of the work and furnish all labor, materials, tools and appliances, except as otherwise herein expressly stipulated, necessary or proper for performing and completing the work herein required in the manner and within the time herein specified. The mention of any specific duty or liability imposed upon the Contractor shall not be construed as a limitation or restriction of any general liability or duty imposed upon the Contractor by this contract, said reference to any specific duty or liability being made herein merely for the purpose of explanation.

The right of general supervision by the City shall not make the Contractor an agent of the City and the liability of the Contractor for all damages to persons or to public or private property, arising from the Contractor's execution of the work, shall not be lessened because of such general supervision.

Until the completion and final acceptance by the City of all the work under and implied by this contract, the work shall be under the Contractor's responsible care and charge. The Contractor shall rebuild, repair, restore and make good all injuries, damages, re-erections and repairs, occasioned or rendered necessary by causes of any nature whatsoever, excepting only acts of God and none other, to all or any portions of the work, except as otherwise stipulated.

To the fullest extent permitted by law, Contractor shall indemnify and hold harmless the City and its officers, directors, agents, and employees from and against all claims, damages, losses and expenses including but not limited to attorneys' fees, costs of suit, expert witness fees and expenses and fees and costs of any necessary private investigators arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, other than the work itself, including the loss of use resulting therefrom and (2) is caused in whole or in part by any act or omission of the Contractor, any subcontractor, or anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder, or by the negligence or omission of a party indemnified herein.

In any and all claims against the City or any of its agents or employees by any employee of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for

whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts. The obligation to indemnify shall extend to and include acts of the indemnified party which may be negligent or omissions which may cause negligence.

The City shall have the right to estimate the amount of such damage and to cause the City to pay the same and the amount so paid for such damage shall be deducted from the money due the Contractor under this contract; or the whole or so much of the money due or to become due the Contractor under this contract as may be considered necessary by the City, shall be retained by the City until such suits or claims for damages shall have been settled or otherwise disposed of and satisfactory evidence to that effect furnished to the City.

4.2 Insurance. Contractor shall procure and maintain for the duration of the contract insurance as per Exhibit ____.

5. TERMINATION.

This Agreement may be terminated by City: 1) for convenience 2) for breach of the agreement; City shall notify Contractor of any alleged breach of the agreement and of the action required to cure the breach. If Contractor fails to cure the breach within the time specified in the notice, the contract shall be terminated as of that time. If terminated for convenience of the City, the contract shall terminate on the date notice of termination is given to Contractor. City shall pay the Contractor only for services performed and expenses incurred as of the effective termination date, unless terminated because the Contractor has failed to satisfactorily cure a breach after notice in which event City shall be entitled off-set any damages incurred by the City as a result of the breach from any amounts due to Contractor for work performed prior to the date the contract was terminated.

6. MODIFICATION OF AGREEMENT.

City may, from time to time, request changes in the Work, the time to complete the work or the compensation to be paid for the Work. Such changes must be incorporated in written amendments to this Agreement. To be effective, all such changes as referred to in this section must be agreed upon in writing by both parties to this agreement.

7. ASSIGNMENT.

The Contractor shall not assign any interest in this Agreement, and shall not transfer any interest in the same (whether by assignment or novation), without the prior written consent of City.

8. APPLICATION OF LAWS.

The parties hereby agree that all applicable Federal, State and local rules, regulations and guidelines not written into this Agreement shall hereby prevail during the period of this Agreement.

9. INDEPENDENT CONTRACTOR.

It is the express intention of the parties hereto that Contractor is an independent contractor and not an employee, joint venturer, or partner of City for any purpose whatsoever. City shall have no right to, and shall not control the manner or prescribe the method of accomplishing those services contracted to and performed by Contractor under this Agreement, and the general public and all governmental agencies regulating such activity shall be so informed.

Those provisions of this Agreement that reserve ultimate authority in City have been inserted solely to achieve compliance with federal and state laws, rules, regulations, and interpretations thereof. No such provisions and no other provisions of this Agreement shall be interpreted or construed as creating or establishing the relationship of employer and employee between Contractor and City.

Contractor shall pay all estimated and actual federal and state income and self-employment taxes that are due the state and federal government and shall furnish and pay worker's compensation insurance, unemployment insurance and any other benefits required by law for himself and his employees, if any. Contractor agrees to indemnify and hold City and its officers, agents and employees harmless from and against any claims or demands by federal, state or local government agencies for any such taxes or benefits due but not paid by Contractor, including the legal costs associated with defending against any audit, claim, demand or law suit.

Contractor warrants and represents that it is a properly licensed for the work performed under this Agreement with a substantial investment in its business and that it maintains its own offices and staff which it will use in performing under this Agreement.

10. DOCUMENTS AND OWNERSHIP OF WORK.

All documents furnished to Contractor by City and all documents or reports and supportive data prepared by Contractor under this Agreement are owned and become the property of the City upon their creation and shall be given to City immediately upon demand and at the completion of Contractor's services at no additional cost to City. Deliverables are identified in the Scope of Work, Exhibit __. All documents produced by the Contractor shall be furnished to City in digital format and hardcopy. Contractor shall produce the digital format using software and media approved by City.

11. GOVERNING LAW.

This Agreement shall be governed by and construed in accordance with the laws of the State of California and any legal action concerning the agreement must be filed and litigated in the proper court in Mendocino County, each party consenting to jurisdiction and venue of California state courts in Mendocino County.

12. SEVERABILITY.

If any provision of the Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions shall nevertheless continue in full force and effect without being impaired or invalidated in any way.

13. INTEGRATION.

This Agreement, including the exhibits attached hereto, contains the entire agreement among the parties and supersedes all prior and contemporaneous oral and written agreements, understandings, and representations among the parties. No amendments to this Agreement shall be binding unless executed in writing by all of the parties.

14. WAIVER.

No waiver of any of the provisions of this Agreement shall be deemed, or shall constitute a waiver of any other provision, nor shall any waiver constitute a continuing waiver. No waiver shall be binding unless executed in writing by the party making the waiver.

15. NOTICES.

Whenever notice, payment or other communication is required or permitted under this Agreement, it shall be deemed to have been given when personally delivered, emailed, telefaxed or deposited in the United States mail with proper first-class postage affixed thereto and addressed as follows:

CONTRACTOR**CITY**

Email:

City of Ukiah
300 Seminary Avenue
Ukiah, CA 95482
Email: mhorger@cityofukiah.com

Either party may change the address to which notices must be sent by providing notice of that change as provided in this paragraph.

16. PARAGRAPH HEADINGS.

The paragraph headings contained herein are for convenience and reference only and are not intended to define or limit the scope of this agreement.

17. EXECUTION OF AGREEMENT.

This Agreement may be executed in duplicate originals, each bearing the original signature of the parties. Alternatively, this Agreement may be executed and delivered by facsimile or other electronic transmission, and in more than one counterpart, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. When executed using either alternative, the executed agreement shall be deemed an original admissible as evidence in any administrative or judicial proceeding to prove the terms and content of this Agreement.

WHEREFORE, the parties have entered this Agreement on the date first written above.

CITY OF UKIAH

By:_____

By:_____

Sage Sangiacomo
City Manager

California Contractor's License Number _____

DRAFT

PURCHASING DEPARTMENT
411 West Clay Street, Ukiah CA 95482
(707) 463-6233
mhorger@cityofukiah.com



REQUEST FOR PROPOSAL – HYDRO PLANT SCADA/PLC UPGRADE

Addendum No. 3

April 6, 2020

The following is Addendum No. 3 to Request for Proposal – Hydro Plant SCADA/PLC Upgrade

This Addendum is hereby made part of the Contract Documents to the same extent as though it were originally included therein.

- I. **In consideration of the current COVID-19 event, the proposal schedule has been extended and changed as follows:**

Deadline for Responses:	5:00 p.m., Tuesday, May 5, 2020
City Evaluation of Proposals:	By May 14, 2020
Phone Interviews (if necessary):	By May 25, 2020
City approval requested:	May 28, 2020 (or sooner)
For contract award (tentative):	June 3, 2020 (or sooner)

- II. Also, in consideration of the current COVID-19 event, providing a hard copy proposal along with an electronic copy is no longer mandatory. Additionally, the requirement of a USB flash drive to provide the proposal is no longer mandatory. Emailing the proposal will be acceptable, along with providing a link to the documents for download, as long as the email is received by the established deadline. It is highly recommended to request a delivery receipt with the email to confirm that it has been received.

All other terms and conditions remain in full force and effect.


Mary V. Horger
Financial Services Manager

ACKNOWLEDGMENT

I hereby acknowledge that I have received this Addendum No. 3 and have reviewed and considered it before submitting my proposal.

Signed: _____ Date: _____

Company Name: _____

City of Ukiah Hydro Plant SCADA/PLC Upgrade Proposal Evaluation Summary		All Systems Electrical with JEGO			Industrial Control and Design			JM Integration			Systems Integrated			Telstar Instruments			Westin and Technical Systems, Inc.		
		Individual Evaluator Ranking			Individual Evaluator Ranking			Individual Evaluator Ranking			Individual Evaluator Ranking			Individual Evaluator Ranking			Individual Evaluator Ranking		
Evaluation Criteria	Maximum Points	#1	#2	#3	#1	#2	#3	#1	#2	#3	#1	#2	#3	#1	#2	#3	#1	#2	#3
Experience and expertise, and history of providing similar services.	30	28	25	25	20	25	20	25	15	15	30	30	28	25	25	29	25	30	30
Project approach.	30	28	25	26	20	23	15	10	10	0	30	28	28	27	25	27	25	25	25
Special or unique capabilities or services.	15	10	10	10	10	5	5	10	5	5	15	10	10	14	10	10	12	10	15
References.	5	5	5	5	5	5	5	4	3	5	5	5	5	5	5	5	5	5	5
Cost.	20	7	10	5	20	20	20	10	14	10	17	18	18	13	16	10	3	6	0
Individual evaluator totals:	100	78	75	71	75	78	65	59	47	35	97	91	89	84	81	81	70	76	75
Combined averaged totals for each consulting firm:		75			73			47			92			82			74		

Listed by Rank:	Score:
Systems Integrated	92
Telstar Instruments	82
All Systems Electrical with JEGO	75
Westin and Technical Systems, Inc.	74
Industrial Control and Design	73
JM Integration	47



**Request for Proposal
for
Hydro Plant SCADA/PLC Upgrade
Due Date: May 5, 2020**

Proposal submitted by:

Systems Integrated, L.P.
2200 North Glassell Street
Orange, CA 92865

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The contents of this proposal are protected under copyright and other intellectual property laws. All rights reserved by Systems Integrated and its affiliated companies.

This document is intended for the City of Ukiah's review associated with the Request for Proposal for the Hydro Plant SCADA/PLC Upgrade project. No part of this document may be disclosed in any manner to a third party without the prior written consent of Systems Integrated.

This document contains proprietary and confidential information to Systems Integrated, which are considered Trade Secrets that are excluded from Public Records Requests.

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A. COVER LETTER

Systems Integrated (SI) submits for consideration our proposal for the Design-Build Services for the Hydro Plant SCADA Upgrade Project. We have fully reviewed all the elements of the Request for Proposal and are confident that our team has the personnel with the experience and technical competence of delivering projects of similar size and complexity to ensure that the City of Ukiah's Hydro Plant SCADA project will be a success.

Since 1977, Systems Integrated has been designing and implementing solutions for the automated control of infrastructure - water, hydro power and transportation. We are proposing a state-of-the-art SCADA upgrade that will provide a solution that will be supportable for a minimum of 15 years using Allen-Bradley CompactLogix PLCs and a choice of SCADA HMI system options. Systems Integrated is proposing a solution that is field proven and fully implemented for an almost identical system which SI provided to the City of Idaho Falls for the upgrade of the Old Lower Hydroelectric Powerplant.

Most of our SCADA projects require us to transition the active control system to the new system and ensure that there is no or minimal down time. Systems Integrated understands this requirement and has developed thoughtful approach for transitioning the old and new SCADA systems to accomplish this requirement and significantly reduce the risk of impacting production. Systems Integrated's engineers have the rare combination of hands-on ability and field installation competence. It is from this practical experience, that we have developed some unique tools to reduce connection errors during the field installation work that simplifies and quickens deployment. Careful planning of the field installation reduces errors and time, which allows SI to construct the system in an exponential manner.

Systems Integrated has carefully reviewed the information supplied in the RFP and Scope of Work and has provided the City with our preliminary ideas and outlines approaches for this upgrade project. Systems Integrated always takes into consideration the practical aspects of working with equipment to ensure easy accessibility and long-term maintainability. Moreover, we always design systems that are intuitive and strive to simplify the use of both the hardware and software.

Systems Integrated has decades of experience working with customers from various industries and are proud that we have long-term relationships with our customers and their confidence in our capabilities. It is always Systems Integrated's goal with all our Design-Build projects to ensure that our customers have system independence once their project has been completed and accepted. However, our existing customers frequently re-engage Systems Integrated to perform additional work to solve particular challenges or support the expansion of their system. Our customers, that we have presented for our project references, will provide the City with a complete picture of our company capabilities and relevant experience.

In the hydropower field, Systems Integrated has a long-term relationship with the Los Angeles Department of Water & Power (since 2010); the Corp of Engineers (since 2005) and the USBOR (since 2018). Each of these projects consist of many generators with power production per system in excess of 1,400 MW each.

All these projects (original & upgrade) are generally greater than \$3 M and are design-build SCADA infrastructure systems and/or upgrades that occurred over multiple years.

In addition to providing solutions for very large hydropower plant expansions, Systems Integrated also provides automation solutions for smaller power plant applications.

In addition to providing prime contract support for large plant / system implementations, SI also provides support for small hydropower systems. SI is providing this insight as these projects are very close in size, complexity and scope, to the system upgrade being requested by the City of Ukiah.

As a subcontractor to American Governor, SI provided the SCADA solution for the Yellowknife hydro plant system. This project consisted of four plants (Snare Rapids: 8 MW & 500 kW plant; Snare Falls: 7.4 MW plant; Snare Cascades: 4.3 MW plant, and Snare Forks: 5 MW plant) with a total MW of the system being approximately 25 MW in size, consisting of a total of 5 generators at 4 sites.

Systems Integrated (SI) implemented the plant automation elements of the project for each power plant. This project used Allen-Bradley ControlLogix controllers and iFIX HMI. SI's responsibility was to provide the ability to operate the plant from an HMI and provide DNP3 communications support for remote control of the plants from a dispatch center. This project was completed in 2018.

The second similarly sized project that SI is using as a reference, is the Old Lower Hydroelectric Powerplant located in Idaho Falls (IF), Idaho. This project is almost identical in both size and scope to the City of Ukiah's project. Idaho Falls SCADA system upgrade, like the Ukiah project, consisted of two 1.87 Megawatt generators (3.6MW total plant capacity) and a bypass system to allow run of the river flow control and hydropower generation. Idaho Fall's project was a low head system (being less than 15 feet of head pressure) and was designed to support the same overall requirements as the City's project. Such as the ability, based upon flow requirements, to either use the generators to allow the flow, or automatically bypass the generators using the bypass valve, to provide a constant water flow. As with the City of Ukiah's project, IF's decision to bypass or generate was based upon the flow requirements.

For the Idaho Falls project, Systems Integrated was responsible for specifying, installing and making operational the entire SCADA system, providing the interface to the local power agency using DNP 3.0, and providing a local HMI system. The system installed consisted of three Allen-Bradley PLCs (one for each generator and one for the balance of plant) an Ethernet/IP to DNP protocol server (used for remote automatic generator control, control of the power output from the generators and control of the bypass valves associated with the plant. The HMI for the Idaho Falls project was Wonderware.

For the City of Ukiah project, SI is proposing the same design approach, one PLC for each generator; one PLC for the balance of plant functions; a redundant HMI SCADA system for local control, and the ability to provide remote control of the plant by NCPA. SI is suggesting either iFIX or *onSITE*® as the HMI: both solutions are provided at the same cost.

Our additional references include Los Angeles Department of Water (LADWP) a hydroelectric pump storage plant consisting of 7 generators producing 1,200 megawatts of power. This second reference project is identified to demonstrate the DNP 3.0 interface approach as well as interfacing with Allen-Bradley PLCs. Both the Idaho Falls and LADWP projects use DNP 3.0 to support the communications interface to a remote dispatch center control. For both projects, a protocol converter was provided to ensure controlled access from the remote sites to the SCADA control data. For the Ukiah project, SI is proposing to provide an Ethernet interface for the DNP data over T1 to NCPA. Because of CIP constraints,

to LADWP the DNP 3.0 interface was tested on both the Ethernet interface and the serial interface and was ultimately connected via a serial interface to ensure full CIP compliance (at LADWP the DNP 3.0 was terminated into the dispatch system which required the serial interface).

Systems Integrated is a UL508A certified panel shop, located in our San Diego office, that fabricates all the panels for our control systems. All the key personnel identified in this proposal, participated with the referenced projects and are being proposed as the team for this project. SI holds the appropriate licenses and have many certifications in security (including DOD, DHS, DOI, etc.) and various manufacturers' equipment.

Systems Integrated, LP will be the prime, with the contractual responsibility to ensure the successful completion of the SCADA project. Systems Integrated, LP holds a California C-10 contractor license (# 844087), and our electricians all are journeyman licensed in CA. Systems Integrated, LP is registered with the California DIR - No. 1000050406. Our California corporate office is in Orange County at 2200 N. Glassell Street, Orange, CA 92865, and our engineering offices are in San Diego and San Jose.

Your project manager will be Systems Integrated's Larry Pomatto, whom has been responsible for the design and successful implementation of all SI's major SCADA projects. Mr. Pomatto has many patents in the areas of SCADA automation and networking. His goal is to assess the project objectives, understand the operational environment and drive the SI team to the successful project completion within the schedule and budget.

Systems Integrated's proposal is a firm offer for a minimum of 60 days after the submittal date. SI is willing to enter a contract under the terms and conditions described in this RFP and as presented in the Sample Agreement. The point of contact during the RFP review is Susan Corrales-Diaz, Systems Integrated's president, whom has the authority to negotiate and bind the company to the terms of the contract.

We believe that our qualifications are exceptional and we will address all the requirements of the City of Ukiah's project and deliver an exceptional SCADA system that is secure; reliable; expandable and can evolve to remain technically state-of-the-art and provide decades of use.

Sincerely,



Susan Corrales-Diaz

President

Systems Integrated

2200 North Glassell Street

Orange, CA 92865

Tel: 714/998-0900 x4562

Fax: 714/998-6059

Email: scorrales-diaz@systemsintegrated.com

B. PROJECT UNDERSTANDING & PROPOSED APPROACH

Systems Integrated's scope of services will include all of the specified scope identified in the RFP (SI takes no exceptions to any of the scope requirements as identified in section 3 of the RFP) and will be providing the following as part of our scope of work:

- Replace the existing 4 SCADA PLCs with 3 Allen-Bradley PLCs, (one for each generator and one for balance of plant).
- Rewire the I/O to allow RTD temperature sensors to be terminated on the PLCs associated with the generator.
- Address the redundancy that is currently provided by the AUX PLC.
- Upgrade all the inter-PLC and computer communications to be Ethernet.
- Provide a T1 interface which will support DNP 3.0 to allow communications to NCPA (solution supports either serial DNP 3.0 or Ethernet DNP 3.0).
- Provide redundant SCADA server pairs and two workstations.
- Interface into the existing UPS power for all PLC and SCADA equipment.
- Redundant DC power supplies and power distribution.
- Interface the new SCADA system to the SEL 2032.
- Upgrade existing iFIX system to iFIX 6.1 or replace the iFIX with another SCADA system (SI has extensive experience with iFIX, Wonderware, InduSoft, Ignition and *onSITE*®).
- Provide latest AB programming software on a laptop that will be provided as part of the project.
- Provide a complete set of as-built documentation.
- Perform a cybersecurity assessment with recommendations.
- During the warranty period, if the City will allow SI remote access, SI will be able to provide 7 day X 24 hour support.

UNDERSTANDING OF THE PROJECT

The City's evaluation criteria for the project includes Systems Integrated's (SI) project approach based upon our understanding of the project.

In order to ensure the City of Ukiah that SI understands the total scope of the project, we are including, as part of our proposal, our 80% engineering submittals including all the project's required drawings. SI has invested the time to prepare these documents to demonstrate to the City of Ukiah, 1) SI's commitment to implementing this project, and 2) display our clear understanding of the requirements of the City's project.

The design that we have shown reflects the RFP's request to remove the AUX PLC and have the temperature sensors rerouted to the individual generators and to have all the valve controls operated by the SCADA PLC.

In reviewing the drawings, it appears that the original design engineers may have wanted to address a redundancy with the bypass valves being controlled by the SCADA PLC and by the AUX PLC. SI agrees with

the City that removing the equipment improves the overall reliability of the system (less parts to maintain). However, if the City feels that it is important to have this layer of redundancy, SI could make a modification to the design whereby the valve control would be controlled by the two PLCs installed in the SCADA cabinet. The design would consist of two PLCs (including I/O) that would be wired to a common I/O for field termination.

(Note, that our drawings are marked proprietary, however the proprietary stamp will be removed should the City select Systems Integrated's proposal).

REVIEW OF DRAWING PACKAGE PROVIDED

SI has included a drawing package of the proposed solution to meet Ukiah's requirements.

NETWORK DESIGN

As shown in the network drawing, SI is proposing a 1,000 Mbps (1Gps) network using an Adtran 1544 Layer 3 switch. This switch is a 28 port Gigabit switch and will be mounted in one of the existing network cabinets (as shown on the RFP drawings E-6.1 & E-7.1). SI is proposing to mount the communications and server equipment in one enclosure. Our initial analysis indicates that either cabinet (E-6.1 or E-7.1) may work, or we could install it in a separate cabinet inside the air-conditioned control room. The limiting element of the system, is that the servers have a maximum temperature of 50 degree C. Given the small size of the system, SI can provide a redundant hardened server environment that would work on the plant floor up to 65 degree C. Systems Integrated is providing a response to the RFP, with the option of upgrading to allow the servers to be installed in a higher temperature environment.

As can be seen by the drawings, SI is upgrading all the SCADA equipment to operate using Ethernet with the ability to support both fiber, copper, and 1Gps network conductivity.

Also provided is a network-based Control/IP to DNP 3.0 converter. SI selected this approach as it would allow NCPA either direct access to the three PLCs or one interface to the SCADA PLC which would then coordinate and redirect the commands as required to the two generators and bypass valves, and would allow expanding the functionality at a later date without adding additional equipment.

On the network diagram shown, there are three VLANs: the control system VLAN; the SCADA VLAN and the DMZ VLAN.

The control system has access and allows the PLCs to access each other, the SCADA servers and the DNP 3.0 protocol converter.

The SCADA VLAN is used to allow the workstations to access the SCADA system.

The DMZ VLAN is used to allow NCPA access to only the DNP 3.0 protocol converter.

The Adtran 1544 was selected because it provides all the Layer 3 routing functionality as well as providing hardware access control lists used to control access between each of the three VLANs.

To further secure the system, an Adtran 3430 T1 router / firewall has been included as the hardware interface between the Ukiah plant and the NCPA dispatch center. This router / firewall will be used to establish a VPN IPsec point to point secure link between NCPA and the plant.

If there is interest in providing remote view or control to other Ukiah facilities, SI's design will accommodate adding a second interface onto the 3430 router which would allow a firewall and controlled access interface to the outside world. Finally, if there is interest in allowing Ukiah field personnel remote access this can be accomplished by adding a remote access appliance such as a SonicWall.

FIELD I/O

Systems Integrated has taken the approach of providing a solution that will standardize the wiring of all the field I/O. In order to accomplish this, SI is proposing to use field termination boards for all the I/O. These boards allow for a standardized wiring approach that would allow the system to be expanded, reconfigured without rewiring of the field terminations.

While one approach would be to leave the existing terminal blocks in place and create a variety wiring drawing to marry the existing I/O to the new PLCs, Systems Integrated's approach is to provide a standardized field termination panels that would allow a better interface from the field to the PLC and provides a long term solution that would allow long term support without rewiring.

DIGITAL OUTPUTS

As part of SI's proposal, we are including 20-amp, 125 Volt double poll, double through relays to provide for a fail-safe operation of the plant. Using this approach, on a point-by-point basis, the outputs can be wired to be fail-safe. This is normally done in the power industry, and SI noted that it was not included in the existing design. This feature is significant as it ensures that programming mistakes within the PLC do not harm or impact the operation of the plant.

In reviewing SI's digital output drawings, note that there two set of contacts for each relay. As shown in our drawings, we have taken one common from each pole of each relay and have connected to the hot or return side of the source power, to the field relay (in this case it is either 24 VDC or 125 VDC). The normal open contact of each pole is connected to one side of the relay. When the relay is energized, both poles are energized, and the relay sees either 24 VDC or 125 VDC. When the relay is not energized neither the source nor return lines are active. To clarify the importance of this design element: in a 24 VDC system it is not significant, however in the 125 VDC system it is significant. Most 125 VDC systems within a power plant are used for protection equipment and critical equipment. In order to ensure that the systems continue to operate, most plants fully isolate their 125 VDC to ensure that a single point fault does not shut the plant down.

The solution SI is proposing will provide 100% of the time isolation of the 125 VDC from grounds or shorts.

In addition, while reviewing SI's drawings and cut sheets, note that the SI solution provides a knife switch isolator for every digital output field wires. Again, this is typical for power plants applications and is an additional safety feature.

DIGITAL INPUTS

All the digital input field termination boards are designed to support the ability to not short the 24 VDC if either field wire is shorted.

ANALOG INPUTS

All the analog input field termination boards are designed to fully isolate all the field wiring from the analog inputs.

WIRE NUMBERING / DRAWINGS

The SI drawings that have been provided as part of this proposal were laid out using the existing wire numbering scheme. As part of the proposal, SI will add new wire numbers for those field wires that are either not correctly marked or the marking has fallen off.

PROGRAMMABLE LOGIC CONTROLLER (PLC) IMPLEMENTATION

Systems Integrated (SI) is proposing to use Allen-Bradley CompactLogix to support the replacement PLC requirement.

Systems Integrated's team of AB PLC programmers will examine the existing implementation and re-implement the PLC code to meet current PLC standards.

SI recent experience with upgrading AB PLC products was performed for the Army Corp of Engineers: in this project, PLC 5s were upgraded to ControlLogix PLCs. From a complexity perspective the AB SLC 500 series PLCs represent approximately the same level of complexity of an upgrade as would occur between the PLC 5 and ControlLogix PLCs. In both cases the existing PLCs did not support an object oriented I/O naming convention. As with the Corp of Engineers, SI is proposing, as part of the upgrade project, to develop an I/O naming convention and implement it in the new PLCs. SI will be developing the new programming using the IEC 61131-3 standards, as much as possible.

CYBER SECURITY

Though cyber security was not included as part of the requirements of this RFP, Systems Integrated, as part of our proposal, has included a cyber security audit as part of the implementation process. The solution that SI has proposed takes advantage of all the latest cyber security standards and will implement our solution to these standards.

SI is proposing the Allen-Bradley (AB) PLC hardware as requested by the City of Ukiah, however SI advises the City that the AB PLC is one of the few PLCs that does not meet any of the currently implemented cyber security protocols. SI can provide the City with some recommendations as to other solutions that would be more cyber secure. It should be noted that the typical way to cyber secure legacy products is to physically protect them. And in that regard, the power plant generally meets those requirements, however SI would recommend door security be implemented so that the City can fully track access to the facility.

From a power perspective, the cyber security requirements are very low; however, an assessment needs to be made as to the damage that could occur to the bypass valves as water delivery is the primary purpose

of this facility. SI is prepared to do an overall vulnerability analysis of the impact if the control system was compromised and provide the City with mitigation recommendations.

HMI

Systems Integrated is proposing a variety of HMIs to the City, and SI is certified to work with all these systems.

The City's existing system is based upon iFIX. SI is currently implementing a \$4.5 million project using iFIX for the Bureau of Reclamation (reference provided). SI has a team of employees that are skilled in the development and screen development associated with iFIX.

SI is a Wonderware integrator. SI has implemented more than 100 Wonderware projects. The City of Idaho Falls project was implemented to interface to a Wonderware system. This reference is included.

SI also represents *oNSITE*[®]. *oNSITE*[®] is a SCADA system that is typically used in larger systems (in the range of 250,000+ points), however *oNSITE*[®] is a scalable product that is price competitive with both iFIX and Wonderware. The major cost advantage of *oNSITE*[®] is the yearly maintenance fee.

LICENSING FEES

Wonderware and iFIX are provided using a licensing structure based upon the number of tags. The definition of "tag" is not based upon the physical point but rather the number of attributes per point. Some of the attributes that are used for determining the tag count include alarm processing, valid / invalid, scaled verses raw value, math or calculated points to name a few. On average the tag count for licensing is typically times 5 of the physical I/O for the project. *oNSITE*[®] is not priced based upon number of tags, it is based upon the type of CPU that is used to power the system.

As part of the engineering effort, SI will provide a cost analysis based upon the number of tags in the system and upon the alarm and historical data collection requested.

HISTORIAN

All three HMI options are provided with a historian. The iFIX historian provides approximately 200 days of historical data; Wonderware is provided with 500 days of historical data, and *oNSITE*[®] is provided with 5 years of historical data.

Additional historical collection is available with all three products. During the engineering phase of the project, SI will provide the cost impact of the cost to upgrade if the City of Ukiah would like to expand the historical data storage.

COST OF OWNERSHIP

Systems Integrated is offering to the City, their choice of HMI solutions, however it is important to evaluate the overall cost of long-term ownership.

SI, as part of its engineering effort will perform this evaluation of the 10-year cost of ownership of each to the three products.

SCHEDULE

To address the project implementation, SI has also included a proposed schedule.

Engineering update and submittal preparation. This phase of the project will include:

- ◆ Sending a team of engineers to gather additional data regarding what is currently installed at the plant. As a result of this effort an updated set of drawing will be prepared (installation drawings) that will be presented to the City for review.
- ◆ Obtain a copy of the existing PLC programs and GE iFIX programs.
- ◆ Review the PLC programs and SCADA software and evaluate the time to upgrade both the PLC programs and the SCADA displays.
- ◆ Evaluate if an expanded historian is required.
- ◆ Cost analysis of yearly support for the various HMIs.
- ◆ Request that the City review and accept the drawing package.
- ◆ Interface with NCPA for the DNP 3.0 data flow. This would include defining the:
 - DNP address (and Ethernet IP address if Ethernet over T1 is requested).
 - DNP registers and meaning.
 - Update rate.

Implementation Schedule:

- ◆ SI is prepared to perform a full plant shutdown and install and test the system, or if required, shut one unit down at a time. It is SI's understanding that a full plant shutdown is possible using the bypass valves. While it would be more efficient for a full plant shutdown to do the work (as proposed), SI is willing to implement a unit by unit shutdown to perform the work. It should be noted however, that during the unit by unit shutdown, the operating unit would be required to operate in manual, and there would be a point during this process, that the plant would not be able to be operated in any mode other than manual. SI proposes to discuss these implementation approaches during the kickoff meeting so that an updated schedule can be provided.

Based upon the assumption that both units could be shut down during the upgrade (or run in manual), SI estimates the following schedule:

- ◆ 6 week engineering process starting with the kick off meeting used to review the drawing submittal provided as part of the proposal. At the end of the 6 week period all the drawings will be provided ready for approval by Ukiah. We are assuming a 2 week approval period by the City for all SI submittals.
- ◆ 6 week PLC development process with two submittals. The first describing how the new PLCs will be programmed and the approach for Factory Acceptance Testing. The second submittal will be for the completed programs and the FAT plan. The FAT can be either executed at SI by Ukiah personnel coming to SI or completed via a webinar to demonstrate the various aspects of the FAT that will be performed at SI.
- ◆ 2 week shipment and staging of the equipment after successful FAT completion.

- ♦ 6-week installation period. This assumes a normal work week and includes all installation, testing and startup. This schedule could be decreased by working longer work weeks but would have a cost impact.

Hardware and software integration. During this phase, the hardware and software will be assembled:

- ♦ All hardware will be ordered and assembled at SI's panel shop in San Diego.
- ♦ All hardware will be set up and full end to end testing of the software and hardware will be performed.
- ♦ Factory Acceptance Test of the hardware and software will be provided (this can be done at our San Diego office or via Webinar).

Shipment to site.

- ♦ Hardware will be shipped to the site at the City of Ukiah.
- ♦ SI will mobilize its field crew for installation of the equipment.

Equipment upgrade.

- ♦ There will be three concurrent activities going on at the plant, these activities are:
 - i. Removing old equipment and installing new servers and workstations.
 - ii. Installing new Ethernet network.
 - iii. Establishing DNP 3.0 communications with NCPA.
 - Providing a simulator to verify point by point transmit and receive from NCPA.
 - iv. Removal and rerouting of wiring of temperature sensors to eliminate the fourth PLC.
 - v. Removing all the existing equipment in the existing PLC enclosures.
 - vi. Install the new equipment into the existing enclosures.

Overall, the project should be completed within 120 to 180 days after receipt of the City's Notice to Proceed.

C. PROJECT TEAM

Systems Integrated's engineers have years of experience developing systems that will achieve sustained benefits for our customer. We evaluate hardware, software and communications for the system taking into consideration long-term supportability; reliable and proven technology; security; expandability, and user-friendly operation. SI designs are standards based, ensuring that our customers can expand/upgrade their systems, and we always seek commercial off the shelf (COTS) products to reduce end-user costs and maintenance. Systems Integrated's control systems are designed to grow with our customer's requirements and evolve with changing technologies providing a life expectancy of at least twenty years.

Systems Integrated's success in delivering control systems is due the depth of experience of our engineering and construction team. Most of the key members for this project individually have decades of experience and a minimum of 5 years of experience working on similar SCADA projects with Systems Integrated. For the City of Ukiah, SI's project team will include the following people:

Larry Pomatto
Arde Kirka

Janice Ruszczyk
James Pham

Thomas Waldowski
Shawn Belmore

Arde Kirka

Mr. Kirka has over 25 years of experience delivering SCADA systems and is an expert in number of areas needed to support the project. Mr. Kirka will primarily be responsible for the design and implementation of the PLC software and support the HMI development. Mr. Kirka was the developer of the PLC and HMI software for the Idaho Falls Old Lower Powerhouse Rehabilitation Project and the Yellowknife hydro plants.

PLC: PLC and SCADA programming and configuring. He will oversee the PLC development that requires ladder logic. Mr. Kirka has more than 13 years with Systems Integrated and has been developing PLC / PAC based systems for more than 25 years. He is proficient in programming all the IEC 61131-3 languages and is certified on Rockwell Allen-Bradley, GE, Modicon, Siemens, ABB PLCs and CODESYS.

SCADA HMI: In the area of SCADA systems, Mr. Kirka is *ONSITE*, AB - Plant PAX, iFIX, InduSoft, and Wonderware certified.

James Pham

Network and Hardware Equipment: Mr. Pham will be responsible for the selection, purchase and configuration of the all the computer and network hardware for the project. Mr. Pham has his U.S. Department of Homeland Security Cybersecurity and Infrastructure Security Agency (CISA) 301V Industrial Control Systems (ICS) Cybersecurity certification; and he is NERC CIP certified for development and evaluation of the software and networks. And is Adtran certified for routers and switches and SonicWall certified for firewall implementation.

Shawn Belmore

Panel Layout: Mr. Belmore prepares the BOM for each project and develops the panel layout for easy access to the mounted equipment. He ensures that the panels are built to the drawings and prepares the Factory Acceptance Test. He ensures that SI's panel production meet the UL508A standards.

Janice Ruszczyk

Screen Development: Ms. Ruszczyk will be responsible for the development of the HMI screens for the project. She has more than 25 years of GE DataViews® design and implementation experience, is the chief design engineer for the USBR iFIX system development and has developed HMI interfaces for almost all the SCADA systems available on the market today.

Tom Waldowski

Mr. Waldowski has more than 30 years of experience and has been working at Systems Integrated for more than 23 years. Mr. Waldowski will be responsible to ensure that all the software implemented meets all the cyber security requirements for network communications as well as overseeing all the screen and control strategy development.

Larry Pomatto

Mr. Pomatto has more than 40 years developing and implementing SCADA systems and has been awarded various patents within the electric and communications areas. For this project, Mr. Pomatto will be the project manager and will be responsible with coordinating both the engineering efforts as well as the construction efforts. Mr. Pomatto was the project manager for all the referenced projects included in this proposal.

Systems Integrated is proposing a single project manager, Larry Pomatto, to be responsible for all aspects of the project. SI's approach in project management is to have a single responsible person that has both engineering and field installation experience in control of the entire project - this ensures that all aspects of the project are moving forward to achieve a successful project outcome for our customers.

Subcontractors

Systems Analysis & Integration, Inc. (dba Systems Integrated) will perform all the electrical field installation. Systems Integrated holds a California C-10 license (License No. 519331- expiration 10/31/2021) and is registered with the CA DIR (DIR # 1000019927).

Expertise:

- ✓ 40+ years SCADA & systems experience
- ✓ Project Engineering Management
- ✓ System Design
- ✓ Wired & Wireless Communication Networks
- ✓ Critical Utility Control Systems
- ✓ Oversight of large-scale projects from conception through completion

Years of Experience:

40+

Certification:

Proxim Wireless Certified
Adtran Network Certified
Adtran VoIP Network Certified
Company Facility Security Officer (SFO)

Professional Affiliations:

IEEE, AWWA, ITSA

Security Certification:

- Transportation Worker Identification Credential (TWIC)
- Department of Homeland Security
- Department of Interior
- Department of Defense

Publications/Patents:

Mr. Pomatto, has filed for and received over 12 patents on a variety of automation control devices and communication systems.

Education:

B.S., Electrical Engineering,
Stanford University, 1973

Years with Firm:

36+

LARRY POMATTO

Role on Project:**Project Manager / Senior Design Engineer**

In his role as a project manager, Mr. Pomatto brings over 40 years of experience designing and managing large-scale automation and control system projects (projects exceeding \$20 Million). His technical expertise, breadth and depth of experience with mechanical, electrical and software systems, hands-on field ability coupled with a practical approach to design and production, ensure that the control system uses current leading technology and exceeds customer expectations. Complete customer satisfaction, cost-effective systems, and meeting customer requirements are his top priorities. Mr. Pomatto is responsible for ensuring that the project is always moving forward. This includes everything from project scheduling to billing to development of drawings and specifications.

As the Senior Design Engineer, Mr. Pomatto has significant expertise in the field of automation with more than 12 patents in everything from automating electrical substations, to detecting capacitors on distribution lines, to controlling the traffic lights. Mr. Pomatto is a subject matter expert in the disciplines of (1) wide area network design and topology, (2) distributed automated control systems (patent on distributed control systems for substation automation), (3) cybersecurity with respect to SCADA deployments that provide high level of redundancy, (4) development of long term, supportable, SCADA systems with a minimum of spares and labor to support the system, and (5) deployment of SCADA upgrades that minimize or eliminate the downtime of any field systems during an upgrade.

In addition to the technical areas, Mr. Pomatto is also SI's chief safety officer. Systems Integrated makes safety a priority both in the office and in the field and has never had any safety violations.

Relevant Experience

Castaic Power Plant Modernization Control System Los Angeles Department of Water and Power Castaic, CA

Project Description: As the Project Manager and Senior Design Engineer for the \$11 million control system upgrade of the 9th largest pumped storage system in the United States, Mr. Pomatto was responsible for implementing the project scope which included: the control system upgrade for the seven 270 Megawatt generator / pumps; all of the balance of plant support equipment (including the 230KV switchyard, the 4160V switchyard, and the penstock protection system); and the interfaces to the dispatch control system (ECC-SCADA). And ensured that the control system was fully compliant with the NERC, NIST and FIPS cyber-security requirements for critical cyber-asset infrastructures. This prime contract required that the engineering and software engineering firm was responsible for the design, engineering, supervision, startup, documentation and training for the project. LADWP technicians were responsible for the installation of the control system within the plant under the supervision of Systems Integrated. SI's responsibilities included system engineering; network engineering; detailed electrical and mechanical design engineering; automation engineering; relay protection, and project coordination.

Role and Responsibilities: Mr. Pomatto's project responsibility included the management of over \$6 million dollars in subcontracts for exciters, governors and protection equipment as well as coordinating with LADWP's field construction group during the system installation. He developed the distributed control system and the associated network communications infrastructure to provide a high availability system such that the plant can continue to operate even if the redundant SCADA servers are offline.

Mr. Pomatto was directly involved with the development of the interface standards that allows all the IEC61850 and DNP devices to interact in such a way as to allow for "one button starting" of the generators in the plant. Mr. Pomatto oversaw the start-up of each unit after each upgrade was completed. Mr. Pomatto was on the project from beginning of the project through the completion of the project, which occurred in 2018.

Old Lower Powerhouse Rehabilitation City of Idaho Falls, Idaho

Project Description: This was a \$210,000 project to provide the automation of a two unit 1.73 MW / unit power plant. The automation included control of the generators, exciters, governors, inlet gates, synchronizers, generator breakers, bus breakers and line breakers. The control allowed for run of the river closed loop control, automatic generator control via DNP 3.0 from the dispatch center, local HMI, historical data collection, alarm processing, and remote maintenance access.

The hardware consisted of three Allen-Bradley CompactLogix PLCs (one for each generator and one to support the Balance of Plant), two American Governors, two Basler exciters and synchronizers, SEL relays for protection, and SEL protocol converter. The software consisted of the interface into Wonderware, and the local HMI screens for local operator control.

Role and Responsibilities: Mr. Pomatto's was the project manager that oversaw the design and supported the field installation of the project. Mr. Pomatto was on the project from beginning of the project through the completion of the project, which occurred in 2017.

SCADA Replacement System Bureau of Reclamation, Upper Colorado Region Page, AZ

Project Description: This is a \$4.5 million project to upgrade dispatch center which is used to control a total of 37 generators at eight (8) power plants over a wide area of more than 3,000 square miles.

The project was developed using iFIX as the HMI and communicates with a total of 18 DNP 3.0 GE PLCs used to control the plants. The system consists of 1 RTU for each set of two generators and in sites with more than two generators an extra RTU was installed to support the balance of plant requirements. The I/O count of the system is more than 50,000 tags. The project is in progress with FAT scheduled for Q3 this year.

There is a total of eight (8) iFIX servers with two (2) multi-terabyte historical servers all interconnected over a secure WAN network having more than 50 routers and switches deployed system wide.

Role and Responsibilities: Mr. Pomatto's project responsibility includes the management of a project and is scheduled to be completed in five years with more than 20 people working on various aspects of the project. In addition to the project management responsibilities, Mr. Pomatto was the chief design engineer for the secure, redundant SCADA communications infrastructure. This project is scheduled for completion in 2021.

Phase 2: PLC Plant Upgrade US Army Corps of Engineers

Project Description: This is a \$2.3 million project to upgrade all the PLCs associated with six power plants and two dispatch control centers. There is a total of 56 PLCs distributed throughout the plants. SI was responsible for designing the replacement of the existing PLC based control system originally designed, installed and made operational by SI.

The design concept was to provide a solution whereby the existing field wiring could be reused, and the existing PLC enclosures would be reused. The requirement was to develop new Allen- Bradley PLC software used to interface to the existing plant equipment, governors, exciters, synchronizers and breakers. As part of the requirements, any modifications required to support communications to the dispatch center were also included. The dispatch center operation is based upon *ONSITE*® and was upgraded as part of the project to ensure DOD cyber compliance and NERC cyber compliance. The total system consists of more than 100,000 tags. Of the six dams in the project, four sites have been completed and the remaining three are scheduled for upgrade by the end of the year.

Role and Responsibilities: Mr. Pomatto's project responsibility included the management of a project, overall coordination of the design, PLC programming and hardware fabrication. The primary effort was the implementation of the first generator upgrade which when completed has been replicated to meet all the system requirements. The primary design objective (standardized design) was met during the implementation of the first unit. This project is scheduled for completion in 2021.

Expertise:

- ✓ Wireless and Wired Network Design
- ✓ Certified Cisco CCNP switch, CCNP route, CCNA security
- ✓ Control System Design
- ✓ Project Start-Up & Commissioning

Years of Experience:

27+

Certifications:

- Cisco, multiple certifications
- Adtran, multiple certifications
- Proxim (certified for 10100, 800, 5054) licensed and unlicensed radios
- Rockwell Plant PAX
- Rockwell PLC and Motion
- iFIX SCADA System
- GE PLC 9030, 9070, Rx3i, Rx7i
- Wonderware SCADA System
- InduSoft SCADA System

Professional Affiliations:

IEEE, AWWA, ITSA

Security Certification:

Department of Interior

Education:

B.S., Electrical Engineering,
South Dakota State University

Years with Firm:

14

ARDE KIRKA

Role on Project: Senior Engineer PLC Systems

Mr. Kirka has over 27 years of experience in engineering design, network communications for control systems, project management and R & D projects. Arde is an experienced electrical engineer with an extensive background in the design and implementation of complex automation solutions using a variety of PLCs and HMI/GUI applications and has the ability to develop and implement end to end solutions for automated control of process and systems.

Relevant Experience

Old Lower Powerhouse Rehabilitation City of Idaho Falls, Idaho

Project Description: Implementation of a SCADA system which provides the control system for the power house and allows operator interface for each unit control panel through the local Operator Interface Terminals and from the local HMI workstation at the plant, and interacts with the power dispatch center. The project consisted of the complete rehab of the two 1.78 MW generator powerhouse including all the mechanical systems, electrical systems and control systems. SI's responsibilities included system engineering; network engineering; automation design engineering; interaction with the relay protection equipment, interface to the dispatch center and project coordination.

Role and Responsibilities: Mr. Kirka was responsible for the implementation of the SCADA system and the associated PLCs. The SCADA system provides the full automated control of the plant while the fiber optic communications system provides a reliable network for full remote control of the plant. The PLCs used in this project were manufactured by Allen Bradley.

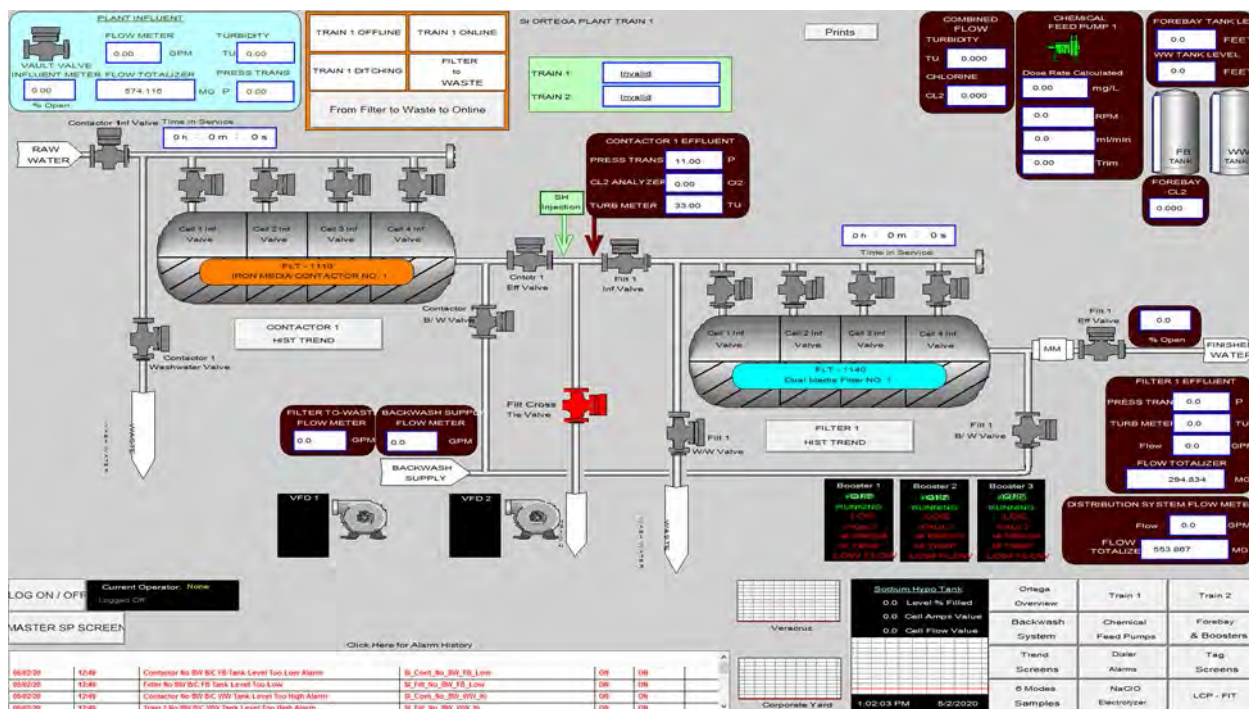
Ortega Ground Water Treatment Plant Rehabilitation & Improvement Project Upgrade City of Santa Barbara, CA

Project Description: The Ortega Groundwater Treatment Plant (OGTP) was designed to treat water from four City production wells. The original OGTP was put in service in 1976 and had a design capacity of 2.6 MGD. The plant capacity was increased in 1978 to a total of 3.9 MGD by upgrading the chemical feed system and adding one pressure filter. The OGTP was designed for iron and manganese removal, using dual media pressure-type filters. Manganese greens (constant regeneration type) and anthracite coal constitute the basic filter media.

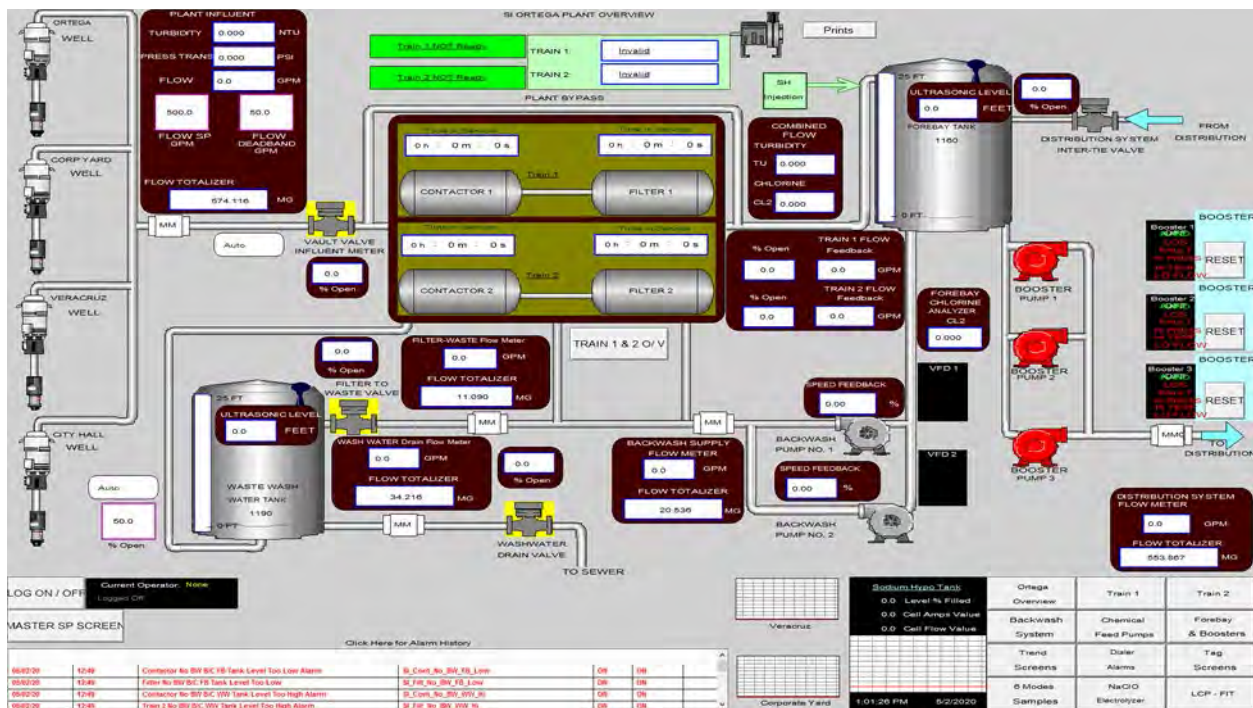
The OGTP Rehabilitation and Improvements Project included the following features: development of the fiber optic communications network and wireless communications interconnect to allow communications to the other treatment plants.

Role and Responsibilities: Mr. Kirka worked closely with the City and Carollo Engineers to develop the overall system architecture for the fiber optic communications network, the new processes and specific control strategies for the new filtration and chemical feed systems. Within the plant, Arde was responsible for:

- Configuration of the new Cisco-based plant communications network including a secure link to the Cater WTP.
- Programed the new PLC to automate the new chemical feed systems.
- Configured the system database, alarms and reports for the new processes.



Sample Wonderware Screen - Ortega



Sample Wonderware Screen - Plant Overview

Elsinore Valley Municipal Water District Water Distribution SCADA System Lake Elsinore, CA

Project Description: This design-build project for a water SCADA system used several innovations including high-speed microwave communications, intelligent RTU's and parallel operation during the installation and system cutover. EVMWD consists of 250 water booster stations, well sites and tanks; 35 lift stations; 3 wastewater treatment plants, and 2 water treatment plants.

Role and Responsibilities: Mr. Kirka designed and developed the PLCs and HMI's/GUI's to have a dynamic network interface that ensured secure site to site communications over the wireless network as well as protecting the network reliability. He performed the validation testing, system start-up and commissioning.

Yellowknife Hydro Plants, Canada Subcontractor to American Governor

Project Description: As a subcontractor to American Governor, SI provided the SCADA solution for the Yellowknife hydro plant system. This project consisted of four plants (Snare Rapids: 8 MW & 500 kW plant; Snare Falls: 7.4 MW plant; Snare Cascades: 4.3 MW plant, and Snare Forks: 5 MW plant) with a total MW of the system being approximately 25 MW in size, consisting of a total of 5 generators at 4 sites.

Role and Responsibilities: Mr. Kirka developed the SCADA system using iFIX which included: the operations screens; alarms; full historian, and Excel reports. Included the local HMI for the Allen-Bradley ControlLogix with PanelView.

Expertise:

- ✓ Software Development
- ✓ Network communications infrastructure
- ✓ Cyber security monitoring system implementation
- ✓ Project Start-Up & Commissioning

Contact Information:

Phone: 858-810-0710

Years of Experience:

26+

Education:

B.S., Electrical Engineering, 1984

Arizona State University, Tempe

Years with Firm:

23+

TOM WALDOWSKI

Role on Project: Senior Software Engineer

Mr. Waldowski has over 26 years of experience in developing and implementing software solutions for monitoring and controlling water and power infrastructure. Mr. Waldowski currently manages and directs the efforts of the software group responsible for maintaining all the various Systems Integrated software products used to support automation.

Relevant Experience

Castaic Plant Modernization Los Angeles Department of Water and Power Castaic, CA

Project Description: This was an \$11 million control system upgrade of the 9th largest pumped storage system in the United States, and included: the control system upgrade for the seven 270 Megawatt generator / pumps; all of the balance of plant support equipment (including the 230KV switchyard, the 4160V switchyard, and the penstock protection system); the interfaces to the dispatch control system (ECC-SCADA), and the control system had to be fully compliant with the NERC, NIST and FIPS cyber security requirements for critical cyber asset infrastructures.

Role and Responsibilities: As the senior software engineer, Mr. Waldowski was responsible for the development and implementation of the automation software required to implement the upgrade to the 9th largest pump storage system in the United States. His design, using a standards-based software, allowed for the full automated control of the pump storage system. In addition, Mr. Waldowski was responsible for ensuring that all the software that was implemented meet all the NERC CIP requirements.

Missouri River Power Plant Upgrade U.S. Corp of Engineers, Omaha Division

Project Description: SI was originally selected to provide a design/build solution to perform the dispatch centers and associated power plant automation project. This project consisted of automating 56 generators in six power plants across three Midwest states, upgrading the control room at each plant and providing two dispatch centers for control of this power system.

Role and Responsibilities: Mr. Waldowski developed and implemented the control and monitoring system for all of the power plants, the dispatch center and all of the advanced automation control to implement Area Control Error (ACE), automatic VAR control and system wide, run of the river control.

Water Distribution SCADA System Elsinore Valley Municipal Water District Lake Elsinore, CA

Project Description: This design/build project for a water SCADA system used several innovations including high-speed microwave communications, intelligent RTU's and parallel operation during installation and system cutover. EVMWD consists of 250 water booster stations, well sites and tanks; 35 lift stations; 3 wastewater treatment plants, and 2 water treatment plants.

Role and Responsibilities: Mr. Waldowski designed and developed the SCADA interfaces, PLC implementation and automated control of the system. He was the chief design engineer for the overall deployment of the SCADA system.

Wastewater Lift Station SCADA System City of Chula Vista Chula Vista, CA

Project Description: SI was selected to design/build a SCADA system to monitor and control the City's sewage lift stations, sewer line monitoring stations and miscellaneous sites including parks, a nature center, and city pools.

The system consisted of 38 lift stations located throughout the City of Chula Vista. The communications to the sites was done using wireless communications and the control of each pump stations uses Allen-Bradley PLCs.

Role and Responsibilities: Mr. Waldowski developed and implemented the control and monitoring system for the wastewater system. He was the primary PLC and SCADA design implementor.

Expertise:

- ✓ HMI Systems Design
- ✓ Software Development & Testing
- ✓ System Analyst
- ✓ Database Design
- ✓ RDBMS Development
- ✓ LINUX/Windows OS
- ✓ Project Management
- ✓ DataViews® - Product Technology Manager

Years of Experience:

30+

Technical Skills:

- Linux/Windows
- UNIX
- C/C++
- Visual Basic
- Java
- InstallShield
- GraphOn
- Microsoft Visual Studio
2008/2010/2012 Microsoft
- XWindows-Motif
- DataViews®
- ONSITE®

Education:

B. S., Computer Science
Merrimack College
North Andover, MA
1986

JANICE RUSZCZYK

Role on Project: HMI Development

Ms. Ruszczyk has over 30 years' experience with the HMI software and dynamic data visualization tools on UNIX/LINUX/Windows operating systems. Ms. Ruszczyk is a solutions-focused, customer centric; team oriented Senior Software Engineer with broad-based experience and hands-on skill in the management of a software product including product feature development, marketing and sale analysis, and customer and technical support.

Ms. Ruszczyk works to define the product roadmap for Systems Integrated's ONSITE® DataViews® SCADA automation software client and server solution and manages the software development cycle to complete product releases with quality and efficiency for customers and markets.

Ms. Ruszczyk communicates with SI's customer base to reach their goals and provide solutions for their customized systems. Ms. Ruszczyk conducts the research to define and develop future enhancements to maintain the state of the art ONSITE® DataViews® automation software solution.

Ms. Ruszczyk manages the UNIX and Windows hardware and software licensing; upgrades for product release porting and maintenance and manages the developer team through all aspects of the software development cycle from definition of requirements through specifications and coding, testing, RTM, and maintenance.

Ms. Ruszczyk creates specifications; designs and implements the data structures and coding for software product features; communicates with cross-functional teams; writes preliminary documentation to educate and train teams; manage and schedule service packs for released products; sets up external beta test sites and manages feedback with beta sites and engineers.

Relevant Experience

Castaic Power Plant Modernization Control System Project

Los Angeles Department of Water & Power Castaic, CA

Project Description: This was an \$11 million control system upgrade of the 9th largest pumped storage system in the United States, and included: the control system upgrade for the seven 270 Megawatt generator / pumps; all of the balance of plant support equipment (including the 230KV switchyard, the 4160V switchyard, and the penstock protection system); the interfaces to the dispatch control system (ECC-SCADA), and the control system had to be fully compliant with the NERC, NIST and FIPS cyber security requirements for critical cyber asset infrastructures.

Role and Responsibilities: Ms. Ruszczyk was the lead for the HMI development for the project. She worked with the Castaic management and operators to develop the various screens depicting the I/O used for the plant equipment. She managed the implementation of the screens, the validation of the screens with the plant equipment, and the HMI.

SCADA Control System Upgrade Metropolitan Water District of Southern California Los Angeles, CA

Project Description: The Metropolitan Water District of Southern California (MWD) is one of the largest water wholesale agencies in the United States. MWD upgraded their control system hardware which included the replacement of over 300 special purpose RTU's used to control MWD infrastructure: the six water treatment plants; the aqueduct which pumps water from Parker Dam to the treatment plants located throughout the LA Basin; all the pressure reducing stations system wide; hydro power plants, and turnouts.

MWD selected Systems Integrated under a design/build contract to provide the solution because of our experience delivering large-scale, complex water SCADA systems; our ability to provide a standards-based solution, and our demonstrated capability to provide long-term support.

The scope of the project was to upgrade the six treatment plants and the central monitoring center. This stage of the project included approximately 2,000 HMI screens and 6 redundant server pairs. During follow on phases, additional servers were installed to support MWD's aqueduct control system.

Role and Responsibilities: Ms. Ruszczyk was responsible for the team that performed the upgrade of Systems Integrated's *ONSITE*® DataViews®, which included the design, development and implementation of the HMI software for the MWD SCADA system.

SCADA Replacement System Bureau of Reclamation, Upper Colorado Region Page, AZ

Project Description: This is a \$4.5 million project to upgrade the dispatch center which is used to control a total of 37 generators at eight power plants over a wide area of more than 3,000 square miles. The project consists of the development of the replacement system wide control system using iFIX as the HMI and communicates with a total of 18 DNP 3.0 GE PLCs used to control the plants.

Role and Responsibilities: Ms. Ruszczyk was responsible for the development team using iFIX. The team is currently completing the implementation of the first plant and with the rollout of the project scheduled to be completed before the end of 2021. Ms. Ruszczyk's team is responsible for the coordination, implementation, testing and rollout of the entire SCADA system.

Expertise:

- ✓ System Analyst
- ✓ LINUX/Windows Operating Systems
- ✓ Server Virtualization and Cloud Computing
- ✓ Software Development and Testing
- ✓ Database Design, RDBMS development
- ✓ NERC Critical Infrastructure Protection
- ✓ US DOD Security Technical Implementation Guide (STIG)
- ✓ Department of Homeland Security – Industrial Control Systems Cyber Security Training

Years of Experience:

7 years

Technical Skills:

- Python
- Java
- C
- MIPS
- VHDL
- Assembly Language
- Digital Logic
- Orcad/PSPICE
- Mac OSX
- Windows OS
- Linux

Education:

Bachelor of Science
Computer Engineering
University of California, Irvine
2013

JAMES PHAM

Role on Project: Network & Hardware Integration

Mr. Pham is a software engineer with extensive server / workstation specification experience and is the primary architect of SI's VM implementation. In addition, Mr. Pham has experience in software application development, system engineering, server configuration and management including virtualization, cloud computing and relational database management. Mr. Pham is an expert in NERC Critical Infrastructure Protection (CIP) standards; Department of Homeland Security Cybersecurity & Infrastructure protection, and US DOD Security Technical Implementation Guide (STIG) for cyber-security protection.

Relevant Experience

Castaic Plant Modernization Project Los Angeles Department of Water & Power Castaic, CA

Project Description: This was an \$11 million control system upgrade of the 9th largest pumped storage system in the United States, and included: the control system upgrade for the seven 270 Megawatt generator / pumps; all of the balance of plant support equipment (including the 230KV switchyard, the 4160V switchyard, and the penstock protection system); the interfaces to the dispatch control system (ECC-SCADA), and the control system had to be fully compliant with the NERC, NIST and FIPS cyber security requirements for critical cyber asset infrastructures.

Role and Responsibilities: As the primary server and HMI hardware design engineer, he was responsible for the development and implementation of the NERC CIP standards for cyber-security protection, specification of all of the servers, workstations and installing all of the software on all of the equipment. As part of this effort, Mr. Pham was responsible for collecting the asset data for each CIP device; determined if the device was complaint and if not, developed both the Technical Feasibility Exception (TFE) request and the associated

mitigation plan for the device. Mr. Pham also developed the automated monitoring programs required under section 7 of the CIP, as well as developed the various reporting procedures required by the CIP. Mr. Pham was responsible for the configuration and administration of the SCADA system servers and developing and installation of the VM of the servers.

Server Upgrade & Cyber Security **US Army Corps of Engineers, Omaha District**

Project Description: Systems Integrated was awarded the SCADA automation project to design the control system that provided the ability to, from a central location, dispatch / control the six power plants along the Missouri River. The design of the system was to provide the ability at each plant to fully control the plant locally, as well as control of the plant using the dispatch center. SI provided its *ONSITE*® DataViews® system with redundant servers located at each of the plants and at the dispatch center. SI was responsible for providing all PLCs, servers, workstations, as well as enclosures to support the hardware provided.

Role and Responsibilities: As lead software engineer, he was responsible for the development and implementation of the US DOD STIG standards for cyber security protection. Mr. Pham was responsible for the configuration and administration of the SCADA system server upgrade project involving upgrading six hydro plants on the Missouri River and was responsible for installing the VM on the servers.

SCADA Hardware Upgrade **Seattle Public Utilities (SPU), Water Quality and Supply Division** **Seattle, WA**

Project Description: Systems Integrated (SI) provided a turnkey water distribution SCADA system for control and monitoring of the potable water distribution system throughout the greater Seattle metropolitan region. SPU services 2.7 million customers utilizing water from the Cedar River Watershed and the Tolt River Watershed. The initial project was completed in 2007, and in 2016 SPU engaged SI to upgrade and provide all the SCADA equipment and to replace the obsolete hardware.

Role and Responsibilities: Mr. Pham was responsible for the upgrade of each of the server pairs at each plant and at the dispatch center (total of 14 servers) to new redundant server pairs using VMware and Red Hat Linux operating system. Mr. Pham was responsible for the configuration and administration of all the SCADA system servers.

Elsinore Valley Municipal Water District (EVMWD) **Water Distribution SCADA System** **Lake Elsinore, CA**

Project Description: This design-build project for a water SCADA system used several innovations including high-speed microwave communications, intelligent RTU's and parallel operation during installation and system cutover. EVMWD consists of 250 water booster stations, well sites and tanks; 35 lift stations; 3 wastewater treatment plants, and 2 water treatment plants.

Role and Responsibilities: Mr. Pham was responsible for the upgrade all the Windows-based server pairs to a new redundant server pairs using VMware and Red Hat Linux operating system.

Expertise:

- ✓ IS-CERT Cyber Security Certified by DHS
- ✓ Auto CAD drawings
- ✓ UL 504A Certification

Years of Experience:

6 yrs.

Education:

Bachelors of Science, Electrical Engineering

University of Massachusetts, Lowell, MA

2011

SHAWN BELMORE

Role on Project:

Electrical Engineer – Panel Design

Mr. Belmore is an electrical engineer with six years of experience in creating automated system designs and developing the drawing packages for these systems. Mr. Belmore has experience developing designs using off the shelf automation equipment (such as PLCs, VFD's, DC drives) and developing implementation drawings that support both the long term maintenance of the system as well as wiring diagrams that can be used by electricians to install the systems.

Relevant Experience

Phase 2: PLC Plant Upgrade US Army Corps of Engineers

Project Description: This is a \$2.3 million project to upgrade all the PLCs associated with six plants and two dispatch centers. There is a total of 56 PLCs distributed throughout the plants. SI was responsible for designing the replacement of the existing PLC based control system originally designed, installed and made operational by SI.

Role and Responsibilities: Mr. Belmore was responsible for ensuring that all the design drawings and associated documentation were complete so the PLC panels could be manufactured and would be correctly installed in the field. For this project there are over 400 drawings that were produced to support the installation.

SCADA Control System Upgrade Metropolitan Water District of Southern California Los Angeles, CA

Project Description: The Metropolitan Water District of Southern California (MWD) upgraded their control system hardware which included the replacement of over 300 special purpose RTU's used to control MWD infrastructure: the six water treatment plants; the aqueduct which pumps water from Parker Dam to the treatment plants located throughout the LA Basin; all

the pressure reducing stations system wide; hydro power plants, and turnouts. Recently, MWD continually adds Remote Terminal Units (RTUs), due to expansion.

Role and Responsibilities: Mr. Belmore is the primary electrical engineer assigned to the design of the automated control panels, producing all the manufacturing and wiring drawings associated with the development of the RTUs. During 2019, Mr. Belmore was responsible for the design, overseeing the manufacturing and testing of more than 24 RTUs to support MWD's upgrade process.

Stacker Upgrade Fry Steel Santa Fe Springs, CA

Systems Integrated was engaged to upgrade Fry Steel's two-aisle automated stacker system used to pull the material from their multiple three-story storage racks. The stacker's were last upgraded in the late 1980's by Systems Integrated and had been operating better than 99.9% of the time over the life of the system. However, due to parts obsolescence, the system needs to be upgraded.

SI designed the current upgrade within the existing enclosure, including: the DC drives; controller/stacker control logic processor; absolute encoder, wireless Ethernet communications and secure control consoles for the operation of the stackers.

SI performed the installation of the equipment and upgrade the existing software program to run on Windows 10 for the operator interface stations. In order to minimize any wiring problems, SI validated the existing wiring was operating properly and reused the existing wiring from the connectors on the bottom of the existing enclosure to the new equipment. SI prepared the drawing documentation and training of the upgraded system.

Role and Responsibilities: Mr. Belmore was the primary design engineer that developed the wiring diagrams for the implementation of the automated control systems that control the stackers. He provided support during the installation and commissioning process of the project.

SCADA Replacement System Bureau of Reclamation, Upper Colorado Region Page, AZ

Project Description: This is a \$4.5 million project to upgrade dispatch center which is used to control a total of 37 generators at eight power plants over a wide area of more than 3,000 square miles.

The project was developed using iFIX as the HMI and communicates with a total of 18 DNP 3.0 GE PLCs used to control the plants. The system consists of 1 RTU for each set of two generators and in sites with more than two generators, an extra RTU was installed to support the balance of plant requirements. The I/O count of the system is more than 50,000 tags. The project is in progress with FAT scheduled for Q3 this year.

There is a total of eight iFIX servers with two multi-terabyte redundant historical servers all interconnected over a secure WAN network having more than 50 routers and switches deployed system wide.

Role and Responsibilities: Mr. Belmore is responsible for preparing the engineering drawings for the installation of all the equipment that is to be used as part of the USBR automation project. His

primary roles are electrical engineering and developing the CAD drawings to support the hardware installation.

Rofin-Baasel

Devens, MA

Project Description: Rofin-Baasel is a manufacturing company that provides lasers for a variety of different applications. The company used an automated control system for the generation of the lasers.

Role and Responsibilities: Mr. Belmore was one of the design engineers that was responsible for designing electrical power distribution, control, and automated motion systems for industrial laser marking machines using CAD (AutoCAD Electrical). He oversaw the design, manufacturing, integration, and field support of systems, acting as the primary technical liaison between the sales department and the customer. He implemented standardization to the machine building process, streamlining BOM creation and improving the quality of design documentation and efficiency in the build cycle, reducing engineering and manufacturing process times.

D. EXPERIENCE & REFERENCES

PROJECT REFERENCE NO. 1

OLD LOWER POWERHOUSE REHABILITATION

Owner Name: City of Idaho Falls, Idaho
Prime Contractor: Hydro Consulting & Maintenance Services, Inc.
Contact Person: Rod Graybeal, Northwest Regional Manager
Contact Information: **Address:** 11836 N. Reed Rd.
Hayden, Idaho 83835
Phone: 208/660-5767
E-mail: rgraybeal@hydro911.com

Systems Integrated was a subcontractor to the Prime Contractor, Hydro Consulting & Maintenance Services, Inc., for the Old Lower Powerhouse Rehabilitation for the City of Idaho Falls, Idaho.

Systems Integrated designed, furnished, installed and commissioned the plant Supervisory Control and Data Acquisition (SCADA) system for the rehabilitation of the Old Lower Hydroelectric Powerplant, Idaho Falls Power. The system consists of a PC-based computer connected through a plant Ethernet network to programmable logic controller-based Unit and Plant control cabinets.

The SCADA system provides the control system for the powerhouse and allows operator interface for each unit control panel through the local operator interface terminals and from the local HMI workstation at the plant.



The SCADA system provides the following monitoring and control functionality:

- Unit start, auto synchronize, unit stop.
- Unit breaker open/close.
- kW raise/lower, voltage raise/lower, gate limit raise/lower and flow control.
- Alarm annunciation.
- Automatic plant control on/off.
- Monitored data points include:
 - Head pond water level.
 - Tailrace water level.
 - Trashrack differential water level.
 - Powerhouse air temperature.
 - Unit and plant MW, MVAR PF and line voltage.

HUMAN MACHINE INTERFACE (HMI) AND OPERATOR INTERFACE TERMINAL (OIT) SYSTEM

Systems Integrated designed and implemented the plant Human Machine Interface (HMI) system using the IFP defined Wonderware InTouch 2014 R2 software package. SI developed the HMI and Unit OIT screens that provide the plant operators with graphical, menu-driven screens for all the plant controls. The InTouch HMI software was provided with the graphics editor package; alarm management and historical data storage and provided 250 spare tags.

The Unit Control System Operator Interface System interfaces directly with the PLC.

PLC CONTROL SYSTEM

The PLC control system consists of two Unit control panels and one plant control panel. Each control panel was constructed in a free-standing Hoffman NEMA enclosure. The PLC system was based on Allen-Bradley CompactLogix programmable logic controllers. Each control panel was equipped with redundant 24 VDC power supplies and were connected to 120 VAC station service power and 125 VDC battery power.

The Unit Control panels were equipped with a 12" Operator Interface Terminal (OIT) that allow local operator control independent of the HMI system operator workstation.

TECHNICAL SERVICES

Systems Integrated provided engineering services to design, manufacture, installation, start-up and commissioning of the power plant control system including the following tasks:

- SCADA Control System Design
- Plant SCADA Network Design
- HMI and OIT System configuration and screen design
- PLC Application Programming
- CAD drawings for SI furnished control panels
- Coordination support with American Governor to ensure the plant start-up sequences work correctly.
- Site engineering and Start-up support
- Interfaces with the Idaho Falls existing electrical dispatch center using a protocol converter.

PROJECT REFERENCE NO. 2

US ARMY CORPS OF ENGINEERS MISSOURI RIVER POWER PLANT CONTROL UPGRADE

Company Name: US Army Corps of Engineers, Omaha District (COE)
Contact Person: Kenneth K. Stratton, Jr – Section Chief
Contact Information: **Address:** 106 So. 15th., Omaha, NE 68102-1618
 Phone: 402/995-2502
 E-mail: Ken.K.Stratton@usace.army.mil
Dates of Service: 2003 - March 2019*
(*Maintenance support of the SCADA system has been ongoing to current)



COE - Gavins Point

The US Army Corps of Engineers (the Corp) built six dams and two dispatch centers to control the flow of the Missouri river. Construction of the dams started in 1933 and was completed in 1964. When completed there were a total of 36 generators located at six power plants that produced a total of 1,832MW of power.

The dams are normally unmanned, and control of the sites is performed from two dispatch centers known as the REHAC and Backup REHAC. Both dispatch centers have the ability to control all the sites.

The Corp instituted a number of protocols for the operation of the plants including the ability to transfer control of a plant to either of the dispatch centers or from either dispatch center to the plant. These protocols were instituted to allow a local operator to control the plant when there was maintenance work being done while allowing the dispatcher the ability to assume control of the plant when it is unmanned.

As a result of revision 5 of the CIP, the Corp was required to either change the control protocol or have the plants and the associated control center rated as a CIP high (over 1,400 MW control is a condition for a high rating).

The Corp chose to redefine the control protocol such that ½ of the power plants are controlled by one dispatch center and the other dispatch center controls the other plants. With this change in the protocol, the Corp was able to have the Missouri River control system rated as a CIP medium.

Currently the Corp has six power plants along the Missouri river:

Power House	# of Generators	Capacity	Year On-line
Fort Peck	5	185 MW	1940
Garrison	5	583 MW	1955
Oahe	7	118 MW	1962
Big Bend	8	494 MW	1964
Fort Randall	8	320 MW	1953
Gavins Point	3	132 MW	1955

Systems Integrated received our first contract with the US Army Corp of Engineers to upgrade the hydroelectric power plants on the Missouri river and two dispatch centers in 1999. The project included replacement of all the PLCs, replacement of all the automated control equipment, and provide the dispatch control systems.

All the SI contracts with the Corp had the same scope of work: provide the design and engineering and support the startup and commissioning of the system, and the Corps provided the installation support. SI has been under continuous contract with the Corp from 1999 until the present.

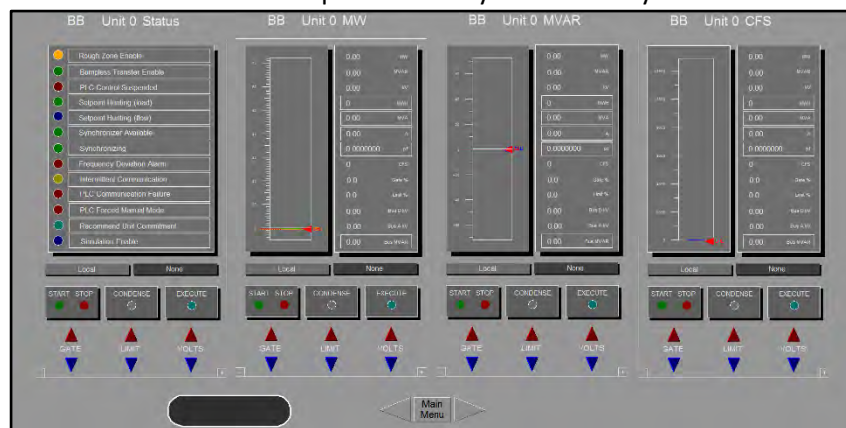
SI provided *ONSITE*® to the Corp using redundant *ONSITE* servers at each power plant and two additional redundant servers at each of the two dispatch centers. All the workstations, communications equipment, and PLCs for all the plants were provided by SI. For each plant there was a PLC provided for each unit and additional PLCs are used to support the balance of plant equipment and the switchyard.

For each plant, SI provided an *ONSITE* system that could operate in megawatt mode, spinning reserve mode (speed control), forebay or afterbay control mode, or run of the river mode. Additionally, the *ONSITE* system was set up to automatically start and stop units at each plant to fulfill the requirements of the specific mode of operation. For example, if the plant was in forebay control and the forebay became low, the output of the units for the site would automatically be adjusted downward, and if the change impacted the efficiency of one or more of the units, a unit would be taken off line and the other units adjusted to meet the control requirements with the most efficient use of water.

In the run of the river mode of operation, *ONSITE* continuously calculates the arrival of the water from one site to the next downstream site and starts adjusting the output of the units in the downstream site to ensure that the required forebay and afterbay levels were maintained. In addition, knowing the



ONSITE COE - General Overview



ONSITE Screen - COE

flow out of the upstream site, and the time for the water to arrive at the downstream site, *ONSITE* is able to determine the amount of water being injected between the two dam sites. Using this information, new “run of the river” calculations are performed, and adjustments are made at the six dam sites.

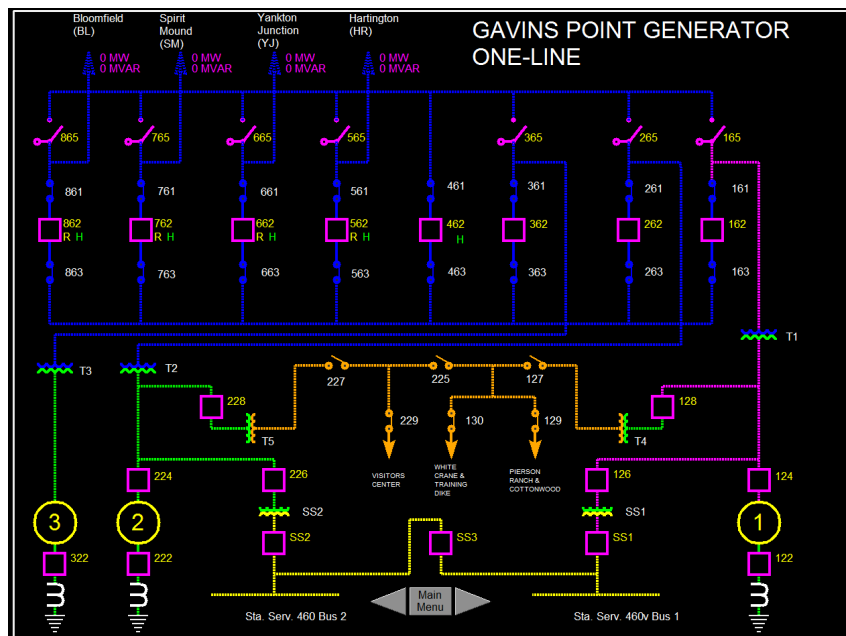
Control of the six sites are accomplished using *ONSITE* which passes control between the two dispatch centers and the individual plants. When the plants are unmanned, control is transferred to one of the two dispatch centers. When there is work being performed at one of the plants, an operator would be

dispatched to the plant and the plant control transferred from the dispatch center to the local *ONSITE* at the plant. *ONSITE* supports the concept of control group that allows this transfer of control to occur.

During the various versions of CIP, SI was contracted to upgrade the *ONSITE* system to ensure that it remained fully compliant (the Corp required that SI address only the CIP as it applied to *ONSITE*).

During 2015, SI completed the first phase of the current upgrade project - upgrade all the *ONSITE* servers. This scope of work included: the design,

implementation, support of the installation and startup of the redundant servers at the six dam sites and the two dispatch control centers. Phase II of the project was the upgrade of the 56 PLCs in the six power plants and upgrade the communication system, which began in Q4 2018.



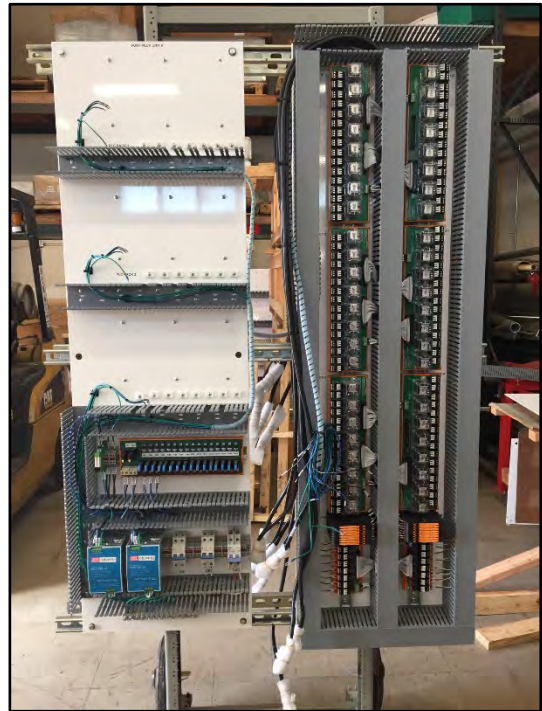
ONSITE – COE – One Line

One of the requirements of the PLC upgrade, was to perform the work without requiring any new wiring. To meet the upgrade requirement, SI took the old drawings and develop specialized Field Termination Interfaces (FTI) that would allow the existing wiring to be laid down directly without the need of rewiring from the existing marshalling cabinet to the new PLC enclosure. Further, in order to eliminate the requirement of removing the old PLC enclosure, new back panels were designed to allow the existing wiring to be removed from the existing PLC enclosure, laid onto the floor, then the old PLC back panel was removed and the new back panel was installed. As a complication, the new AB ControlLogix PLC did not have either the same form factor or the same I/O configuration. To resolve this issue, Systems Integrated's final implementation plan provided a solution which allowed the Corp to perform a wire by wire removal and re-install in the existing PLC enclosure. This was accomplished by replacing the existing backplane and terminating all the existing field wiring onto new FTI that accommodated the digital input and relay output requirements that were pre-existing. In particular, the existing wiring from the field was brought in using cables; each group of inputs in the cable had one return wire for the inputs and for the outputs one source. Systems Integrated's FTI allowed the commons for each input to be automatically assigned to each input from the field.

The main challenge with this project was the upgrade from the PLC-5 to ControlLogix PLCs. While AB represents that they have tools that will translate from the PLC-5 to ControlLogix, their compatibility was less than 60%. This appears to be an inherent design mistake as both the PLC-5 and the ControlLogix are stated to be IEC 61131 compliant. As part of the project, SI was to convert the existing PLC-5 ladder logic

(which SI has originally written) and convert it to the new ControlLogix ladder logic. During the testing and commissioning phase of the project SI had an engineer on-site for the start-up of the first unit and provided remote commissioning support for the remainder of the units.

SI was the designer, implementer, start up and documentation provider. This contract continues with the expected completion by the end of 2020.



**COE with SI Digital Output Field Termination Panel
& Power Distribution Panel**

LOS ANGELES DEPARTMENT OF WATER & POWER (LADWP)
CASTAIC POWER PLANT MODERNIZATION

E-mail: Christopher.Stutts@LADWP.com

The Castaic project had the requirements to, provide a control system that will allow full remote / automated control of all of the power plants / units from a centralized location; provide a solution that is completely NERC CIP compliant, and can be monitored and controlled from a central dispatch center (LADWP calls their dispatch center the Energy Control Center – ECC).

For the Castaic project, SI installed *ONSITE*® to support the centralized monitoring and control functionality, and for each unit installed, redundant *SITEVIEW*® nodes to perform the unit control functionality. The Castaic project also required SI to fully control the operation of all the units, auxiliaries, breakers, synchronizers, exciters and governors. SI's project scope included providing six exciters, six governors, six Partial Discharge Analyzers (PDA), 28 SEL-735 revenue meters, twenty eight 230KV breaker relays, twenty 4160 breaker relays used to provide redundant power sources to each unit as well as redundant source for the auxiliaries for each unit, and twenty 4160 station service breaker relays used to support the plant substation.

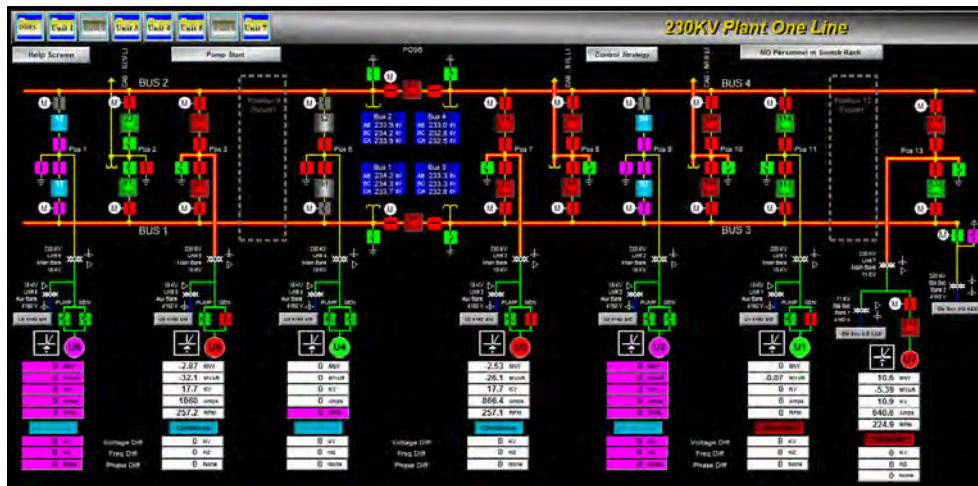


Figure 1 - 230KV Plant One Line Screen

All the relays, synchronizers, exciters, and governors communicated via Ethernet using either IEC61850, DNP 3.0 over TCP/IP, DNP 3.0, Modbus or AB ControlNet. The entire system was designed with multiple redundant communication subsystems consisting of both wireless and fiber optic network components, redundant switches, routers and servers. Communications to LADWP's ECC was via DNP 3.0. Each unit has approximately 1,200 physical I/O points and an additional 3,000 points provided by the various devices. Figure 1 is an *ONSITE* screen of the one line of the Castaic power plant. One of the unique elements of the Castaic project is the communications infrastructure. By using IEC61850, SI was able to implement complex switching functionality within the relays.

The screen below (Figure 2) shows the 4160 relays used to support the auxiliary equipment and the exciter for each unit. Using the IEC61850 communications infrastructure, SI was able to provide the ability to

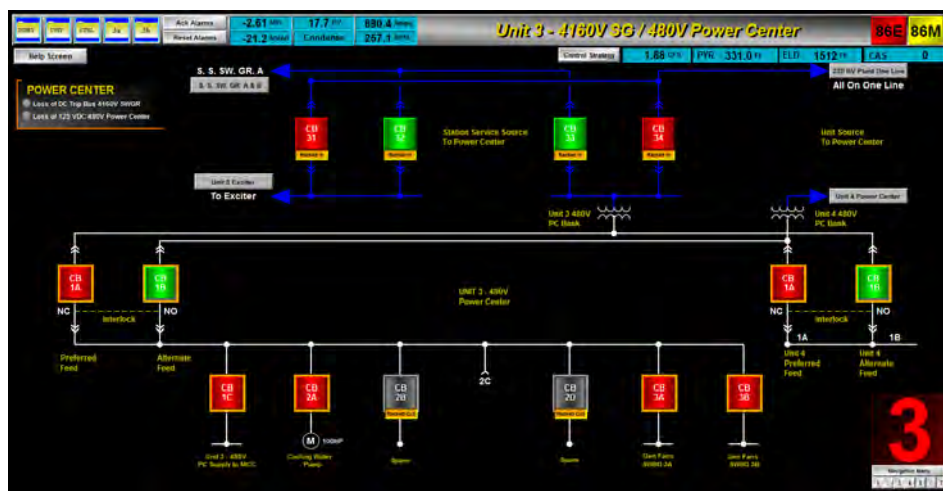


Figure 2 - 480V Power Center

perform safe “make before break” functionality at all levels in the plant. For example, there are two 4160 breakers used to power the exciter (upper left corner of the screen). The breakers communicate with each other and allow the operator to execute “make before break” operations

even though one source is from the station and the other source is from the unit itself. The breakers interact with each other to determine if a “make before break” is safe, and if it is, then the close command is issued to the first breaker and within 100 ms of the first breaker closing, the second breaker is opened. In addition to the ability to perform complex controls using the relays, *ONSITE*® is also able to accept the large volume of data available from the relay. For the Castaic project, each 230KV breaker provides 166 data points (a total of 3,652 data point from the twenty-two 230KV breakers) and each 4160 breaker provides 45 points (a total of 2,070 data points from the forty-six 4160 breakers). All the breaker data as well as all the other data is captured, kept in the historian and made available for trends or reports. For Castaic, the database has been sized to allow 20 years of data to be available online.

DNP 3.0 is used as the primary interface between Castaic and the ECC. SI provided two *SITEVIEW*® nodes operating as a redundant protocol converter to allow both the primary AGC control system (total of six servers all talking DNP 3.0 TCP/IP) and a backup AGC (BAGC) to communicate to Castaic to provide 4 second power demand updates. The *SITEVIEW*® nodes located at the Castaic plant act as DNP 3.0 RTUs and respond to 4 second poll requests from the AGC system and the BAGC system. As implemented, the AGC has the ability to remotely control all of the 230KV breakers in the substation, operate the six main units and unit 7, monitor all of the various elements associated with the plant (water flow, unit efficiency, etc.) and collect metering data from the SEL-735’s interfaced through the *ONSITE*® *SITEVIEW*® nodes.

DNP 3.0 and IEC61850 are used for the SEL-735 communications. For this project, SI deployed two SEL meters for each of the 6 main units; three meters for unit 7, and 4 additional meters to monitor the substation. The SEL meters are used for two functions: first the analog outputs from the meters are fed into the PLC and governor to provide real time (1 cycle update rate) information and the second as a revenue meter. For the governor this is the primary control input used for MW control. SI found, during its deployment, that the SEL-735 was more accurate and more stable for measuring MW and MVAR values from the generator. Originally LADWP used Watt / VAR transducers as the primary MW input for the governor. Subsequently, LADWP deployed ION meters and used the outputs from those meters to control the governor. While the ION meters were more stable than the watt / hour transducers, there were problems with ION meters providing linearity at both ends of the range. It was found that the SEL-735 meters analog output was more stable than the ION meter and fully linear over the entire MW and MVAR range. DNP 3.0 is used to allow *SITEVIEW*® communications to the SEL-735 relays, while IEC61850 is used to support inter-meter communications. Inter-meter communications are used to allow the gross and net power to be calculated for each generator. Two SEL meters are installed on each generator: one on the primary transformer to the generator, and the other on the aux transformer used to power the auxiliaries. The SEL meters automatically (using goose messages) calculates the gross and net power for each unit which is then passed to the *SITEVIEW*® node where it is transferred to the ECC.

Other features associated with the Castaic project include the ability to have multiple communications failures without adversely impacting the operation of the plant. The Castaic power plant has a total of 30 redundant *SITEVIEW*® nodes distributed to allow each unit to operate independent of any other unit as well as providing the ability of all 7 units to continue operation if there is a master station failure (in the 6 years of operation, Castaic has not had any hardware failures on either the servers or the *SITEVIEW*® nodes).

In addition to the automation requirements, SI was also responsible for the full implementation of both CIP version 3 and subsequently upgraded to version 5. To meet the CIP requirements, Systems Integrated:

- Developed the inventory of all the control system cyber assets.
- Determined which assets complied with the CIP and which assets required a Technical Feasibility Exception (TFE).
- Prepared the Technical Feasibility Exception (TFE) request for submittal by LADWP.
- Developed the mitigation program to allow the non-conformance equipment to be used in the system.
- Develop the plan to allow the plant to be CIP section 6 (Physical Security Perimeter) compliant without locking down the entire power plant. To appreciate the magnitude of the PSP problem, the Castaic power plant has over 300 Ethernet based IEDs and PLCs spread throughout the plant and remotely located at multiple remote sites. The CIP requires that all routable protocol devices be contained within a six-wall secured environment. SI implemented a solution whereby the PSP was continuously connected, via a secure network of conduits and enclosures, with no opening in any enclosure more than a 4 inch square. The design consisted of enclosures that were cyber secure for each routable Ethernet device and all the Ethernet devices were interconnected using armored fiber optic cable.
- Developed a series of ESPs (one for each remote location and for the main plant) and interconnected the ESPs with assumed non-secure communications infrastructure that had firewalls and routers which created a Virtual Private Network (VPN) interconnecting the sites.
- Developed the monitoring devices to continuously monitor all the routers / firewalls and performed intrusion detection locally as well as centrally.

SI control system supports a direct interface to the PI database manager. (The PI database is a specially designed database that is used to store historical data and retrieval). This PI interface was first developed for Metropolitan Water District of Southern California (MWD), then deployed at Castaic to support LADWP requirements. The implementation of PI within *ONSITE*® provides a fully integrated solution thus eliminating the need to configure the PI system separately. *ONSITE*® automatically creates a PI tag each time an *ONSITE*® tag is created and the data is automatically pushed from *ONSITE*® to PI. This integrated *ONSITE*® / PI interface allows all the historical data to be provide to the PI database without the additional overhead use by PI to interrogate the PLCs directly.

To date the project has been a success, there has never been an outage or loss of usage of any unit at Castaic related to the automated control of the plant or equipment in the plant.

PROJECT REFERENCE NO. 4

Department of Interior, Bureau of Reclamation, Upper Colorado Region

Organization Name: Bureau of Reclamation (BOR), Upper Colorado Region

Contact Person: Darby McNutt

Contact Information: **Address:** 805 Bureau Street
Page, AZ 86040-1477
 Phone: (928) 645-0438
 E-mail: dmucnutt@usbr.gov

Systems Integrated was selected by the Bureau of Reclamation, Upper Colorado Region to perform the SCADA Upgrade of its existing Colorado River Storage Project (CRSP).

The objective of the CRSP project is to create a centralized SCADA system to control the water flow from 8 dam facilities feeding the Colorado River. Glen Canyon Dam is the discharge facility feeding the Colorado River flowing south from Lake Powell to Hoover Dam. The primary purpose of the project is to provide water to all the stakeholders based upon laws and treaties between the US Government and the various stakeholders. While all the sites associated with the project also provide hydroelectric power, all the control system requirements are associated with managing the flow of water to all the stakeholders.



Glen Canyon Dam at night

This project controls the flow of water using power plants. Because the CRSP system has a water supply requirement as its primary requirement and power generation (this is used to cover the cost of moving the water) as a secondary requirement, the CRSP system is complex as it is required to manage the flow of the water down the Colorado River by controlling the flow from the seven feeder dams that feed Lake Powell (Glen Canyon Dam).

Glen Canyon Dam is the key water storage unit of the CRSP, one of the most complex and extensive river resource developments in the world. Without it, development of the Upper Colorado River Basin states' portion of the Colorado River would not have been possible.

Glen Canyon Dam is the second highest concrete-arch dam in the United States, second only to Hoover Dam which stands at 726 feet. The 26.2 million acre-feet of water storage capacity in Lake Powell, created by Glen Canyon Dam, serves as a 'bank account' of water that is drawn on in times of drought. This stored water has made it possible to successfully weather extended dry periods by sustaining the needs of cities, industries, and agriculture throughout the West. Hydroelectric power produced by the dam's eight generators helps meet the electrical needs of the West's rapidly growing population. Glen Canyon Dam



has a total capacity of 1,320 megawatts, while the other 7 dam sites account for an additional 850 megawatts.

CRSP SCADA UPGRADE PROJECT OVERVIEW

Systems Integrated was awarded a contract with the Department of Interior, Bureau of Reclamation, Upper Colorado Region's Colorado River Storage Project (CRSP) to (1) evaluate the changes required to provide a control system for each of the eight power plants that could be both controlled from and maintained from a centralized facility (the actual requirement was to provide a system which had a primary centralized control facility as well as secondary control facility); (2) provide the ability allow all of the stakeholders access to historical data without impacting cyber security of a power control system; (3) allow all of the control activity to be accomplished from a centralized location concurrently allowing the ability to transfer control to a specific site while maintenance is occurring, (4) to ensure full cyber compliance for the SCADA system and its associated communications network. Once this effort was completed, Systems Integrated

provided a recommendation to the USBR regarding the SCADA Upgrade approach that would meet all the various USBR design requirements. This design effort was completed late last year, and SI is now implementing the proposed solution. The solution meets all the objectives identified. The USBR has specific goals and objectives of the replacement system: in particular, the USBR required that the chosen solution provided a SCADA system "that would introduce standardization with the Lower Colorado Dams Control Systems and Services (LDCSS), and the Central Valley Automated Control System (CVACS), SCADA systems."

Once the evaluation was completed, the CRSP SCADA Upgrade implementation was divided into several phases:

Phase 1: Full prototype of the entire system at SI's facilities in San Diego, CA to confirm that all the requirements have been achieved.

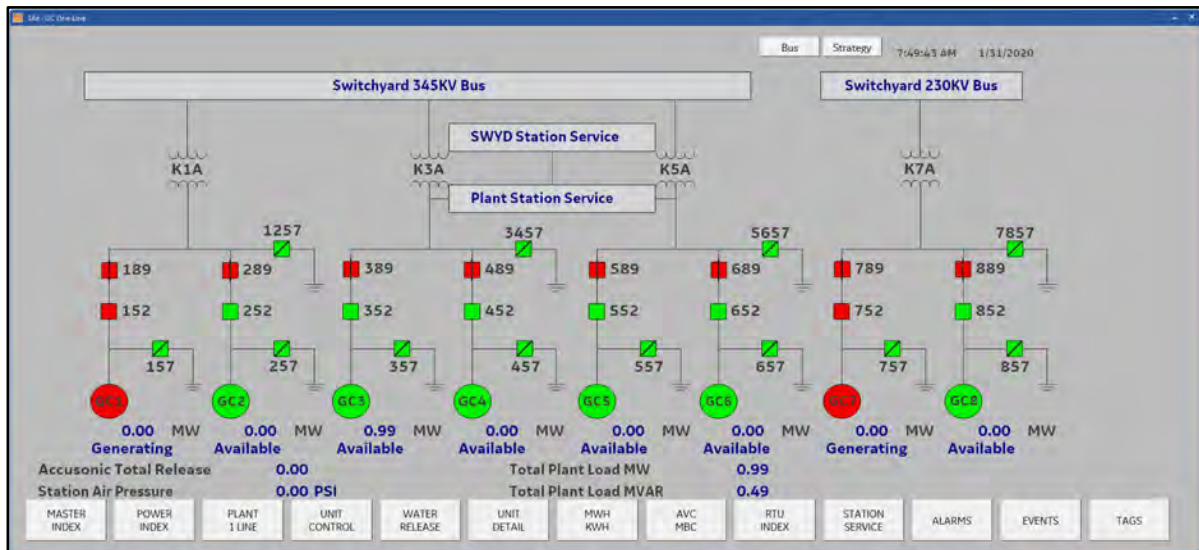
Phase 2: Deployment, Training, and Maintenance of the upgraded system to all 8 hydroelectric power plants.

Phase 3-5: Following the completion of Phases 1 & 2, USBR has the ability to execute three optional support / maintenance phases of the project.

Highlights of the CRSP SCADA Upgrade include:

- A primary control center located at Glen Canyon Dam located in Page, AZ
- A secondary control center located at Montrose, CO.
- A view only node at Salt Lake City, UT.
- A total of 7 remote power plants and the Glen Canyon power plant communicate to the Glen Canyon and Montrose facilities.
- A reliable communications infrastructure that provides for both reliable and secure communications with all the plants (including a satellite-based backup communications infrastructure with an overall, system wide recovery from any communications failure within 50 milliseconds).
- The USBR selected iFIX as its HMI support the visualization requirements of the project. There are more than 450 screens in the project. At present most of the screens for the first site are

completed, fully integrated into iFIX are awaiting deployment. The remainder of the screens are completed but require integration into the database and should be ready for deployment before the end of the year.



BOR iFIX Glen Canyon Generator Overview Screen



BOR iFIX System Wide Overview of all Plants

Figure 1-1 is an interconnect diagram that shows the connections between Glen Canyon Dam in Page, AZ; the alternate control center in Montrose, CO; Salt Lake City, UT, and the seven remote dam locations.

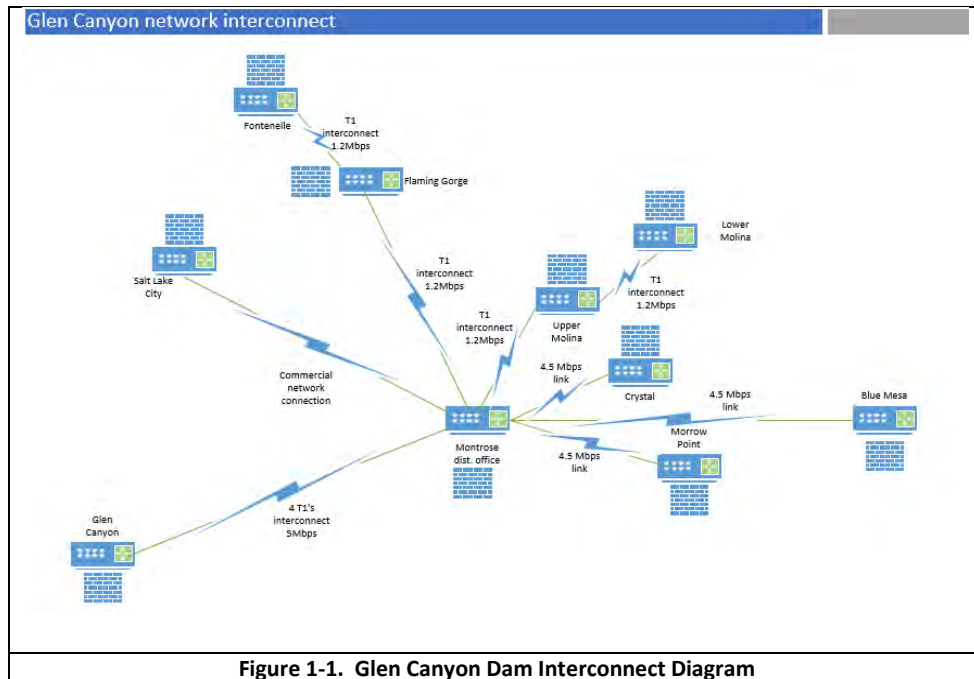


Figure 1-1. Glen Canyon Dam Interconnect Diagram

Systems Integrated (SI) indicated in our design that the slow speed communications interfaces would not be acceptable and recommended that it would require a minimum of one T1 bandwidth between each of the remote sites and Glen Canyon for the system to work correctly. Based upon this recommendation the communications networks, associated with all but 4 of the sites, were upgraded to fiber based 100 Mbps communications networks.

During the engineering analysis process of the project, SI identified several problems or difficulties that needed to be resolved. **Table 1-1** notes the problems that SI encountered and our recommended solutions.

Problem or Difficulty	Solution
▪ Incomplete as-built documentation.	▪ A detailed job survey by SI engineers to document existing field conditions including civil, electrical, mechanical, and environmental conditions.
▪ Undocumented hardware, software and network elements in the existing system.	▪ A detailed inventory by SI IT, network and application engineers to document these components for purposes of replacement or upgrading.
▪ Unexpected environmental conditions preventing the implementation of communication technology.	▪ A thorough site survey to determine site limitations for the application of radio frequencies under consideration of use for the project.

Table 1-1 CRSP Upgrade Problems Encountered and Solutions Provided

E. COST PROPOSAL

Systems Integrated (SI) is pleased to provide the City with the following cost proposal. SI's cost proposal includes a detailed bill of material, various labor costs with a total not to exceed cost of **\$245,461.00**.

There are two cost tables: The first table is the labor component and the total summary of all cost. The second table provides a detailed bill of material and associated costs.

As SI has included a complete design (we believe that it is at 80%) there is a fixed cost for this design. SI will be ready at the kickoff meeting to review the drawings and begin ordering parts and implementing the solution. Overall, we have provided a 4 to 6 month schedule but we believe that this can be reduced if we can move forward quickly with the approval of the drawing package.

Systems Integrated's current itemized hourly rate fee schedule is also included in this section of our proposal.

LABOR AND TOTAL COST BREAKDOWN

Hrs.	Labor	Cost /Per	Total Cost
Engineering Labor			
40	Project Manager	\$225.00	\$9,000
24	Sr. Software Engineer	\$220.00	\$5,280
24	Electrical Engineer	\$180.00	\$4,320
160	Software Engineer	\$175.00	\$28,000
160	Field Engineer	\$145.00	\$23,200
40	Designer / Draftsperson	\$110.00	\$4,400
	Fixed Price Electrical Engineering 80% package		\$18,500
	Subtotal Engineering and Software Development Labor		\$92,700

Travel and Per Diem			
20	Hotel	\$175.00	\$3,500
20	Meals	\$85.00	\$1,700
20	Rental Car	\$65.00	\$1,300
	Subtotal Estimated Travel		\$6,500

Manufacturing Labor			
120	Shop Labor	\$88.00	\$10,560
8	Health, Safety, Security, Environment, Quality Control	\$115.00	\$920
	Subtotal Manufacturing Cost		\$11,480
	Subtotal SI LP labor		\$110,680

Total Electrical Installation Labor			
200	Electrical Installation Labor (prevailing wage), Subcontract	\$135.00	\$27,000
	Total Project Labor		\$137,680

	Total Material & ODC Cost		\$107,781
	GRAND TOTAL Estimated Project Cost		\$245,461

MATERIAL AND OTHER DIRECT COSTS

Hardware / Software					
Part #	Manuf.	Description	Qty	Price	Extended Price
PLC					
1769-L36ER	Allen-Bradley	CPU	3	\$4,867.00	\$14,601.00
1769-PB4	Allen-Bradley	PLC Power Supply	6	\$358.00	\$2,148.00
1769-IQ32	Allen-Bradley	32-Digital Input Module Sinking	9	\$330.00	\$2,970.00
1769-OB32	Allen-Bradley	32-Digital Output Module	3	\$409.00	\$1,227.00
1769-IF8	Allen-Bradley	8-Analog Input Module	7	\$609.00	\$4,263.00
1769-IR6	Allen-Bradley	6-RTD Input Module	4	\$1,025.00	\$4,100.00
1769-ARM	Allen-Bradley	Address Reserve Module	6	\$112.00	\$672.00
1769-ECR	Allen-Bradley	End Cap	3	\$27.00	\$81.00
280-01-018-00	Systems Integrated	8 Channel Digital Output	10	\$780.00	\$7,800.00
280-01-018-00	Systems Integrated	32 Channel Digital Input	9	\$252.00	\$2,268.00
319-01-004-03	Systems Integrated	8 Channel Analog Input Wiring Module	7	\$270.00	\$1,890.00
280-01-012-04	Systems Integrated	32 Channel Digital Input PLC Interface	9	\$114.00	\$1,026.00
280-01-013-01	Systems Integrated	32 Point Digital Output PLC Interface	3	\$114.00	\$342.00
319-01-008-00	Systems Integrated	8 Channel Analog Input PLC Interface	7	\$114.00	\$798.00
		ribbon interconnect cable	1 lot		\$500.00
POWER DISTRIBUTION					
NDR-240-24	MeanWell	240W 24VDC Power Supply	6	\$62.00	\$372.00
319-01-006-03	Systems Integrated	Power Distribution Board	3	\$420.00	\$1,260.00
GMB631PC20L	Carlo Gavazzi	1P 20A 277V Circuit Breaker	6	\$11.00	\$66.00
Various Breakers	E-T-A	Various	60	\$11.00	\$660.00
GMB632PB3	Carlo Gavazzi	2P 3A 125VDC Circuit Breaker	3	\$64.00	\$192.00
1122880000	Weidmuller	24V 6A SPDT Slim Relay	6	\$21.00	\$126.00
ENCLOSURE					
CUSTOM	SI	Panel	3	\$300.00	\$900.00
PGS4K	Hoffman	Grounding Bar	3	\$191.00	\$573.00
Terminal Blocks	Weidmuller	Various Terminal Blocks	300	\$1.00	\$300.00
Various Type G	Panduit	Various Sized Type G Wire Duct	100	\$2.00	\$200.00
Din Rail	Phoenix	DIN Rail (cost per foot	100	\$2.00	\$200.00

Hardware / Software (cont.)					
Part #	Manuf.	Description	Qty	Price	Extended Price
NETWORK WORKSTATIONS & SERVERS					
R340 Server	Dell	Dell PowerEdge R340 Server: 1x Xeon 2274G 4.0GHz, 4C/8T, 48GB DDR4 2666MHz, H330 Controller, RAID 1, 2x 4TB Drives, VMware ESXi 6.7 U3, iDRAC9 Basic, iSDSM , 2x 16GB, MicroSD, Redundant 350W PSU, ReadyRails with Cable Management Arm, Basic Next Business Day Support, 1 Year	2	\$3,052.80	\$6,105.60
3431 Workstation	Dell	Dell Precision 3431 Workstation: Xeon E-2224 3.4GHz, 4C, 8GB DDR4 2666MHz, 256GB Drive, Windows 10 Professional for Workstation, AMD Radeo Pro WX2100, 2GB, DP, 2mDP	2	\$1,128.00	\$2,256.00
E2320HS	Dell	Dell E2420HS 24" Monitor	4	\$204.00	\$816.00
5401 Laptop	Dell	Dell Latitude 14" 5401 Laptop: Core i5-9400H 2.5GHz, 4C, 8GB DDR4 RAM, 500GB Storage, 14" 1080p Non-Touch, 1 Year Hardware Warranty with Onsite	1	\$1,642.80	\$1,642.80
TM1000	Time Machines	TM1000 GPS network clock	1	\$358.80	\$358.80
1544	Adtran	1544 Layer 3,26 port Gigabit switch	1	\$600.00	\$600.00
3430	Adtran	Adtran 3430 Router / firewall with T1 and 2 Ethernet interfaces	1	\$240.00	\$240.00
A-DNP3R	Aparian	DNP3 router	1	\$1,020.00	\$1,020.00
TZ600	SonicWALL	TZ600 remote access secure interface	1	\$1,440.00	\$1,440.00
42U rack	Startech	42U Server Rack	1	\$433.20	\$433.20
HIS-UM23-CATD	Hope	Hope Industrial 23" Universal Mount Monitor	1	\$1,296.00	\$1,296.00
ENCL-TC02-BLK-L2	Hope	Hope Industrial Enclosure	1	\$798.00	\$798.00
YB23-BLK-N4	Hope	Hope Industrial Pedestal Mount	1	\$402.00	\$402.00
KB-TRAY-BLK-06R	Hope	Hope Industrial Keyboard Tray w/ Mouse Extension	1	\$126.00	\$126.00
POC-500	Neosys	Neosys POC-500 Industrial PC	1	\$1,320.00	\$1,320.00
		HMI & PLC SOFTWARE	1	\$15,000.00	\$15,000.00
		Cables And Mounting Hardware	1 lot	\$10,000.00	\$10,000.00
			Subtotal Hardware & Software		\$93,389.40
			Tax		\$7,004.21
			Shipping		\$7,387.10
		Total Hardware & Software			\$107,780.71

SYSTEMS INTEGRATED'S FEE SCHEDULE

The following is Systems Integrated's current itemized hourly rate fee schedule.

**PROFESSIONAL AND SUPPORT SERVICES
2020**

I. PROFESSIONAL SERVICES

Classification	Hourly Rate
Sr. Project Manager	250.00
Project Manager	225.00
Sr. Software Engineer	220.00
Electrical Engineer	180.00
Software Engineer	175.00
Sr. Systems Engineer	190.00
Systems Engineer	150.00
Applications Engineer	135.00
Field Engineer	145.00
Field Electrician	135.00
Field Technician	125.00
Designer/Draftsperson	110.00
Administrative Support	105.00
Project Cost Controller	120.00
Scheduler	95.00
Health, Safety, Security, Environment, Quality Mgr.	235.00
Health, Safety, Security, Environment, Quality	115.00
Shop Labor	88.00
System Engineer 2	170.00
Solution Expert	220.00

II. FIELD SERVICES

Field Services supplied to customers not covered by an established Contract Service Agreement or services as requested by a customer for a specific day, time or reason, outside the scheduled service provided under a Contract Service Agreement.

Description	Demand Service
Service and Travel Time	Portal to Portal (See Note).
a. Std. work hours 8:00 a.m. to 5:00 p.m.	Standard Rate per I and III
b. Saturday and hours other than 8:00 a.m. to 5:00 p.m.	1.5 times Standard Rate
c. Sundays and Legal Holidays	Double Standard Rate

Note: The base location for travel time will be Systems Integrated's nearest service office. Minimum service charge will equal 4 hours at appropriate service rate.

III. SHOP FABRICATION SERVICES

Shop fabrication services are available at a shop rate of \$80.00 per hour. Materials will be invoiced at cost plus 25%. Normal shop expenses are included within the above rates; however, additional expenses such as freight, travel, etc., will be billed at cost. Shop/field calibration, acceptance testing, start-up, etc., are considered field services and will be charged at the appropriate field service rates.

IV. SYSTEMS INTEGRATED'S PERSONNEL RATES

Normal labor charges will be at the hourly rates shown in the above tables for each labor classification. Time in excess of 8 hours per day or 40 hours per week is termed overtime. When client authorized, overtime rates are 1.5 times normal rates. Rates are in USD. Rates are not valid for prevailing wage work. Quoted rates are subject to reasonable adjustment after December 31, 2020.

V. SUBCONTRACTED WORK

When it is necessary to supplement our staff with consultants or outside subcontractors, these services are billed at our cost plus 15%.

VI. EXPENSES – Mendocino County, CA

These reimbursable costs include, but are not limited to:

- Travel (air fare, auto rental, public transportation and subsistence)
 - o Rental Car - \$65/day
 - o Hotel Room - \$200/day
 - o Meals - \$76/day
- Use of company vehicles (\$90/day) and employee cars (\$0.65/mile)
- Equipment rental or purchase - TBD
- Long distance and cellular telephone, fax, postage, courier and reproduction work - TBD
- Applicable sales taxes and freight charges - TBD

Additional expenses are charged at cost plus 15%.

VII. MATERIALS

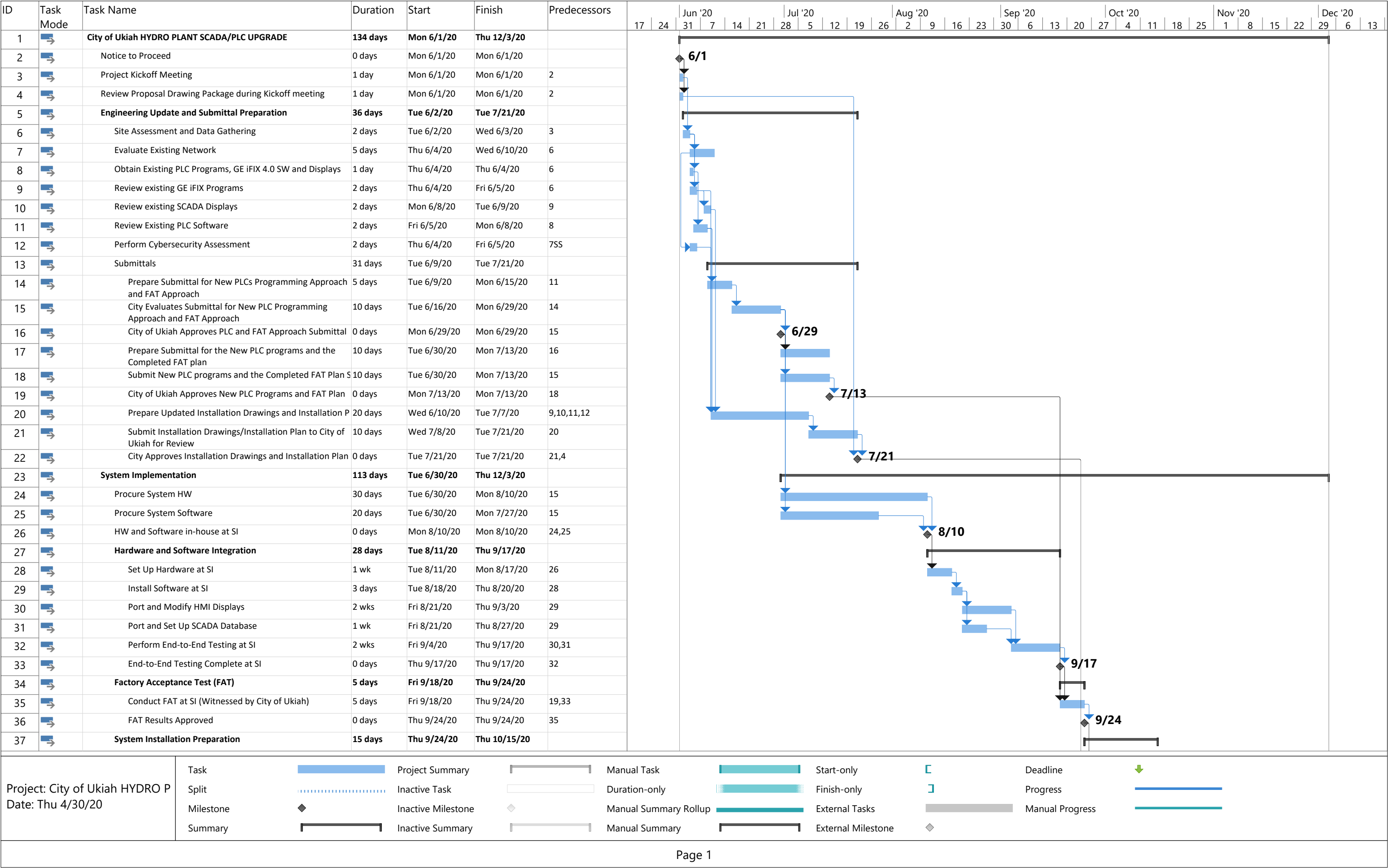
Material is charged at list price plus 15%. Applicable sales, excise taxes, fees and freight charges are added as applicable.

VIII. DOCUMENTATION

All agreed upon documentation including manuals, drawings and reproductions, will be furnished to the client during or at the close of the job. We reserve the right to retain either originals or reproductions of all of our work for our files.

F. PROPOSED PROJECT SCHEDULE

The attached is Systems Integrated's proposed schedule for the project.



ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	17		24		31		7		14		21		28		5		12		19		26		2		9		16		23		30		6		13		20		27		4		11		18		25		1		8		15		22		29		6		13																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

Project: City of Ukiah HYDRO P
Date: Thu 4/30/20

Task

Split

Milestone

Summary

Project Summary

Inactive Task

Inactive Milestone

Inactive Summary

Manual Task

Duration-only

Manual Summary Rollup

Manual Summary

Start-only

Finish-only

External Tasks

External Milestone

Deadline

Progress

Manual Progress

G. EXCEPTIONS

Systems Integrated takes no exceptions with respect to the City of Ukiah's scope of services; insurance requirements or the draft agreement for the Hydro Plant SCADA/PLC Upgrade.

H. ATTACHMENTS

1. RFP ADDENDUMS 1-3

2. SI DESIGN DRAWINGS

- POWER PLANT SCADA PLC
- POWER PLANT UNIT 1 CONTROL
- POWER PLANT UNIT 2 CONTROL
- POWER PLANT PLC DIAGRAM

3. NETWORK & COMPUTER EQUIPMENT

- SCADA / PLC UPGRADE NETWORK DESIGN
- POWER PLANT SERVER & COMMUNICATIONS RACK

4. SCADA SYSTEM HARDWARE DATASHEETS

- SCADA SYSTEM PLC DATASHEETS
- SCADA SYSTEM POWER DATASHEETS
- SCADA SYSTEM ENCLOSURE DATASHEETS

5. SCADA SYSTEM SOFTWARE

- *onSITE*
- *iFIX*
- WONDERWARE

6. COMPANY INFORMATION – SYSTEMS INTEGRATED

1. RFP Addendums 1-3

ACKNOWLEDGMENT

I hereby acknowledge that I have received this Addendum No. 1 and have reviewed and considered it before submitting my proposal.

Signed: *Susan Cortez Diaz* Date: 4-16-2020

Company Name: Systems Integrated

Q3: Quals was issued as professional agreement and now addenda changes that to a construction contract which is a complete reversal. What is the driver for this change?

A3: This was changed due to being late to realize that both professional services and construction activities would be involved, and trying to cover the additional requirements for the construction part.

Q4: Is the Prime on the project required to carry a C-10 license or can this be a Professional engineering Assessment and Design firm that plans to carry C-10 licensed contractors to perform the physical installation?

A4: Please see response to Q1.

Q5: Is engineering and programming work being considered contractor work by the Owner?

A5: This work is included in the scope being requested of the one contract.

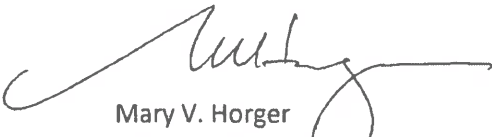
Q6: This contract in the Addenda is not for professional services which engineering and programming would fall under. There was no mention of Contractor requirements in the RFQ or RFP? We need to understand the reasoning for this and add our Construction partner if necessary.

A6: The RFQ that you are referring to was for our Water Treatment Plant, and is for a totally separate project. Please see response to Q3.

III. The following are additional clarifications and revisions:

1. For further clarity, the draft agreement has been revised (please see Attachment 1) and replaces all prior sample agreements previously provided.

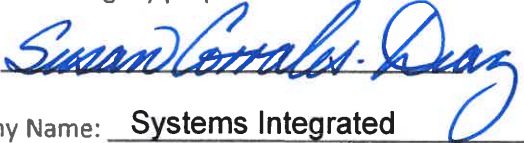
All other terms and conditions remain in full force and effect.



Mary V. Horger
Financial Services Manager

ACKNOWLEDGMENT

I hereby acknowledge that I have received this Addendum No. 2 and have reviewed and considered it before submitting my proposal.

Signed:  Date: 4-16-2020
Company Name: Systems Integrated

PURCHASING DEPARTMENT
411 West Clay Street, Ukiah CA 95482
(707) 463-6233
mhorgers@cityofukiah.com



REQUEST FOR PROPOSAL – HYDRO PLANT SCADA/PLC UPGRADE

Addendum No. 3

April 6, 2020

The following is Addendum No. 3 to Request for Proposal – Hydro Plant SCADA/PLC Upgrade

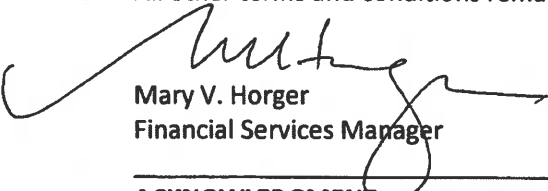
This Addendum is hereby made part of the Contract Documents to the same extent as though it were originally included therein.

- I. In consideration of the current COVID-19 event, the proposal schedule has been extended and changed as follows:

Deadline for Responses:	5:00 p.m., Tuesday, May 5, 2020
City Evaluation of Proposals:	By May 14, 2020
Phone Interviews (if necessary):	By May 25, 2020
City approval requested:	May 28, 2020 (or sooner)
For contract award (tentative):	June 3, 2020 (or sooner)

- II. Also, in consideration of the current COVID-19 event, providing a hard copy proposal along with an electronic copy is no longer mandatory. Additionally, the requirement of a USB flash drive to provide the proposal is no longer mandatory. Emailing the proposal will be acceptable, along with providing a link to the documents for download, as long as the email is received by the established deadline. It is highly recommended to request a delivery receipt with the email to confirm that it has been received.

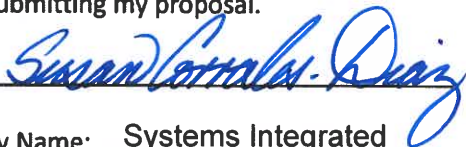
All other terms and conditions remain in full force and effect.


Mary V. Horger
Financial Services Manager

ACKNOWLEDGMENT

I hereby acknowledge that I have received this Addendum No. 3 and have reviewed and considered it before submitting my proposal.

Signed:



Date: 4-16-2020

Company Name: Systems Integrated

2. SI DESIGN DRAWINGS



SYSTEMS
INTEGRATED

San Diego, California (858) 277-0700

UKIAH LAKE MENDOCINO POWER PLANT SCADA PLC

CONTRACT #
PROPOSAL

EQUIPMENT NAME:
SCADA PLC
WESTIN DRAWING REFERENCE:
7878-E2

DATE:
4/28/2020

58

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A	RELEASED FOR PROPOSAL	4/28/2020
REV	DESCRIPTION	DATE
REVISIONS		

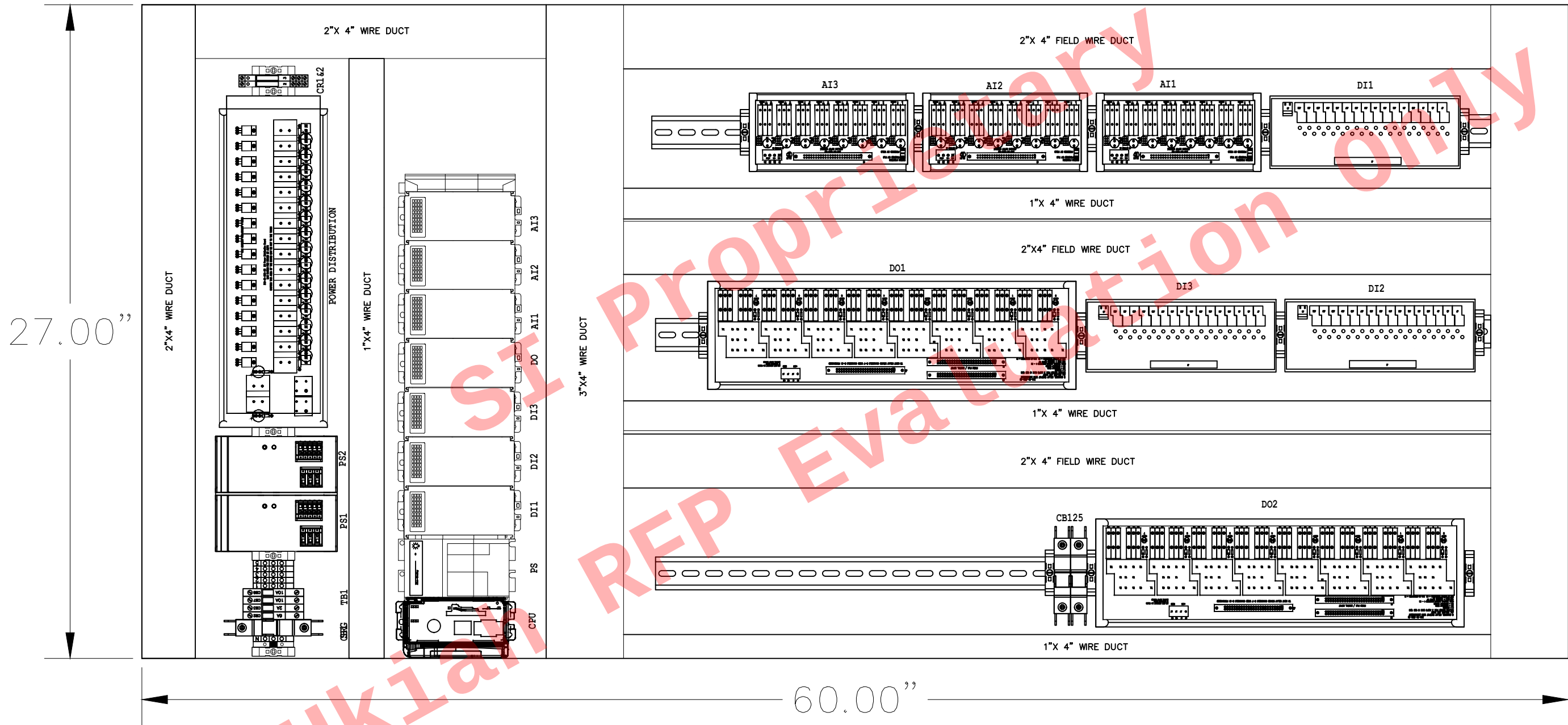
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CONTRACT NO:	APPROVAL:
—	
ENGINEER:	CAD OPERATOR:
	S. BELMORE

FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**SCADA PLC
CONTROL PANEL
TITLE PAGE**

DRAWING NO:	SEC:
-	A
DATE:	SHEET:
4/28/2020	Page 1 of 2



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CONTRACT NO:	APPROVAL:
ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SCADA PLC
ENCLOSURE
PANEL LAYOUT**

DRAWING NO:	SEC: B
DATE: 4/28/2020	SHEET: Page 1 of 2

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A	RELEASED FOR PROPOSAL	4/28/2020
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ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:

UKIAH

LAKE MENDOCINO

POWER PLANT

TITLE:

SCADA PLC

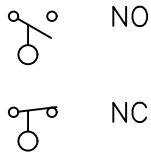
ENCLOSURE

BILL OF MATERIAL

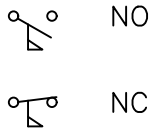
DRAWING NO:		SEC: B
DATE: 4/28/2020	SHEET: Page 2 of 472	

GROUP	ITEM	TYPE	DESCRIPTION	MANUFACTURER	PART NO.	QTY
A	1	ENC	Name Plate	SI	CUSTOM	1
	2	ENC	27"Wx60"W Enclosure Back Panel, Steel	SI	CUSTOM	1
	3	ENC				
	4	ENC	Wire Duct Straight, 4"x4"	Panduit	G4X4LG6	A/R
	5	ENC	Wire Duct Cover, 4"	Panduit	C4LG6	A/R
	6	ENC	Wire Duct Straight, 3"x4"	Panduit	G3X4LG6	A/R
	7	ENC	Wire Duct Cover, 3"	Panduit	C3LG6	A/R
	8	ENC	Wire Duct Straight, 2"x3"	Panduit	G2X3LG6	A/R
	9	ENC	Wire Duct Cover, 2"	Panduit	C2LG6	A/R
	10	ENC	Wire Duct Straight 1"X3"	Panduit	G1X3LG6	A/R
	11	ENC	Wire Duct Cover 1"	Panduit	C1LG6	A/R
	12	ENC	Wire Duct Attachment Rivet	Panduit	NR1-M	A/R
	13	ENC	Fluorescent Light Fixture	Hoffman	LF120V18	1
	14	ENC	Door Switch	Cherry	E79-00A	1
	15	ENC				
	16	ENC				
	17	ENC				
	18	ENC				
	19	ENC				
	20	ENC				
	21	ENC				
	23	ENC	Door Switch Bracket	Hoffman	AIFSWD	1
	24	ENC				
	25	ENC				
	26	ENC	Ground Bar	Hoffman	PGS4K	1
	27	ENC				
B	1	NET				
	2	NET				
	3	NET				
	4	NET				
C	1	PLC	Controller, Compact Logix	Allen-Bradley	1769-L35E	1
	2	PLC	Power Supply, 24VDC In	Allen-Bradley	1769-PB4	1
	3	PLC	Input Module, 32 Point, Source out	Allen-Bradley	1769-IQ32	3
	4	PLC	Output Module, 32 Point, Sink/Source	Allen-Bradley	1769-OB32	1
	5	PLC	Analog Input Module, 8 Channel	Allen-Bradley	1769-IF8	3
	6	PLC	Resistive Thermal Input Module, 6 Channel	Allen-Bradley	1769-IR6	0
	7	PLC	Right End Cap Terminator	Allen-Bradley	1769-ECR	1
	8	PLC	Interface Adapter, PLC Digital Input Module	SI	280-01-018	3
	9	PLC	Interface Adapter, PLC Digital Output Module	SI	280-01-013	1
	10	PLC	Interface Adapter, PLC Analog Input Module	SI	319-01-008-00	3
	11	PLC	Digital Input Wiring Module, 32 Point	SI	280-01-018	3
	12	PLC	8-Channel Analog Input Termination Module	SI	319-01-004-02	3
	13	PLC	Cable, Digital Input Module	SI	CUSTOM	3
	14	PLC	Cable, Digital Output Module	SI	CUSTOM	2
	15	PLC	Cable, Analog Input Module	SI	CUSTOM	2
	16	PLC				
D	1	PWR	Digital Output Termination Module, 8 Point	SI	319-01-002-01	2
	2	PWR				
	3	PWR	24 VDC Power Supply, 10 Amp	Meanwell	NDR-240-24	2
	2	PWR				
	3	PWR	Power Distribution Board	SI	319-01-006-03	1
	4	PWR	Terminal Block, Circuit Breaker	E-T-A	X 222 233 01	4
	5	PWR	Circuit Breaker, 6A	E-T-A	1180-01-06	1
	6	PWR	Circuit Breaker, 2A	E-T-A	1180-01-02	1
	7	PWR	Circuit Breaker, 10A	E-T-A	1180-01-10	2
	8	PWR				
	9	PWR	Circuit Breaker, Single Pole AC, 15 amp	Carlo-Gavazzi	GMB631PC15	1
	10	PWR	Circuit Breaker, 2-Pole AC, 3 amp	Weidmuller	BR2C3UC	1
	11	PWR	Duplex Receptacle, GFI Din Rail Mount	Allen-Bradley	1492-REC15G	1
	12	PWR				
E	1	TRM	Din Rail 35mm	Phoenix Contact	1201730	A/R
	2	TRM	Terminal Block, 6mm	Weidmuller	0380560000	A/R
	3	TRM	End Barrier	Weidmuller	800886	A/R
	4	TRM	Marker Card	Weidmuller	0576260000	A/R
	5	TRM	Terminal Block, Grounding	Weidmuller	0661360000	A/R
	6	TRM	Center Bridge Jumper	Weidmuller	0457000000	A/R
	7	TRM	Partition Plate	Weidmuller	0117920000	A/R
F	1	WIR	Hook-Up Wire, 16 GA 1015 TEW, BLU	Belden	8917/13	A/R
	2	WIR	Hook-Up Wire, 16 GA 1015 TEW, BLK	Belden	8917/10	A/R
	3	WIR	Hook-Up Wire, 16 GA 1015 TEW, RED	Belden	8917/2	A/R
	4	WIR	CAT5e Network Cable-BLUE	Cables To Go	27424	A/R
	5	WIR	CAT5e Network Cable-RED	Cables To Go	27428	A/R
	6	WIR	CAT5e Outside Plant-BLACK	Mohawk	M57561	A/R
G	1	RLY	Weidmuller	Weidmuller	1123090000	2
	2	RLY				
	3	RLY				
	4	RLY				
	5	RLY				
	6	RLY				
	7	RLY				
	8	RLY				
H	1	HMI				
	2	HMI				
	3	HMI				

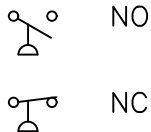
LIQUID LEVEL
ACTUATED SWITCH
CHANGES ON
RISING LEVEL



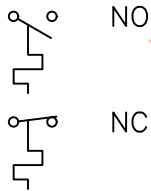
FLOW
ACTUATED SWITCH
CHANGES ON
INCREASING FLOW



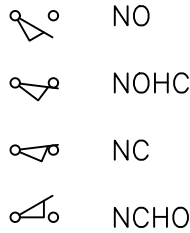
PRESSURE
OR VACUUM
ACTUATED SWITCH
CHANGES ON
RISING PRESSURE



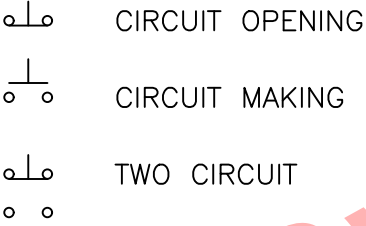
TEMPERATURE
ACTUATED SWITCH
CHANGES ON
RISING TEMPERATURE



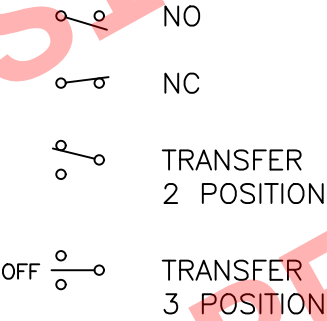
LIMIT SWITCH
DIRECTLY ACTUATED
SPRING RETURNED



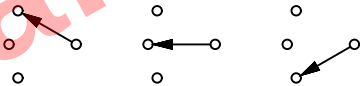
PUSHBUTTON SWITCH
MOMENTARY OR
SPRING RETURN



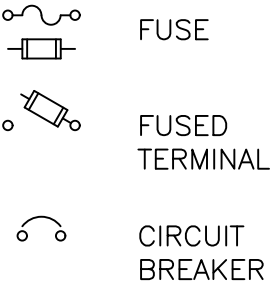
TOGGLE SWITCH



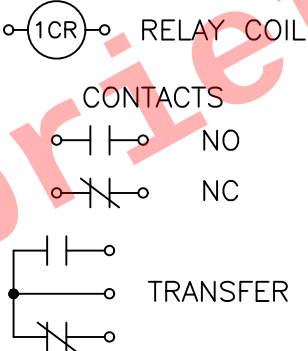
MULTIPOSITION
SWITCH



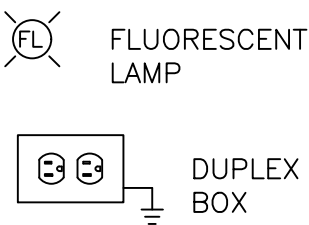
CIRCUIT PROTECTION



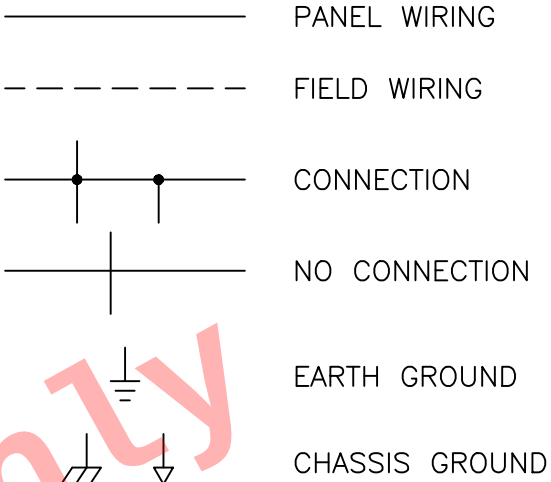
RELAY



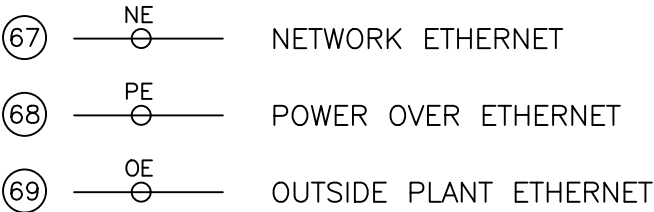
MISCELLANEOUS



WIRING SYMBOLS



ETHERNET CABLES



ABBREVIATIONS

NO	NORMALLY OPEN
NOHC	NORMALLY OPEN HELD CLOSED
NC	NORMALLY CLOSED
NCHO	NORMALLY CLOSED HELD OPENED

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FOR:

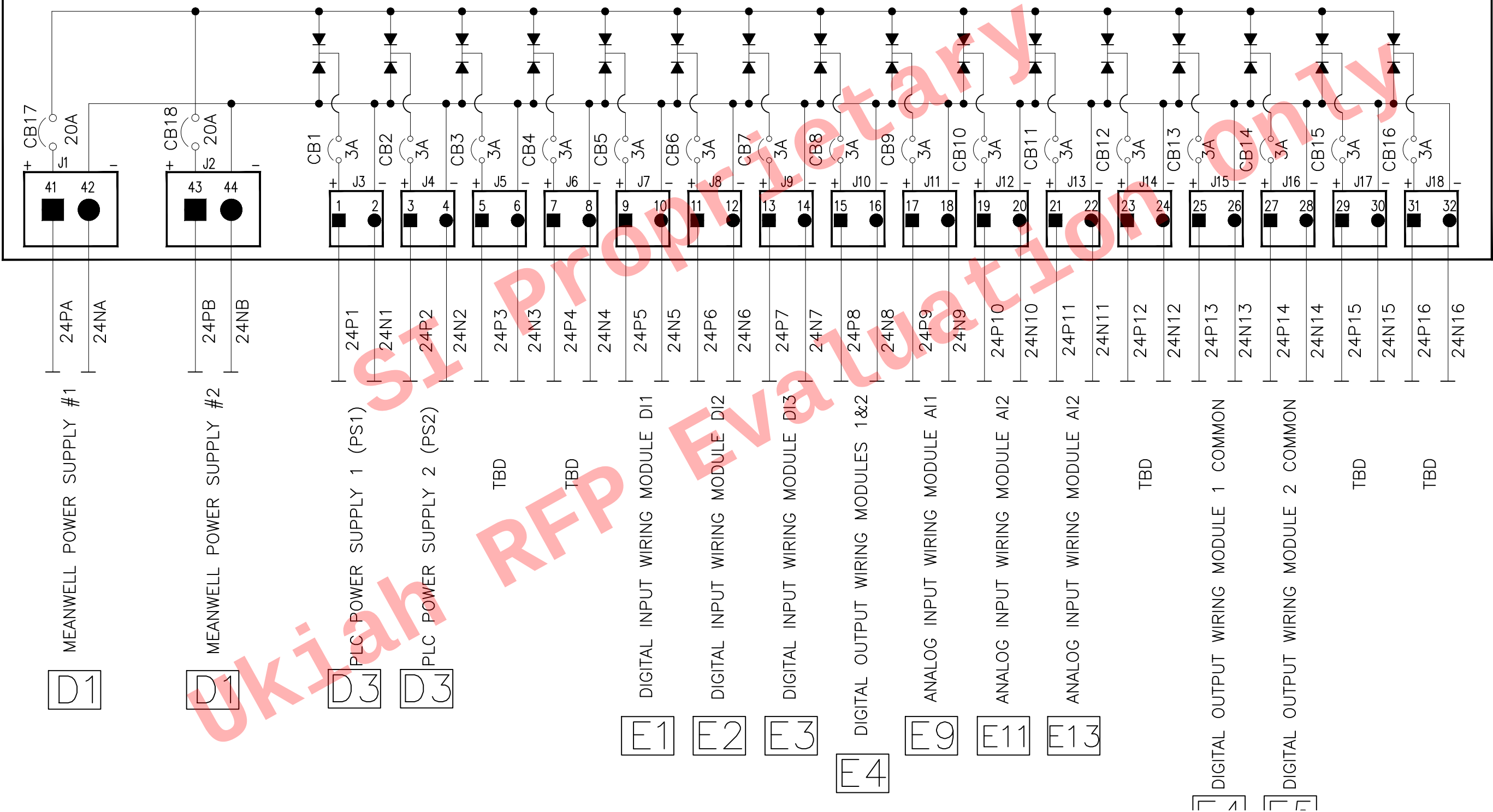
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SCADA PLC
CONTROL PANEL
ELECTRICAL SYMBOLS**

DRAWING NO:	SEC: C
DATE: 4/28/2020	SHEET: Page 1 of 47

DC POWER DISTRIBUTION BOARD PDB1



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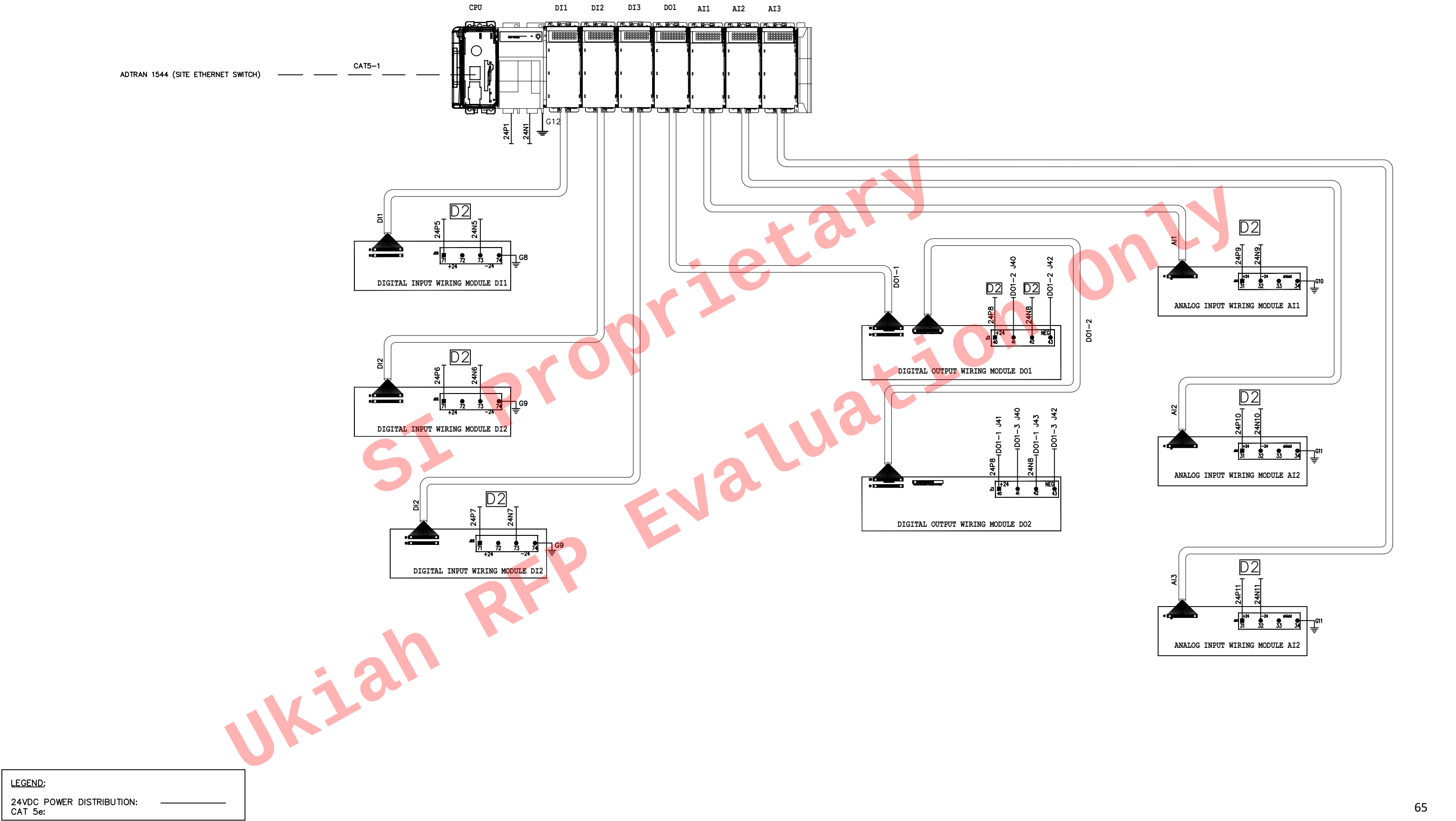
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FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**SCADA PLC
CONTROL PANEL
DC POWER WIRING**

DRAWING NO:	SEC: D
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C		
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	S. BELMORE

FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SCADA PLC
CONTROL PANEL
PLC CABLING DIAGRAM**

DRAWING NO:	SEC:
	D
DATE:	SHEET:
4/28/2020	3 of 473

C		
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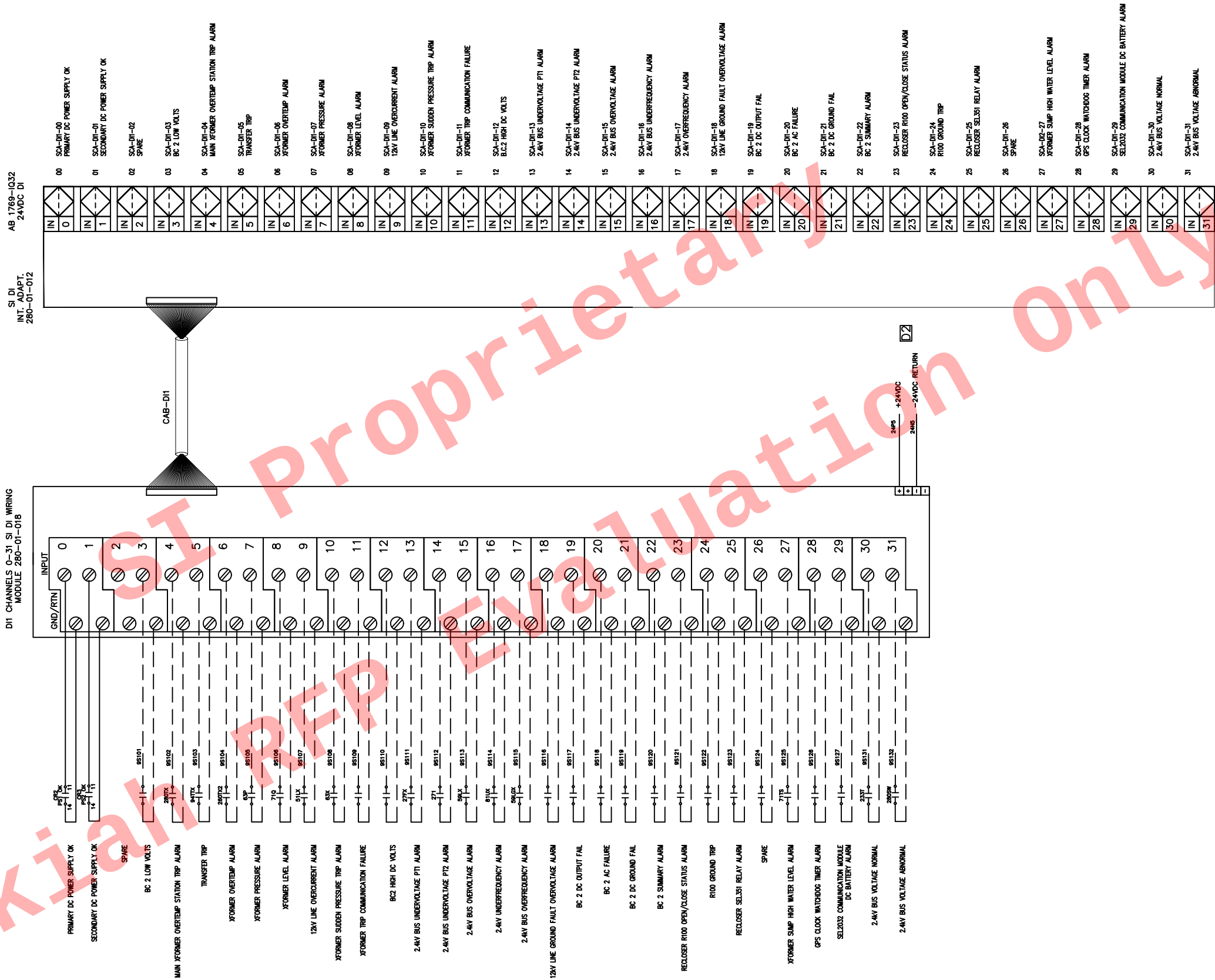
FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SCADA PLC
CONTROL PANEL
DI1 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: Page 1 of 1



C		
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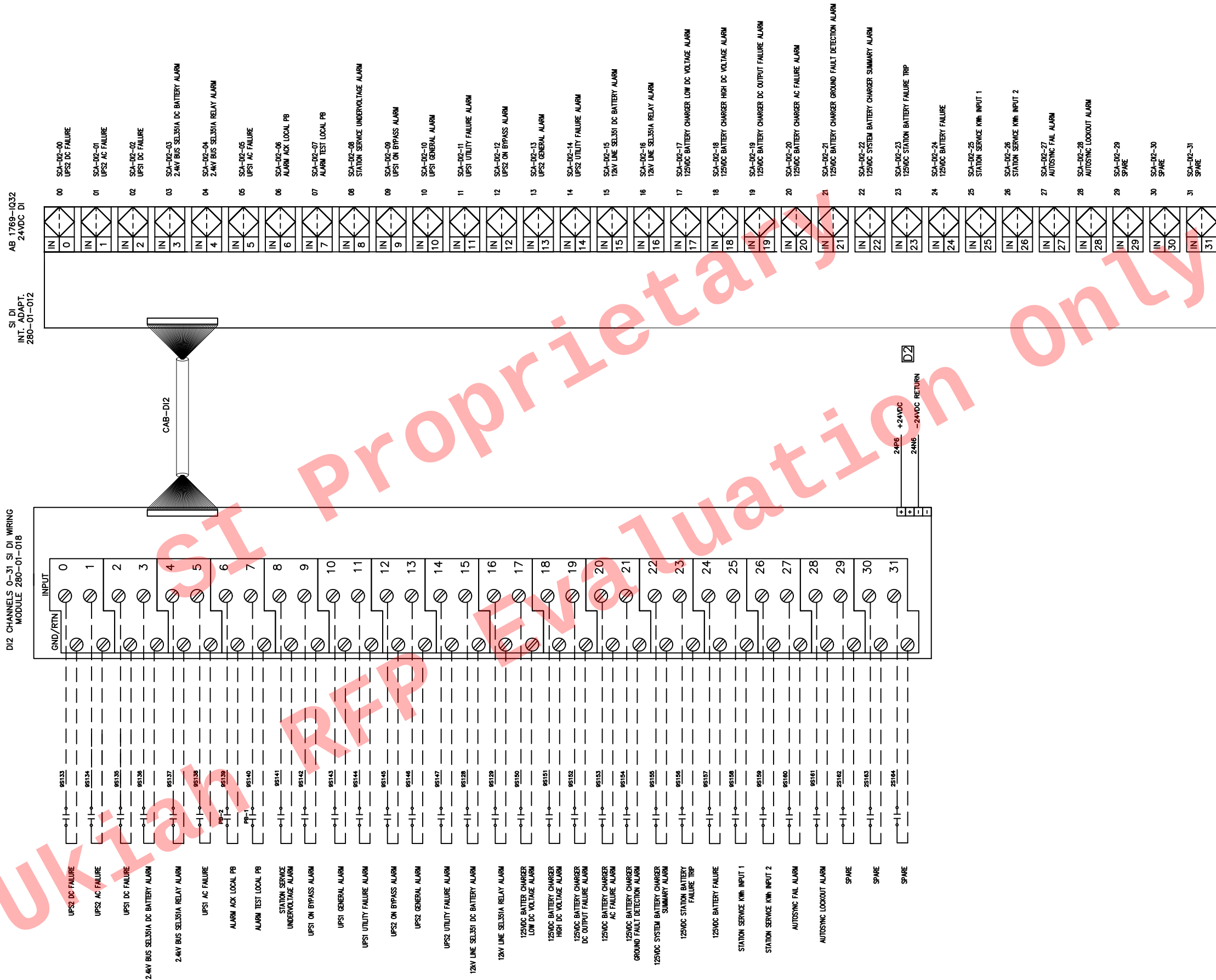
FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SCADA PLC
CONTROL PANEL
DI2 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 2 of 4



C		
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REV	DESCRIPTION	DATE
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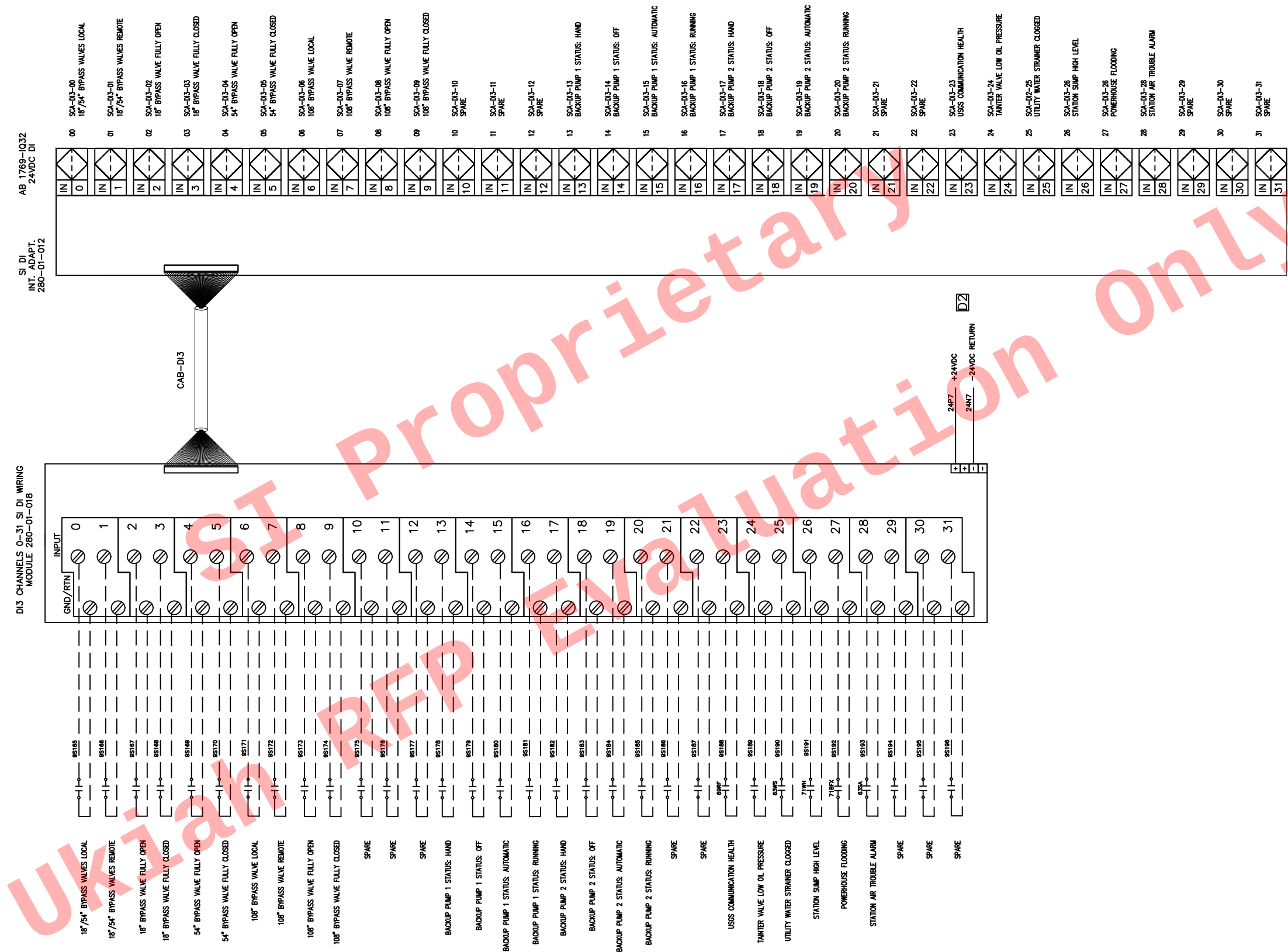
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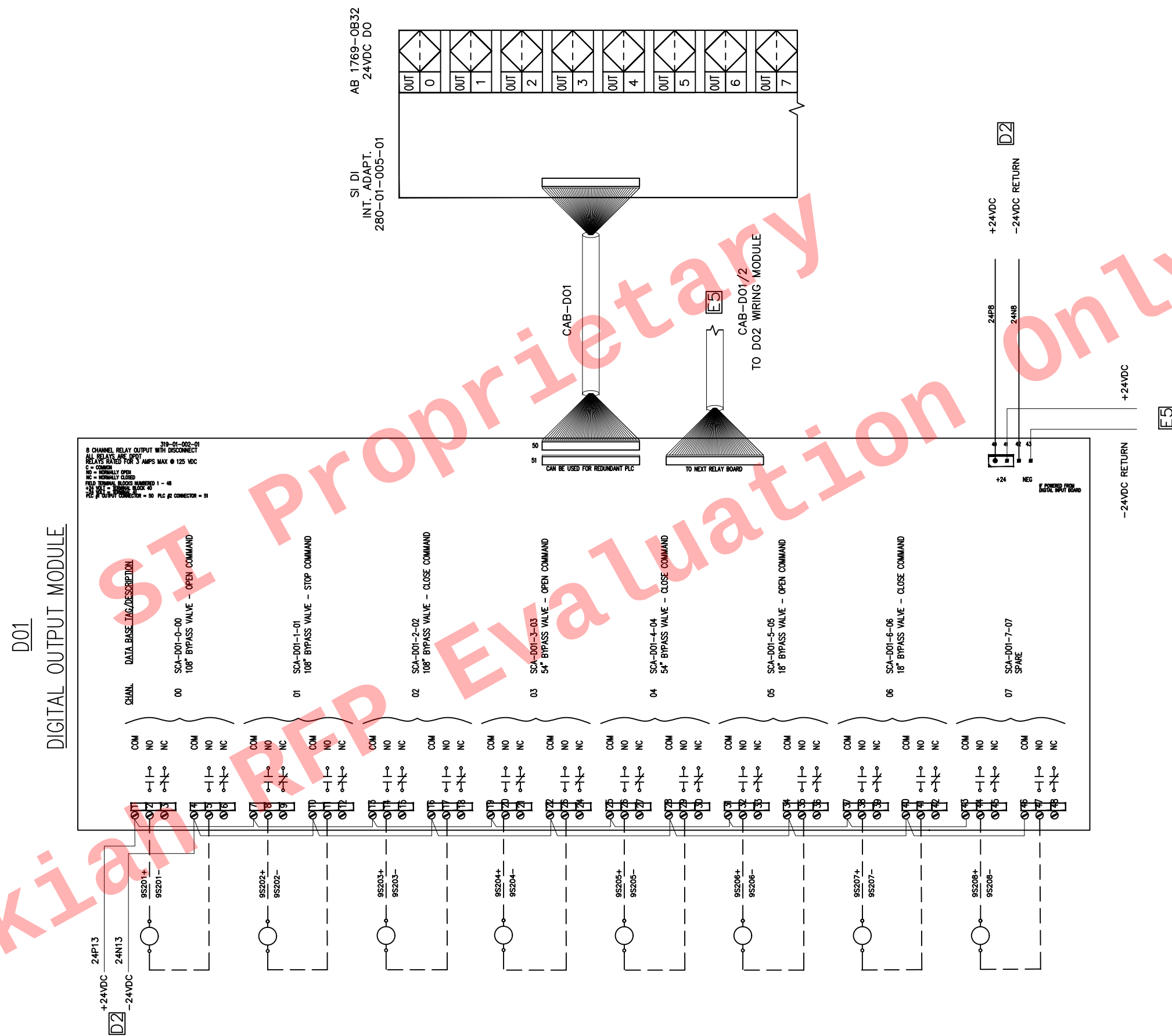
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SCADA PLC
CONTROL PANEL
DI3 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 3 of 15





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FOR:

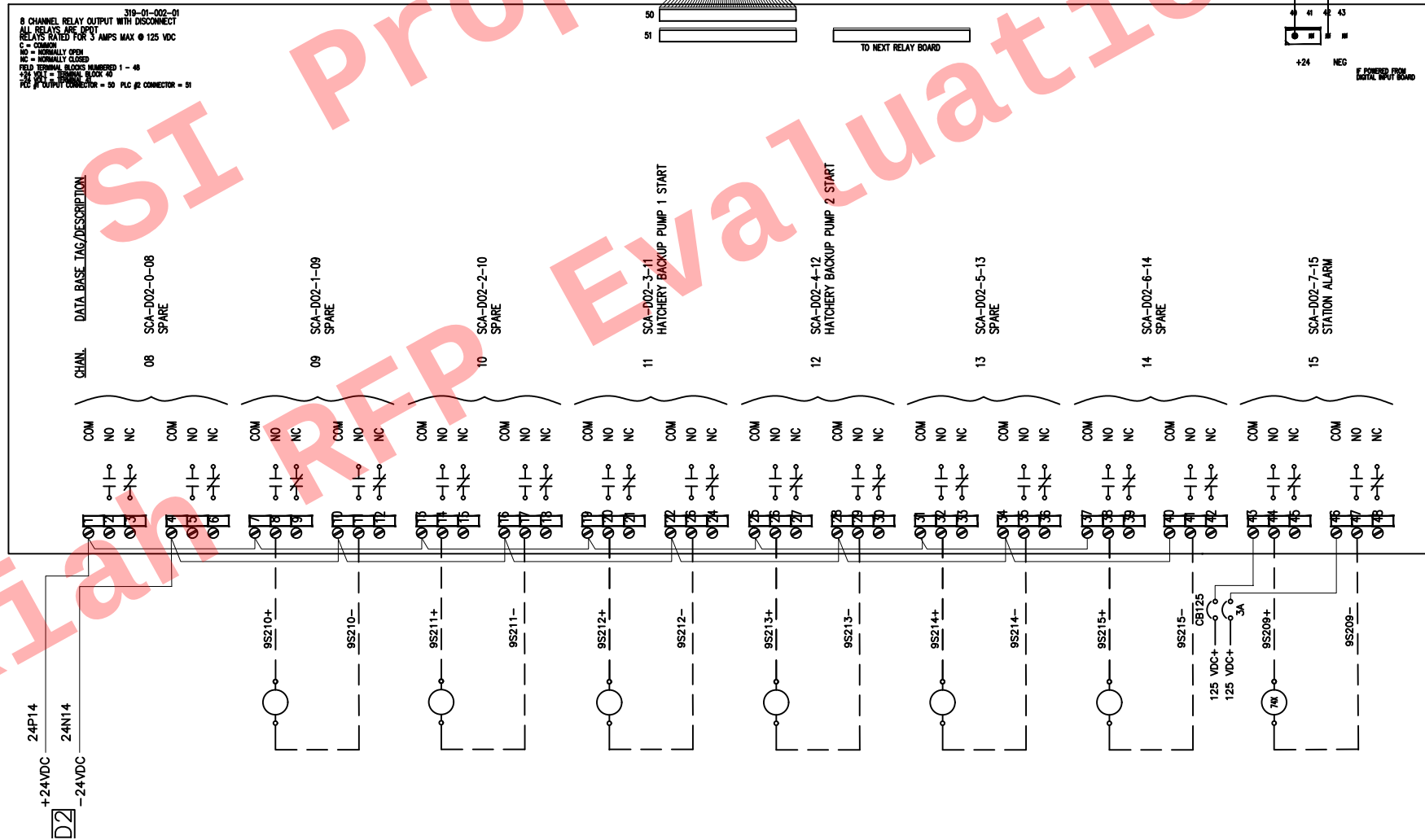
UKIAH LAKE MENDOCINO POWER PLANT

TITLE:

SCADA PLC CONTROL PANEL DO-1 MODULE

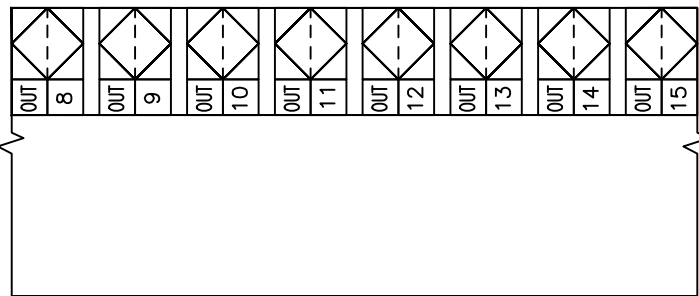
DRAWING NO:		SEC:
		E
DATE:	SHEET:	
4/28/2020	4 of 15	

D02
DIGITAL OUTPUT MODULE



SI DI
INT. ADAPT.
280-01-005-01

AB 1769-OB32
24VDC DO



CAB-D01/2
FROM
DO2 WIRING MODULE

+24VDC
-24VDC RETURN

C		
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A	RELEASED FOR PROPOSAL	4/28/2020
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ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SCADA PLC
CONTROL PANEL
DO2 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 5212 of 4185

SI Proprietary
NOT USED
UKIAH REP Evaluation Only

C		
B		
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REV	DESCRIPTION	DATE
REVISIONS		



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ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**SCADA PLC
CONTROL PANEL
DO3 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: Page 6 of 15 15

SI Proprietary
NOT USED
Ukiah RFP Evaluation only

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CONTRACT NO:	APPROVAL:
ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:

UKIAH
LAKE MENDOCINO
POWER PLANT

TITLE:

SCADA PLC
CONTROL PANEL
DO4 MODULE

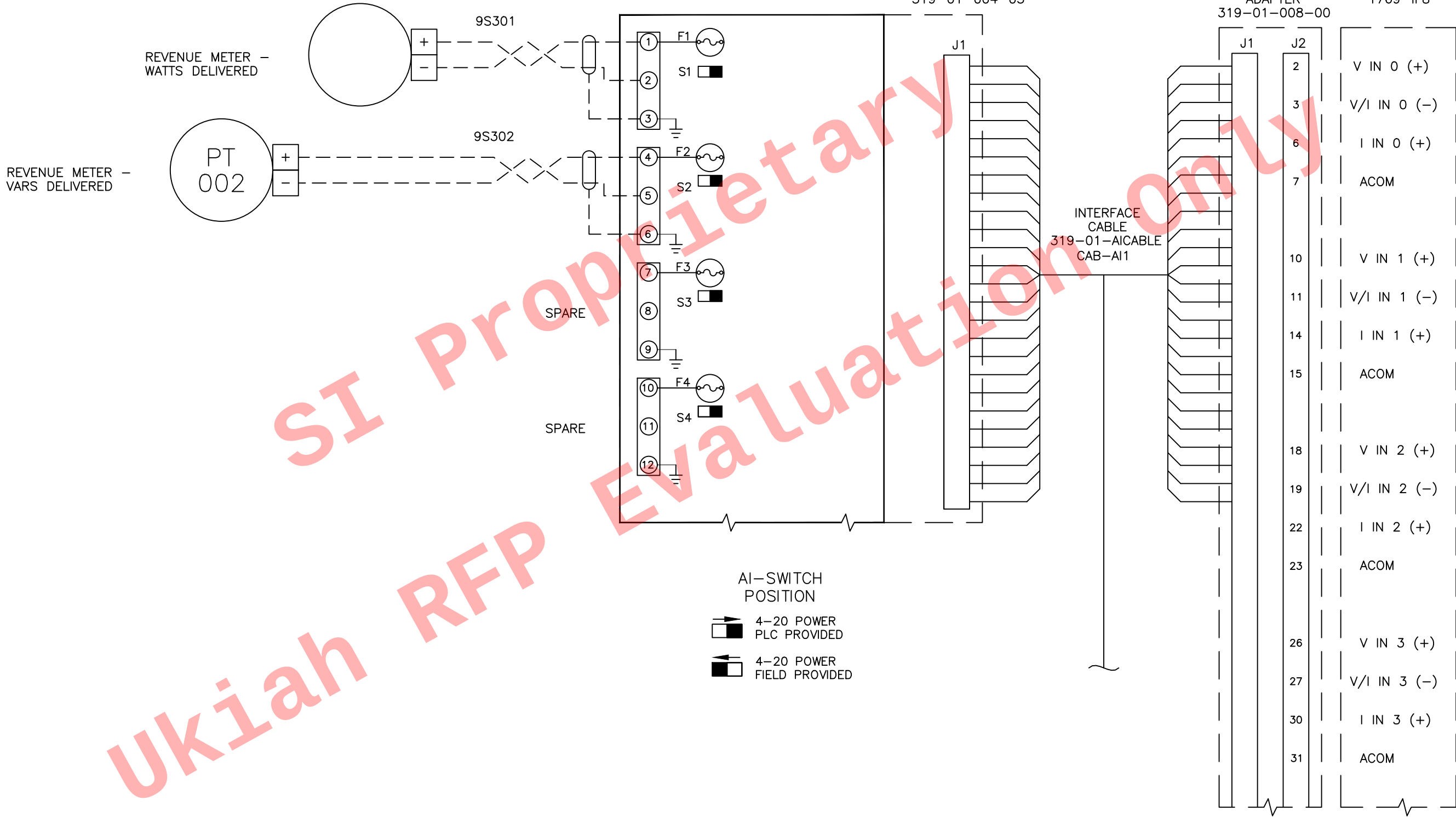
DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 7 of 15

AI1 CHANNELS 1-4 AI WIRING MODULE
319-01-004-03

ANALOG INPUT MODULE
319-01-004-03

TERMINATION
ADAPTER
319-01-008-00

ALLEN BRADLEY
1769-IF8



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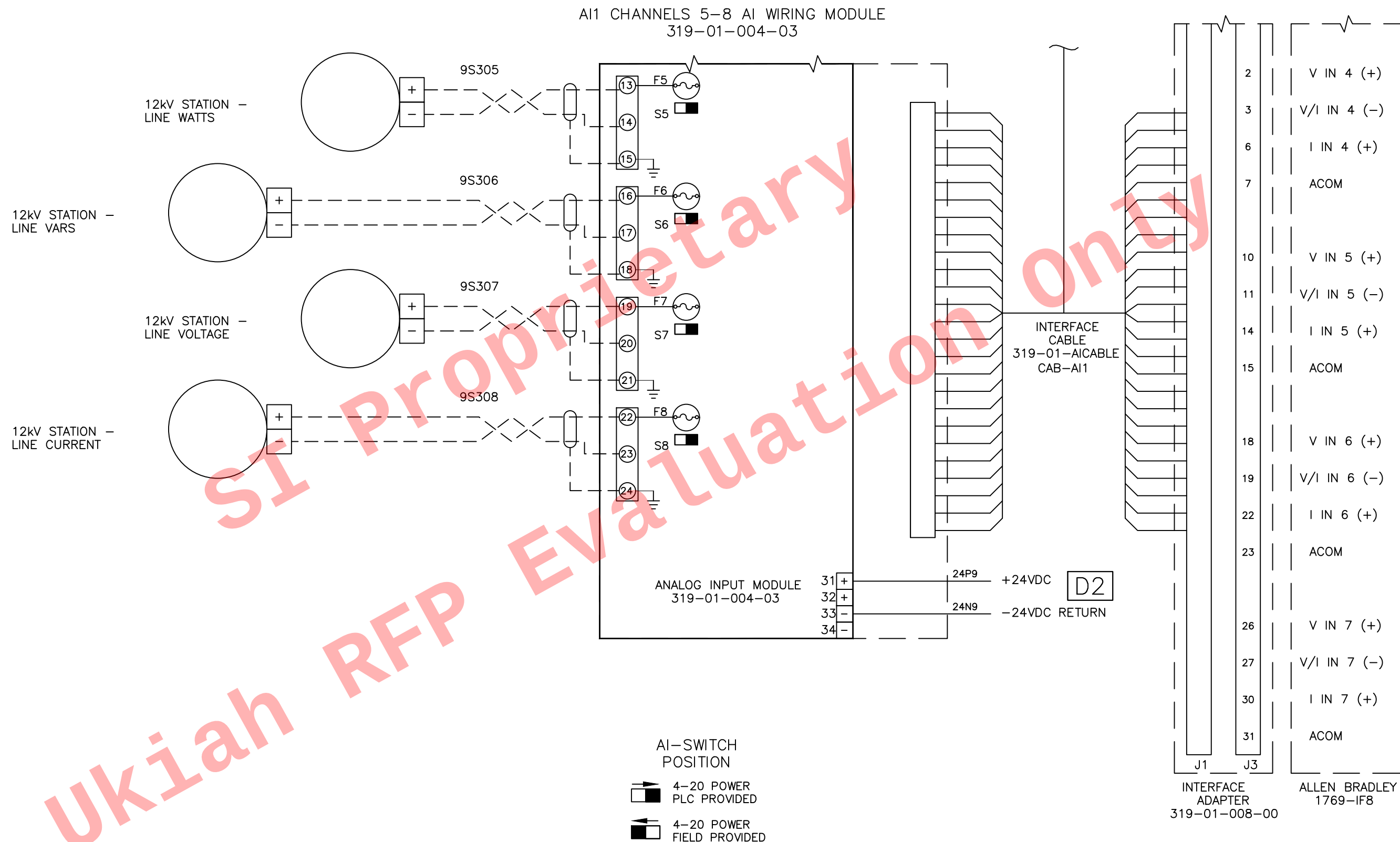
FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SCADA PLC
CONTROL PANEL
AI1 MODULE (1/2)**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 3 of 4 Page 15



C		
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CONTRACT NO:	APPROVAL:
ENGINEER:	CAD OPERATOR: S. BELMORE

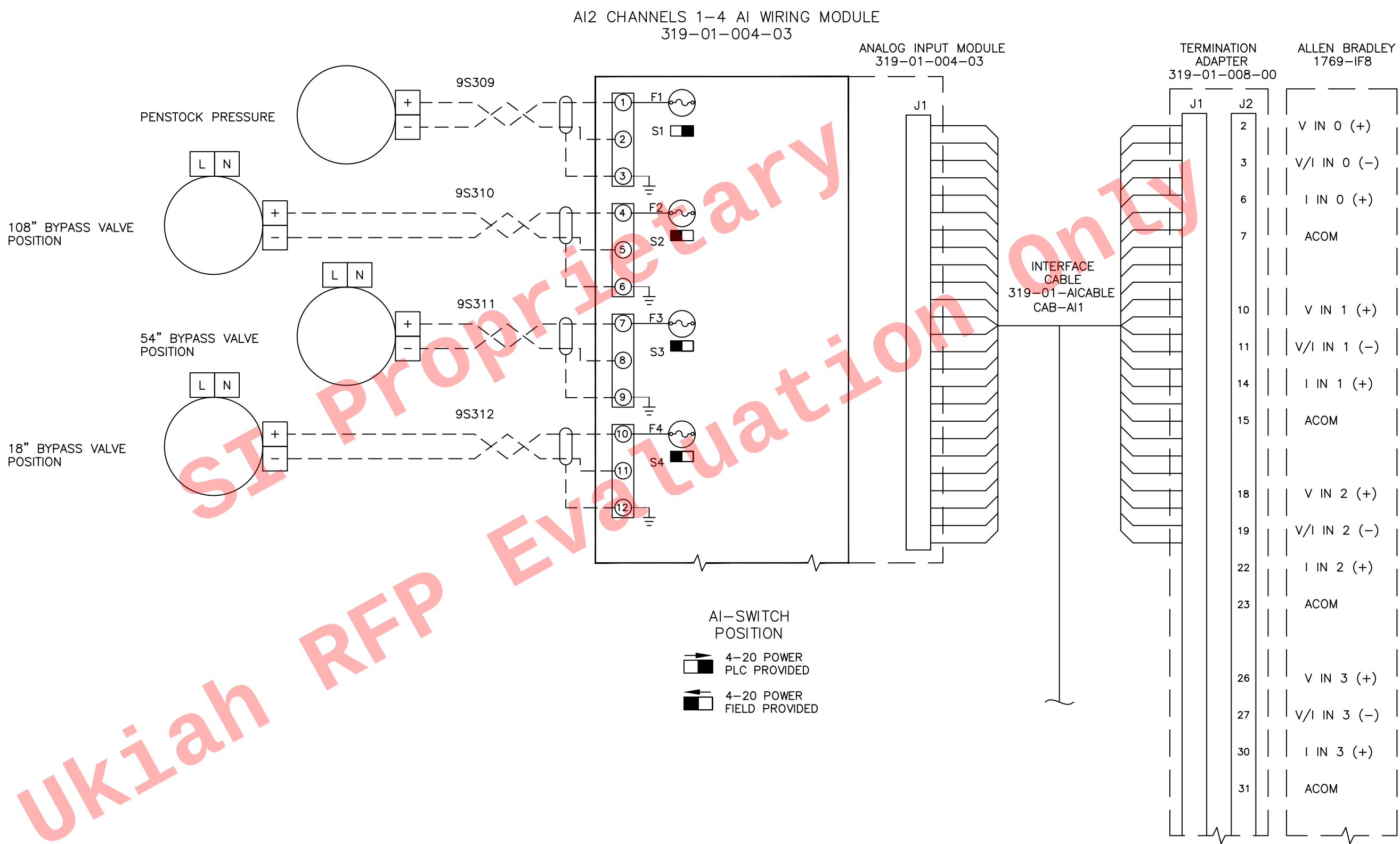
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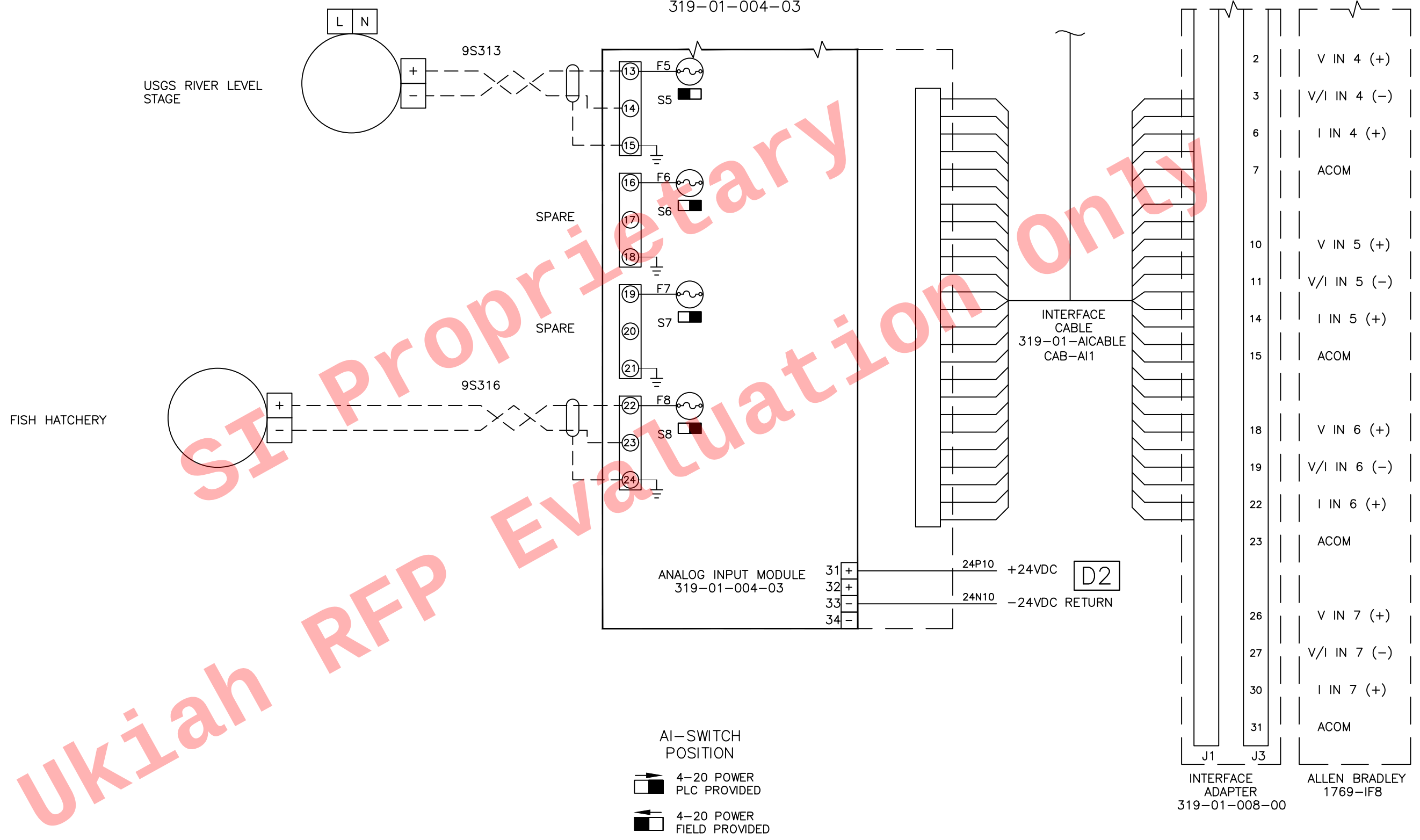
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SCADA PLC
CONTROL PANEL
AI1 MODULE (2/2)**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: Page 216 of 415





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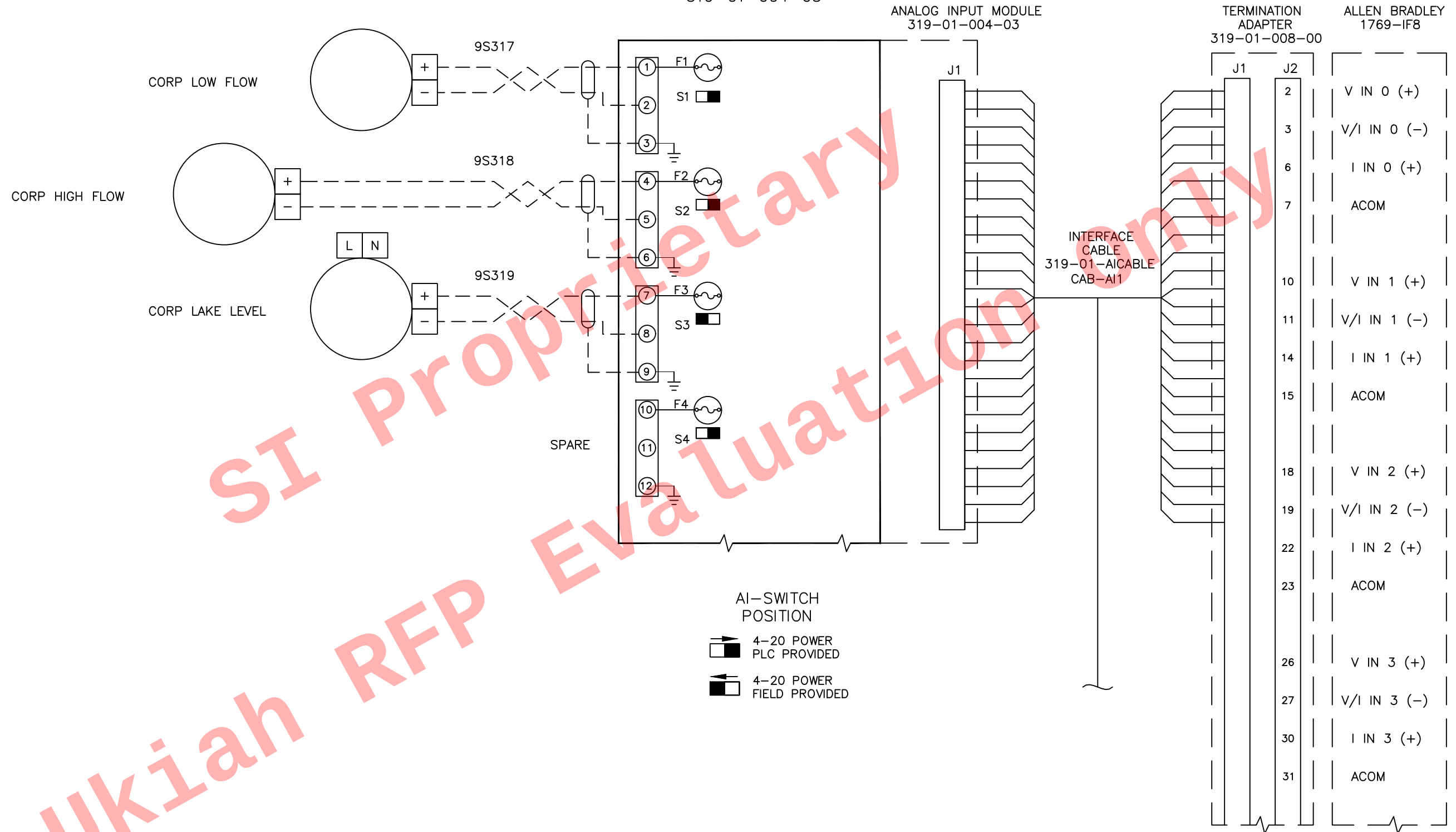
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SCADA PLC
CONTROL PANEL
AI2 MODULE (2/2)**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 14 of 15

AI3 CHANNELS 1-3 AI WIRING MODULE
319-01-004-03



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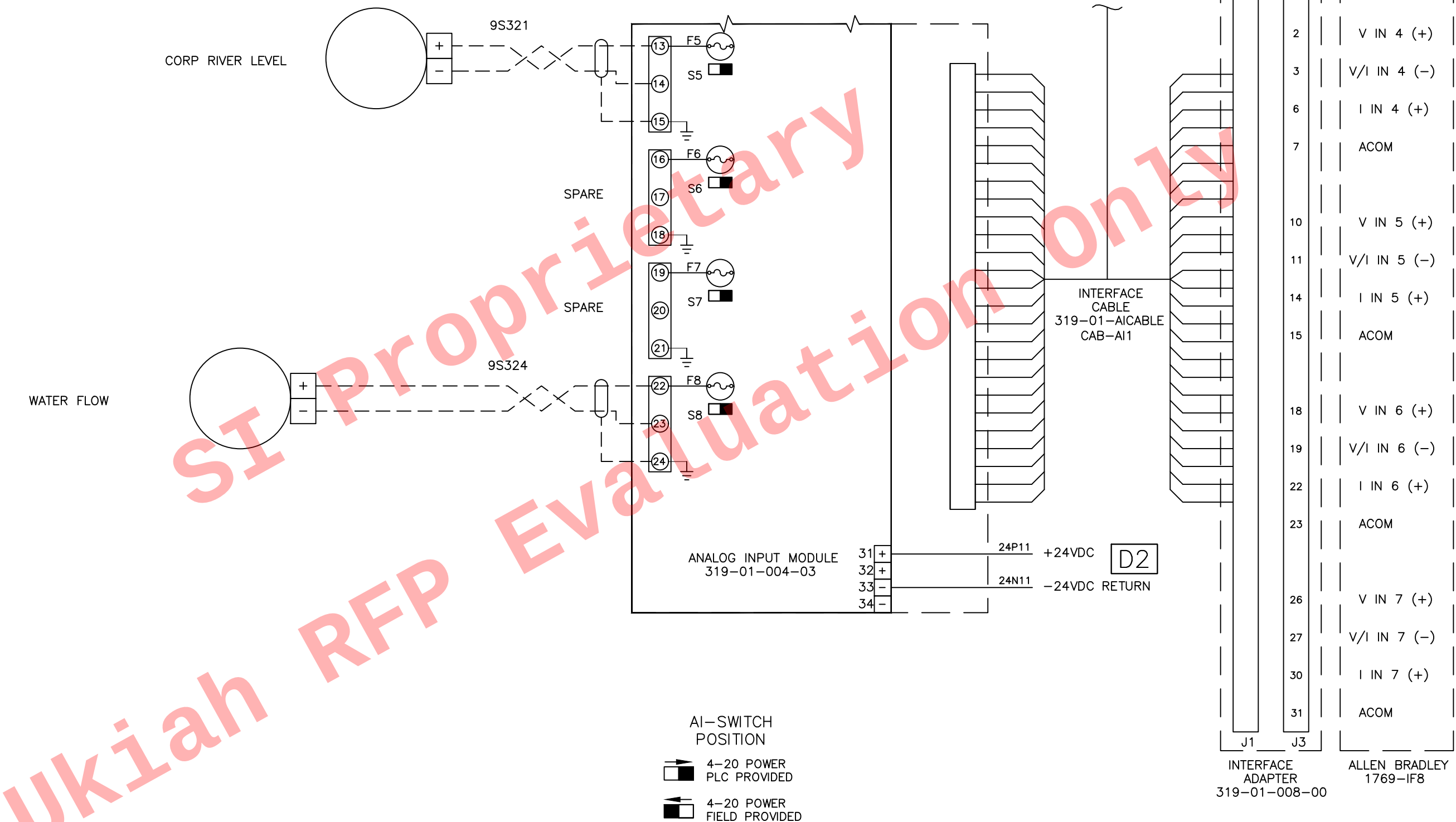
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SCADA PLC
CONTROL PANEL
AI3 MODULE (1/2)**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 12 of 15

AI3 CHANNELS 5-8 AI WIRING MODULE
319-01-004-03



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FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SCADA PLC
CONTROL PANEL
AI3 MODULE (2/2)**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 13 of 15

SI Proprietary
UKIAH RFP Evaluation Only
NOT USED

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FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**SCADA PLC
CONTROL PANEL
RTD1 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 14 of 15

SI Proprietary
NOT USED
Ukiah RFP Evaluation Only

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FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**SCADA PLC
CONTROL PANEL
RTD2 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 15 of 15

UKIAH

LAKE MENDOCINO

POWER PLANT UNIT 1 CONTROL

CONTRACT #
PROPOSAL

EQUIPMENT NAME:
UNIT 1
WESTIN DRAWING REFERENCE:
7878-E3

DATE:
4/28/2020

81

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CONTRACT NO:	APPROVAL:
—	
ENGINEER:	CAD OPERATOR:
	S. BELMORE

FOR:

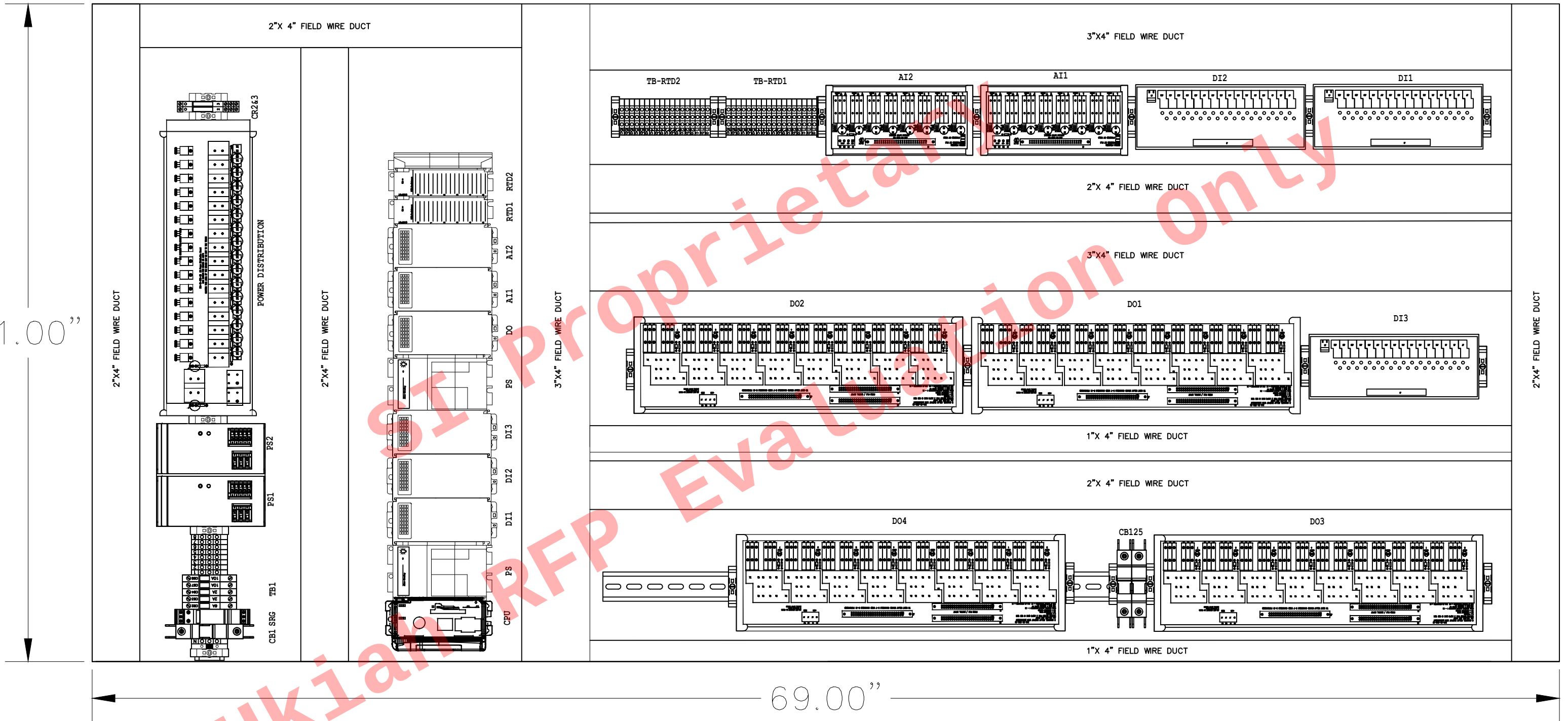
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
TITLE PAGE**

DRAWING NO:	SEC:
-	A
DATE:	SHEET:
4/28/2020	Page 1 of 223 of 472

31.00"



REV	DESCRIPTION	DATE
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FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 1 TURBINE/GEN
ENCLOSURE
PANEL LAYOUT**

DRAWING NO:	SEC: B
DATE: 4/28/2020	SHEET: Page 1 of 225 of 472

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FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

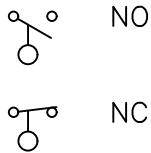
TITLE:

**UNIT 1 TURBINE/GEN
ENCLOSURE
BILL OF MATERIAL**

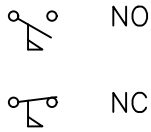
DRAWING NO:	SEC: B
DATE: 4/28/2020	SHEET: Page 226 of 472

GROUP	ITEM	TYPE	DESCRIPTION	MANUFACTURER	PART NO.	QTY
A	1	ENC	Name Plate	SI	CUSTOM	1
	2	ENC	31"Wx69"W Enclosure Back Panel, Steel	SI	CUSTOM	1
	3	ENC				
	4	ENC	Wire Duct Straight, 4"x4"	Panduit	G4X4LG6	A/R
	5	ENC	Wire Duct Cover, 4"	Panduit	C4LG6	A/R
	6	ENC	Wire Duct Straight, 3"x4"	Panduit	G3X4LG6	A/R
	7	ENC	Wire Duct Cover, 3"	Panduit	C3LG6	A/R
	8	ENC	Wire Duct Straight, 2"x3"	Panduit	G2X3LG6	A/R
	9	ENC	Wire Duct Cover, 2"	Panduit	C2LG6	A/R
	10	ENC	Wire Duct Straight 1"x3"	Panduit	G1X3LG6	A/R
	11	ENC	Wire Duct Cover 1"	Panduit	C1LG6	A/R
	12	ENC	Wire Duct Attachment Rivet	Panduit	NR1-M	A/R
	13	ENC	Fluorescent Light Fixture	Hoffman	LF120V18	1
	14	ENC	Door Switch	Cherry	E79-00A	1
	15	ENC				
	16	ENC				
	17	ENC				
	18	ENC				
	19	ENC				
	20	ENC				
	21	ENC				
	23	ENC	Door Switch Bracket	Hoffman	AIFSWD	1
	24	ENC				
	25	ENC				
	26	ENC	Ground Bar	Hoffman	PGS4K	1
	27	ENC				
B	1	NET				
	2	NET				
	3	NET				
	4	NET				
C	1	PLC	Controller, Compact Logix	Allen-Bradley	1769-L35E	1
	2	PLC	Power Supply, 24VDC In	Allen-Bradley	1769-PB4	2
	3	PLC	Input Module, 32 Point, Source out	Allen-Bradley	1769-IQ32	3
	4	PLC	Output Module, 32 Point, Sink/Source	Allen-Bradley	1769-OB32	1
	5	PLC	Analog Input Module, 8 Channel	Allen-Bradley	1769-IF8	2
	6	PLC	Resistive Thermal Input Module, 6 Channel	Allen-Bradley	1769-IR6	2
	7	PLC	Right End Cap Terminator	Allen-Bradley	1769-ECR	1
	8	PLC	Interface Adapter, PLC Digital Input Module	SI	280-01-012	3
	9	PLC	Interface Adapter, PLC Digital Output Module	SI	280-01-013	1
	10	PLC	Interface Adapter, PLC Analog Input Module	SI	319-01-008-00	2
	11	PLC	Digital Input Wiring Module, 32 Point	SI	280-01-018	3
	12	PLC	8-Channel Analog Input Termination Module	SI	319-01-004-02	2
	13	PLC	Cable, Digital Input Module	SI	CUSTOM	2
	14	PLC	Cable, Digital Output Module	SI	CUSTOM	4
	15	PLC	Cable, Analog Input Module	SI	CUSTOM	2
	16	PLC				
	17	PLC	Digital Output Termination Module, 8 Point	SI	319-01-002-01	4
	18	PLC				
	19	PLC				
	20	PLC				
D	1	PWR	24 VDC Power Supply, 10 Amp	Meanwell	NDR-240-24	2
	2	PWR				
	3	PWR	Power Distribution Board	SI	319-01-006-03	1
	4	PWR	Terminal Block, Circuit Breaker	E-T-A	X 222 233 01	5
	5	PWR	Circuit Breaker, 6A	E-T-A	1180-01-06	1
	6	PWR	Circuit Breaker, 2A	E-T-A	1180-01-02	2
	7	PWR	Circuit Breaker, 10A	E-T-A	1180-01-10	2
	8	PWR				
	9	PWR	Circuit Breaker, Single Pole AC, 15 amp	Carlo-Gavazzi	GMB631PC15	1
	10	PWR	Circuit Breaker, 2-Pole AC, 3 amp	Weidmuller	BR2C3UC	1
	11	PWR	Duplex Receptacle, GFI Din Rail Mount	Allen-Bradley	1492-REC15G	1
	12	PWR				
E	1	TRM	Din Rail 35mm	Phoenix Contact	1201730	A/R
	2	TRM	Terminal Block, 6mm	Weidmuller	0380560000	A/R
	3	TRM	End Barrier	Weidmuller	800886	A/R
	4	TRM	Marker Card	Weidmuller	0576260000	A/R
	5	TRM	Terminal Block, Grounding	Weidmuller	0661360000	A/R
	6	TRM	Center Bridge Jumper	Weidmuller	0457000000	A/R
	7	TRM	Partition Plate	Weidmuller	0117920000	A/R
F	1	WIR	Hook-Up Wire, 16 GA 1015 TEW, BLU	Belden	8917/13	A/R
	2	WIR	Hook-Up Wire, 16 GA 1015 TEW, BLK	Belden	8917/10	A/R
	3	WIR	Hook-Up Wire, 16 GA 1015 TEW, RED	Belden	8917/2	A/R
	4	WIR	CAT5e Network Cable-BLUE	Cables To Go	27424	A/R
	5	WIR	CAT5e Network Cable-RED	Cables To Go	27428	A/R
	6	WIR	CAT5e Outside Plant-BLACK	Mohawk	M57561	A/R
G	1	RLY	Weidmuller	Weidmuller	1123090000	2
	2	RLY				
	3	RLY				
	4	RLY				
	5	RLY				
	6	RLY				
	7	RLY				
	8	RLY				
H	1	HMI				
	2	HMI				
	3	HMI				

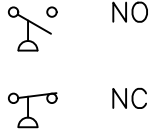
LIQUID LEVEL
ACTUATED SWITCH
CHANGES ON
RISING LEVEL



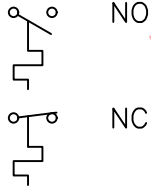
FLOW
ACTUATED SWITCH
CHANGES ON
INCREASING FLOW



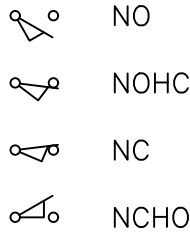
PRESSURE
OR VACUUM
ACTUATED SWITCH
CHANGES ON
RISING PRESSURE



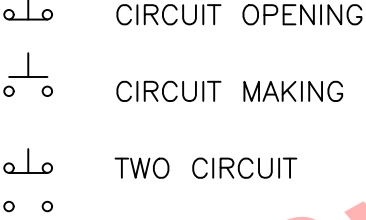
TEMPERATURE
ACTUATED SWITCH
CHANGES ON
RISING TEMPERATURE



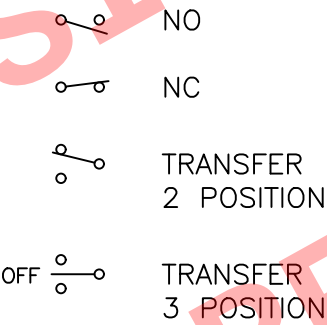
LIMIT SWITCH
DIRECTLY ACTUATED
SPRING RETURNED



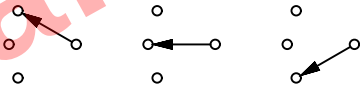
PUSHBUTTON SWITCH
MOMENTARY OR
SPRING RETURN



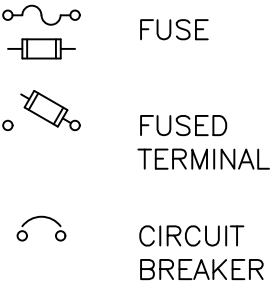
TOGGLE SWITCH



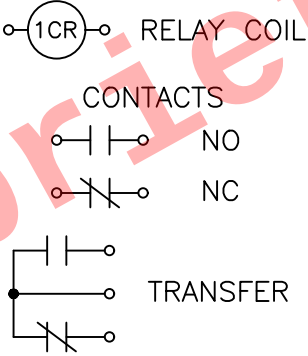
MULTIPOSITION
SWITCH



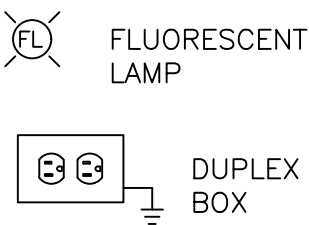
CIRCUIT PROTECTION



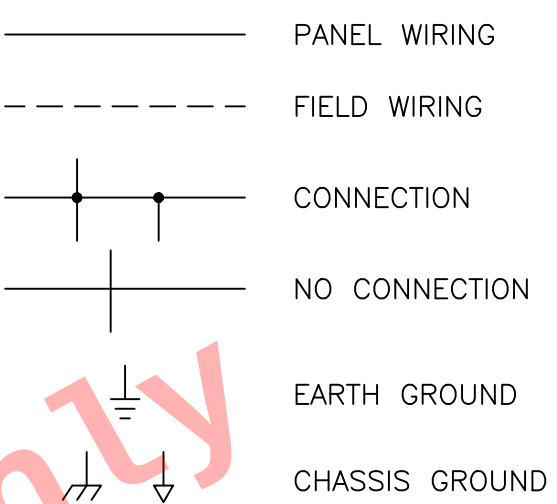
RELAY



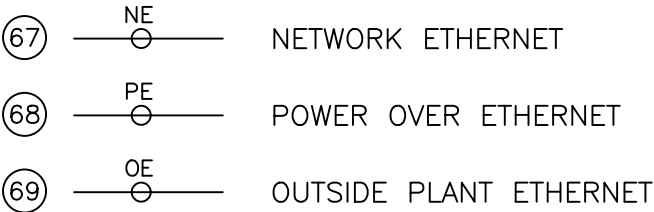
MISCELLANEOUS



WIRING SYMBOLS



ETHERNET CABLES



ABBREVIATIONS

NO	NORMALLY OPEN
NOHC	NORMALLY OPEN HELD CLOSED
NC	NORMALLY CLOSED
NCHO	NORMALLY CLOSED HELD OPENED

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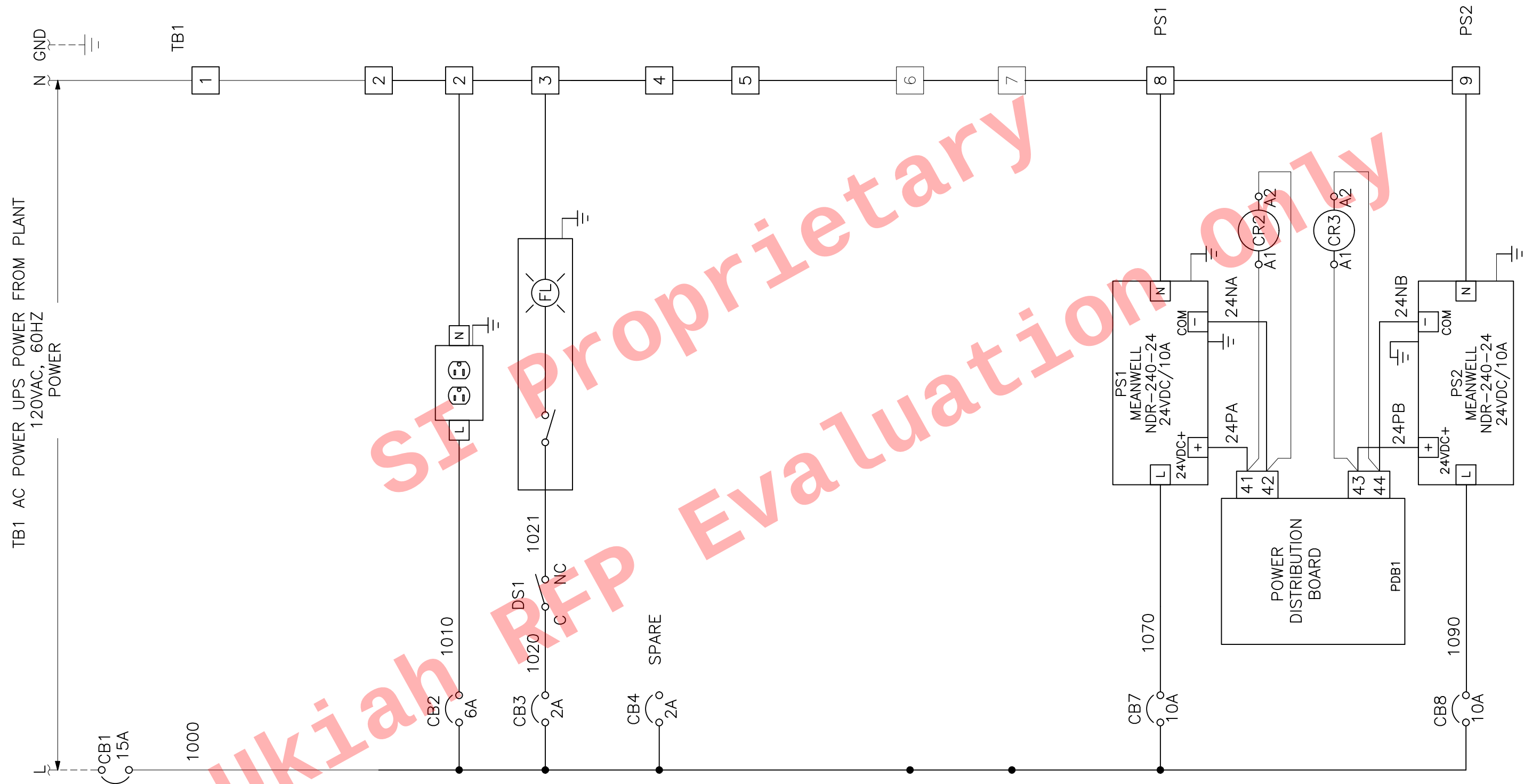
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FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
ELECTRICAL SYMBOLS**

DRAWING NO:	SEC: C
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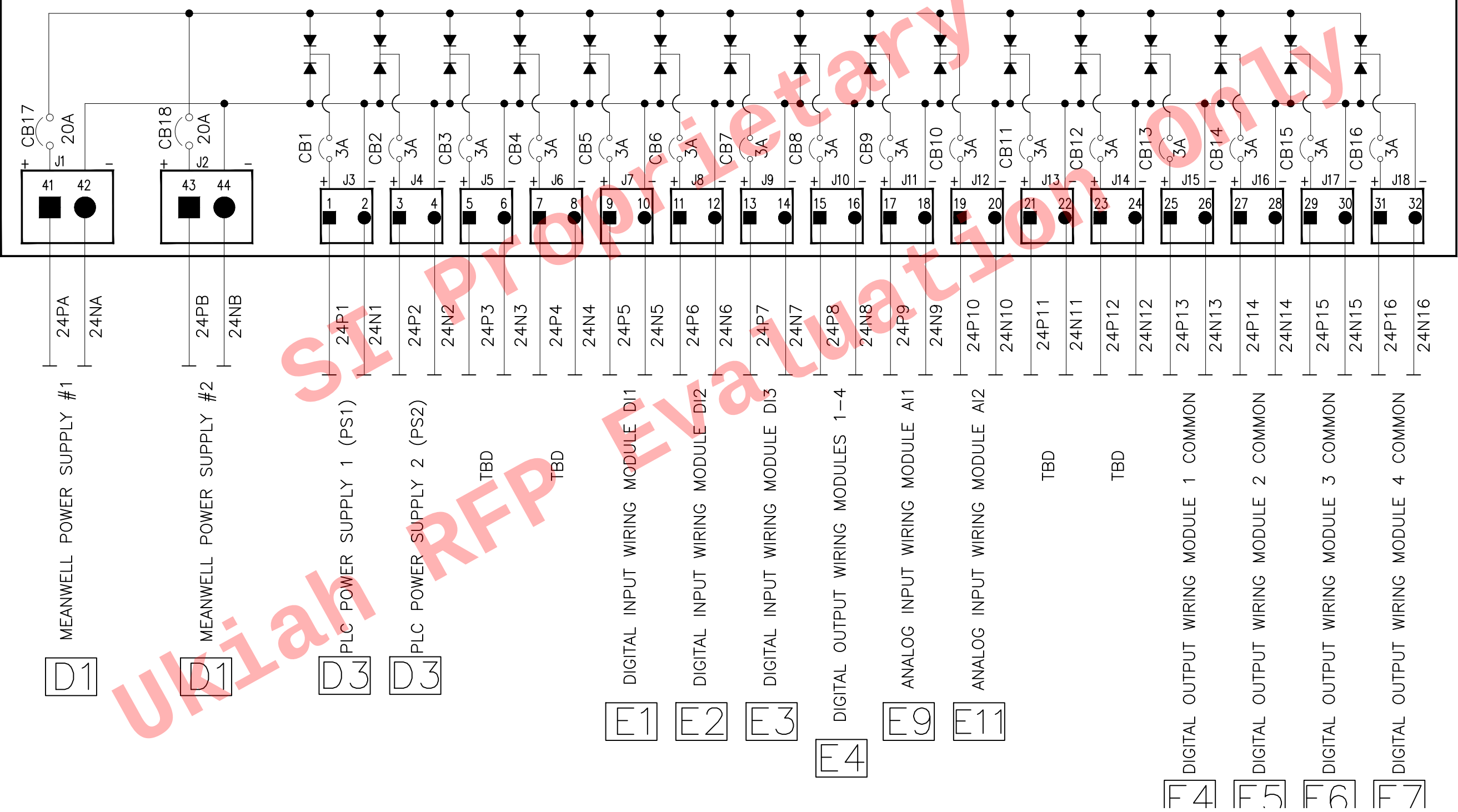
CONTRACT NO:	APPROVAL:
ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
AC POWER WIRING**

DRAWING NO:	SEC: D
DATE: 4/28/2020	SHEET: Page 1 of 228 of 472

DC POWER DISTRIBUTION BOARD PDB1



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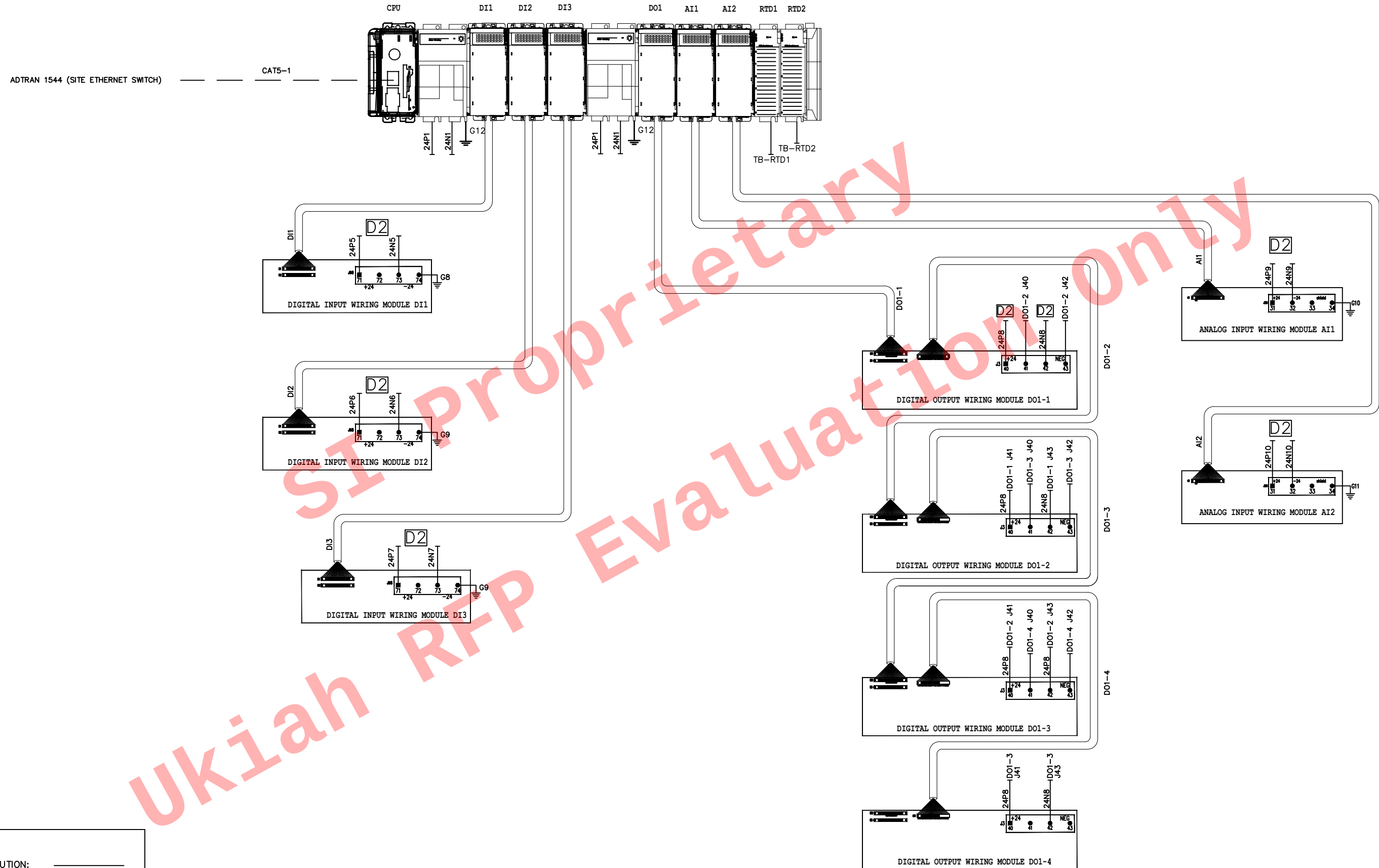
FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
DC POWER WIRING**

DRAWING NO:	SEC:
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ENGINEER:	CAD OPERATOR:
	S. BELMORE

FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
PLC CABLING DIAGRAM**

DRAWING NO:	SEC:
	D
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4/28/2020	3 of 473

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FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

DRAWING NO:	SEC:
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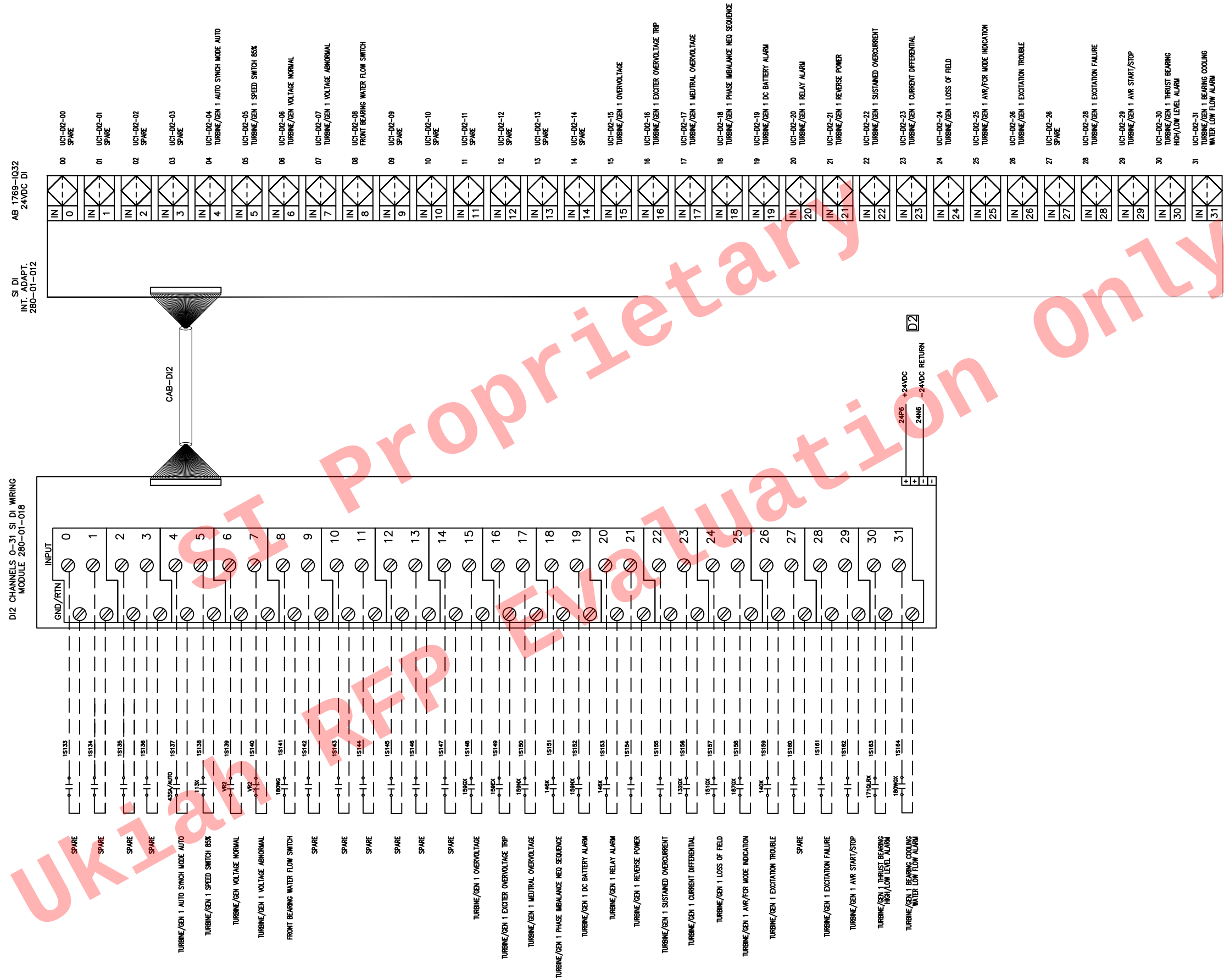
FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
DI2 MODULE**

DRAWING NO:	SEC: E
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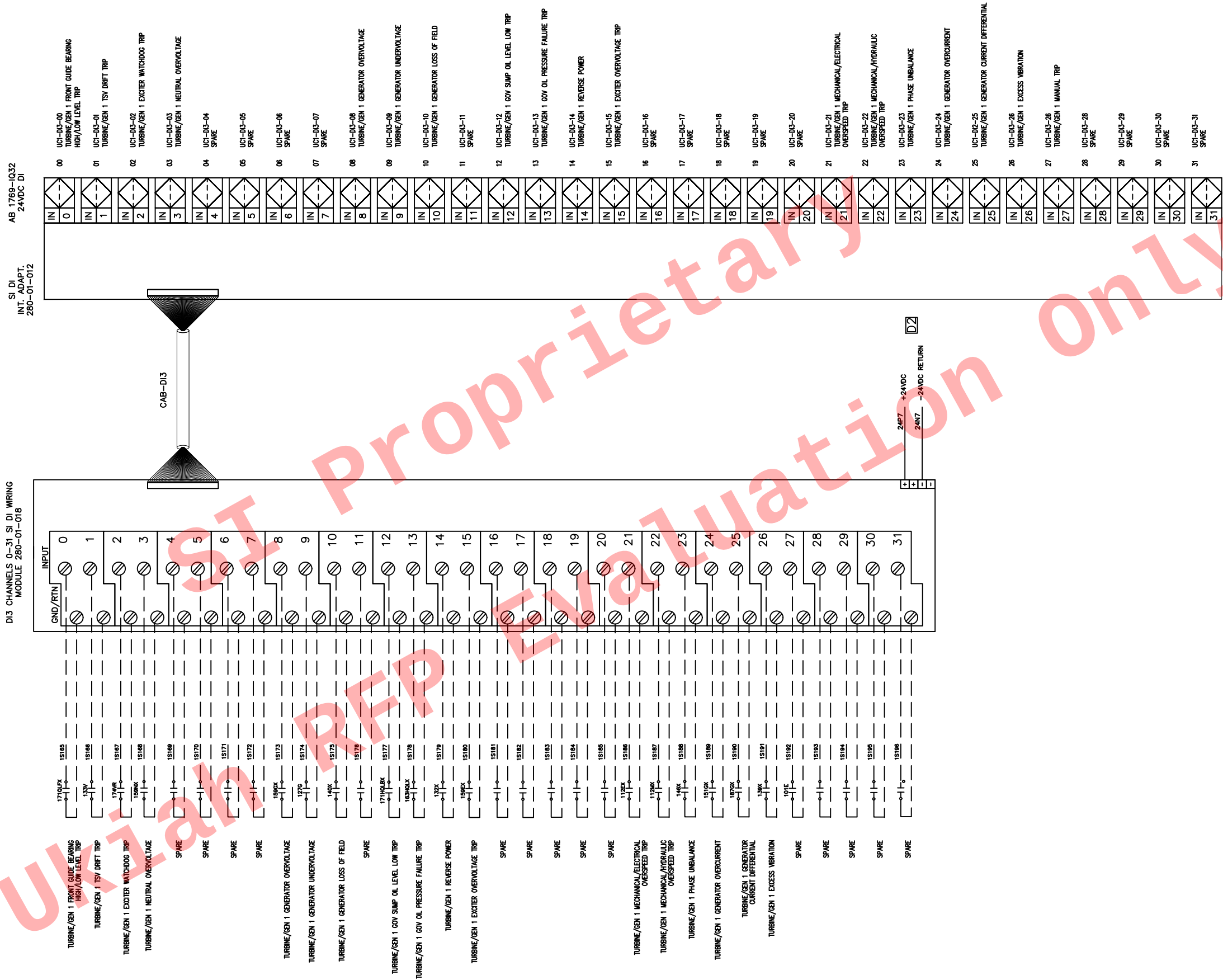
FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

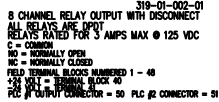
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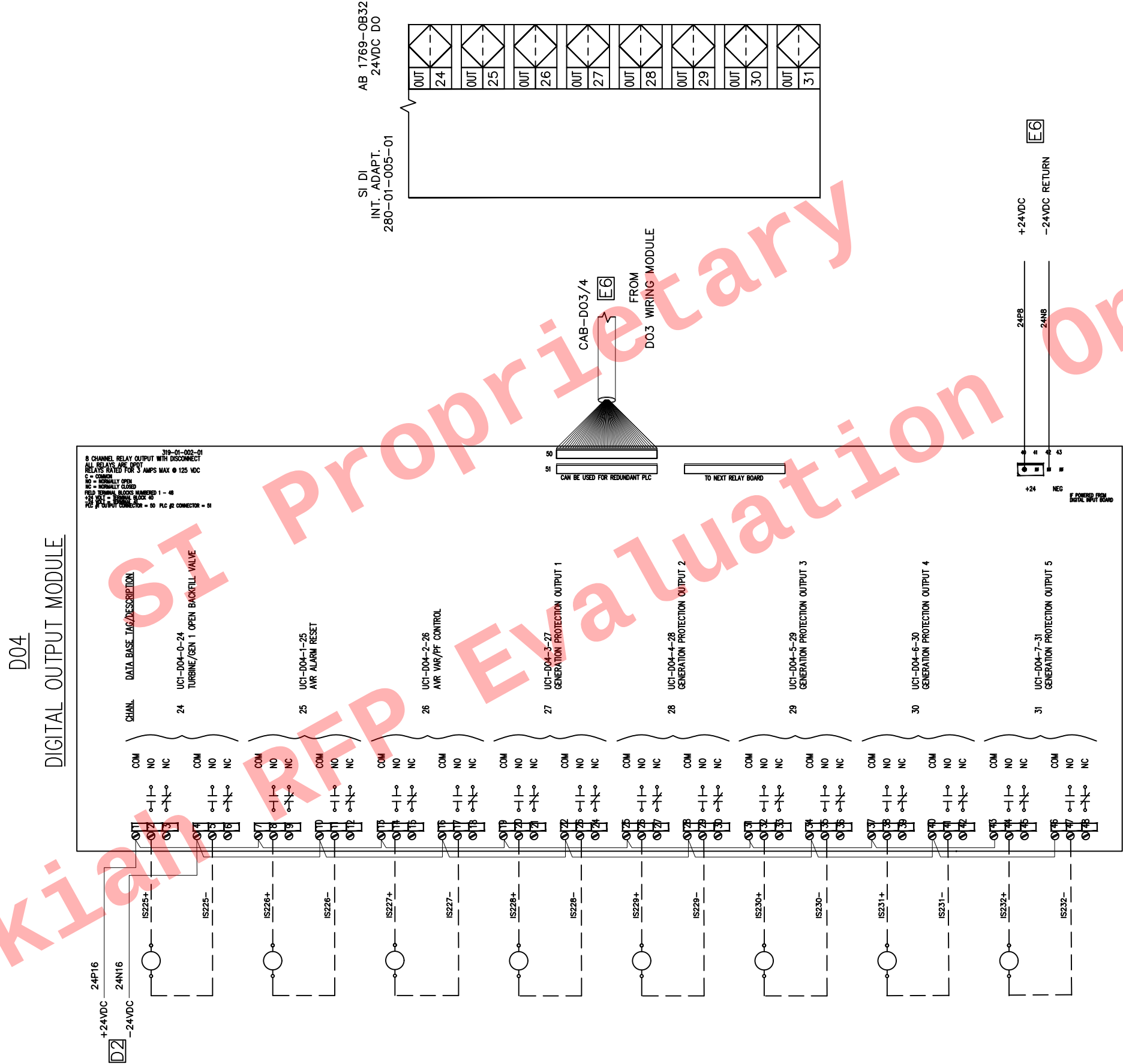
**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
DI3 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 3 of 13



D03





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ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:

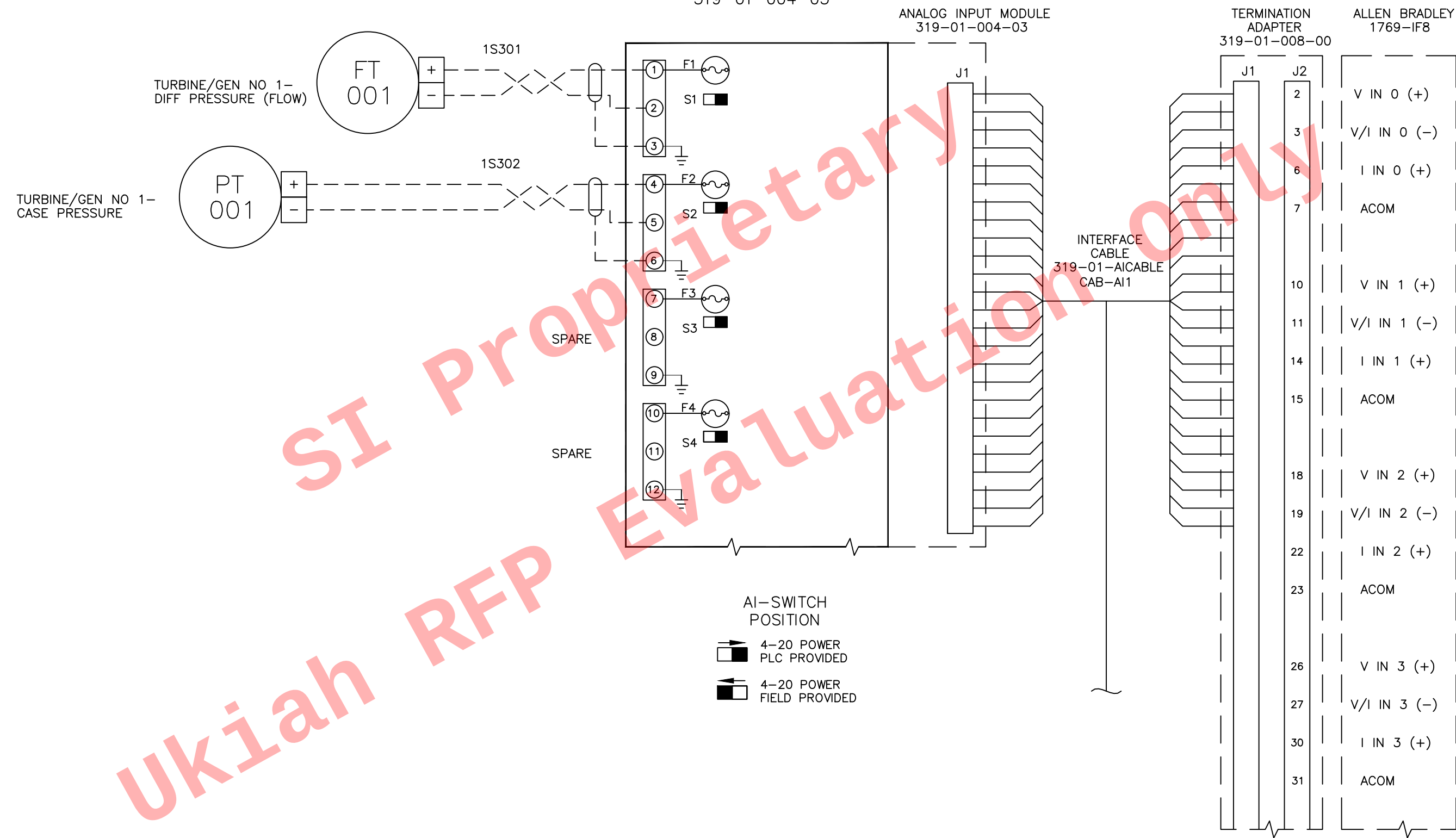
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
DO4 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: Page 7 of 237 of 413

AI1 CHANNELS 1-4 AI WIRING MODULE
319-01-004-03



REV	DESCRIPTION	DATE
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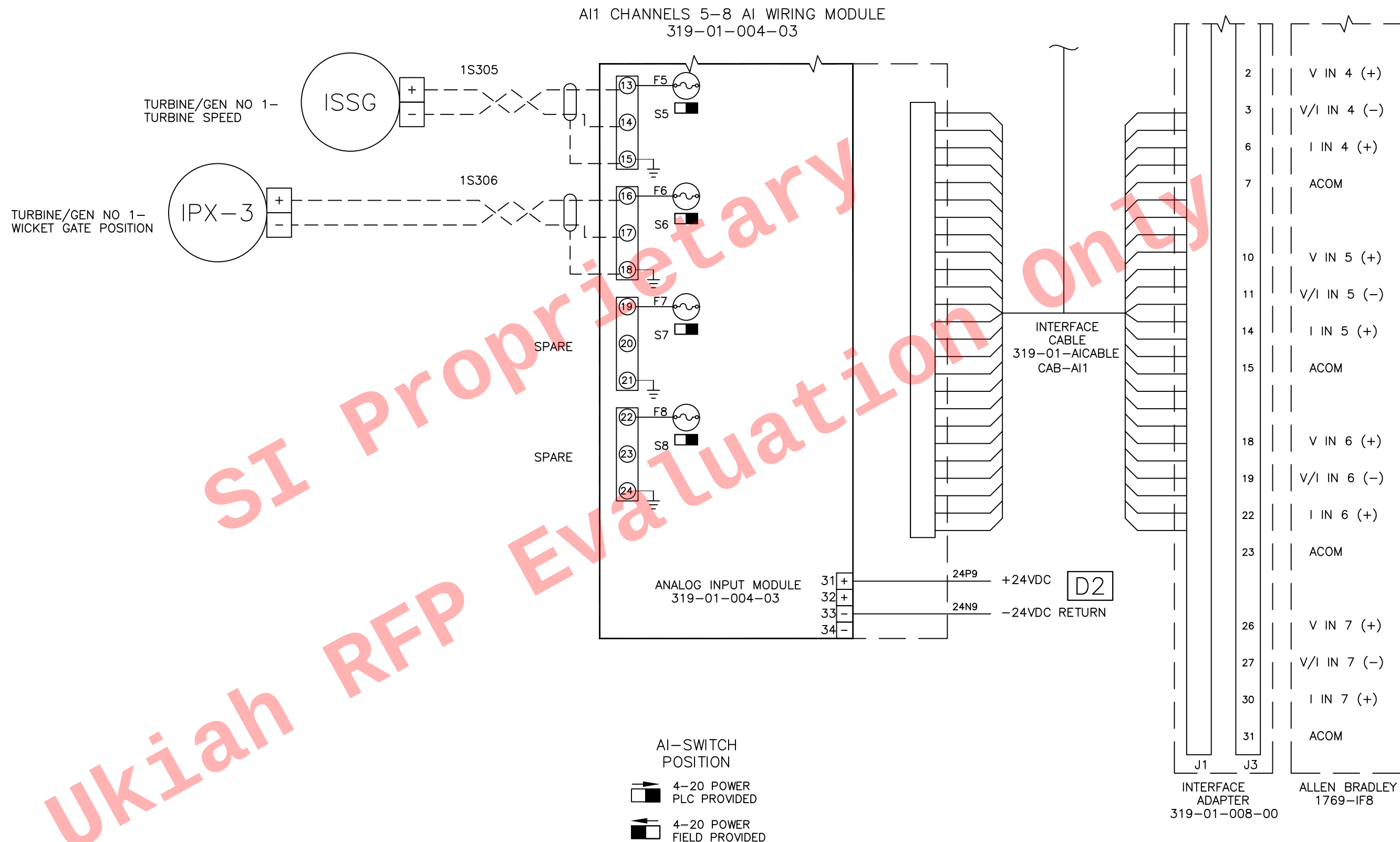
FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
AI1 MODULE (1/2)**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 3 of 4 Page 13



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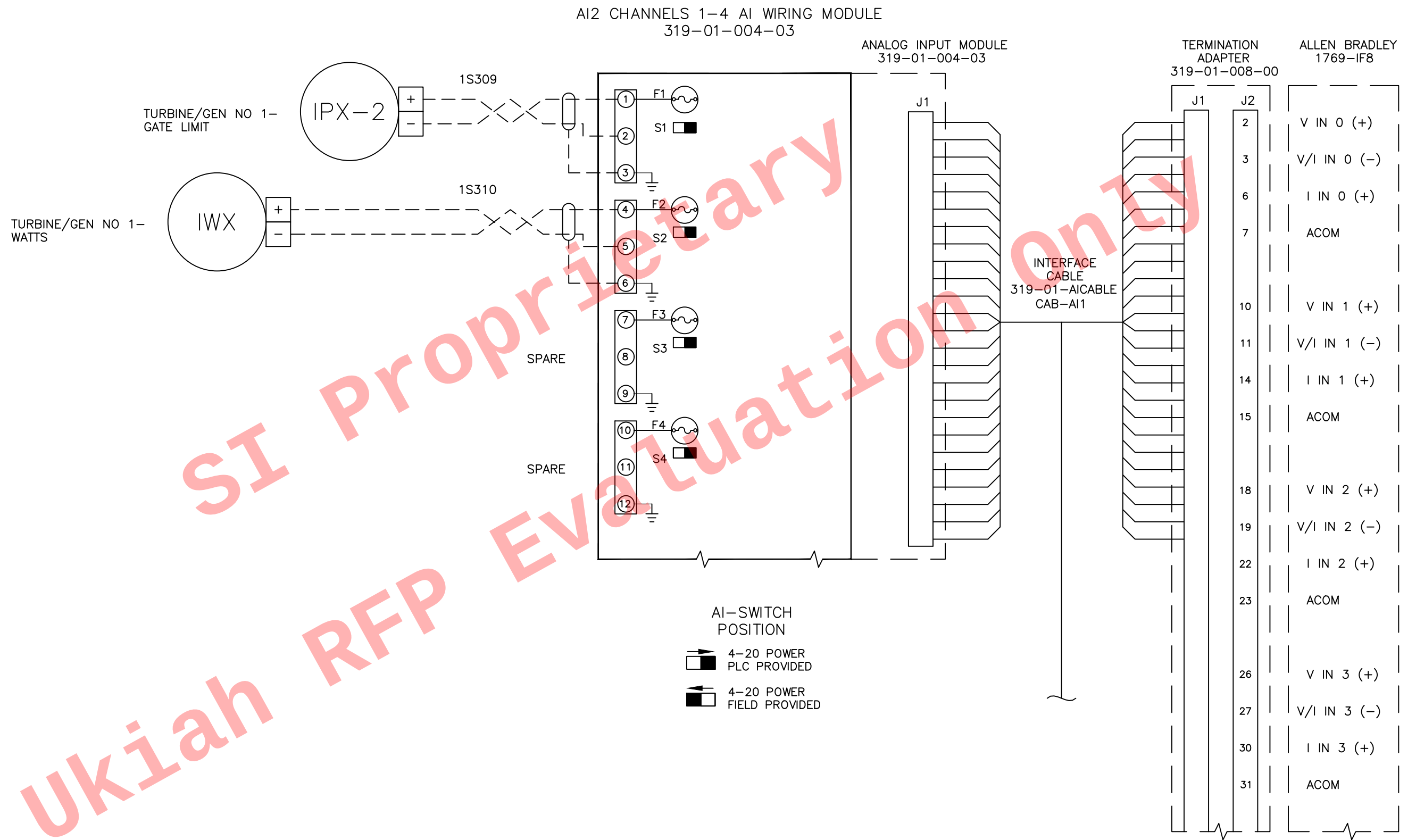
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
AI1 MODULE (2/2)**

DRAWING NO: SEC:
E

DATE: 4/28/2020 SHEET: 9 of 13



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ENGINEER:	CAD OPERATOR: S. BELMORE

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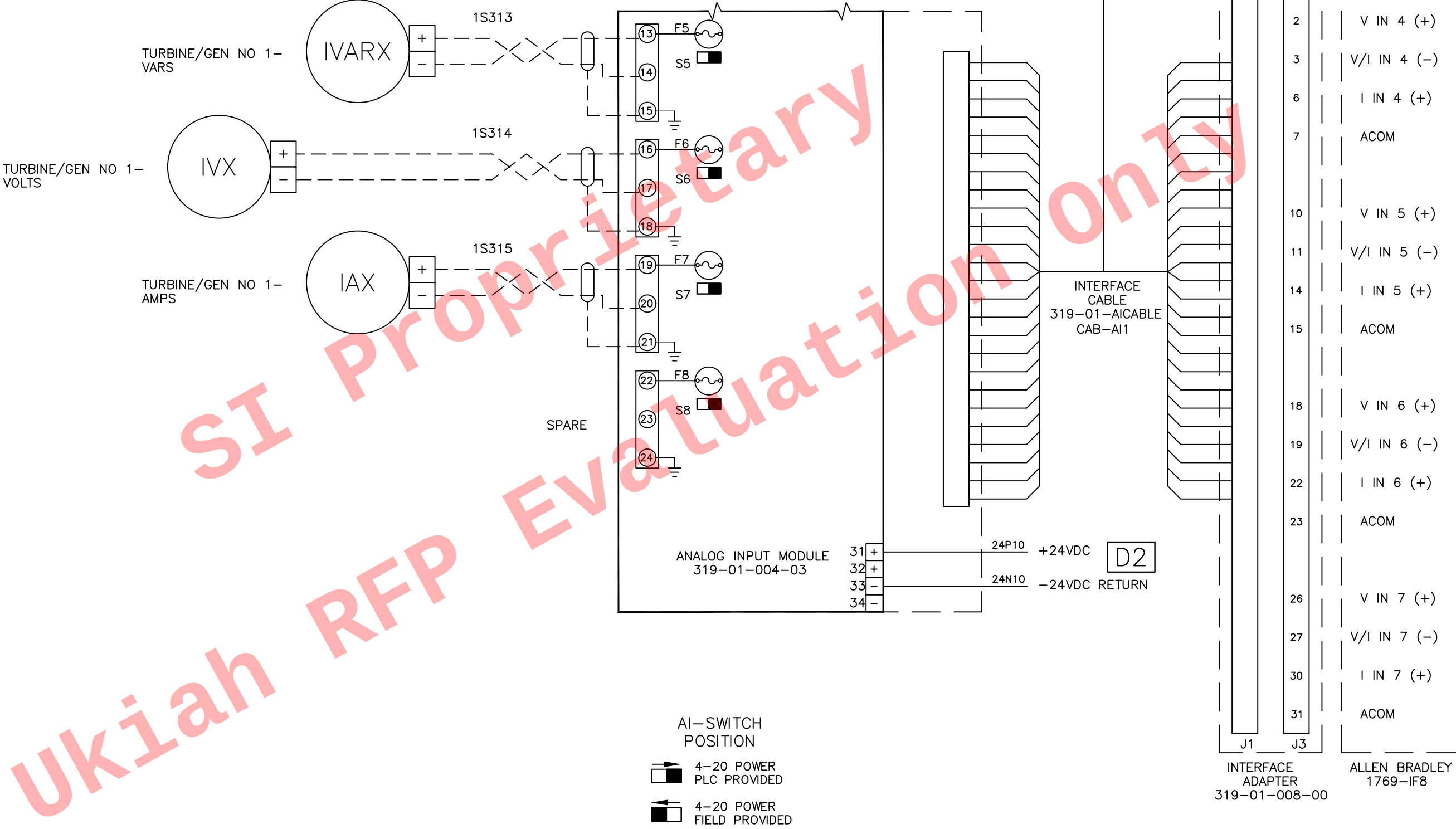
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
AI2 MODULE (1/2)**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 10 of 13

AI2 CHANNELS 5-8 AI WIRING MODULE
319-01-004-03



REV	DESCRIPTION	DATE
C		
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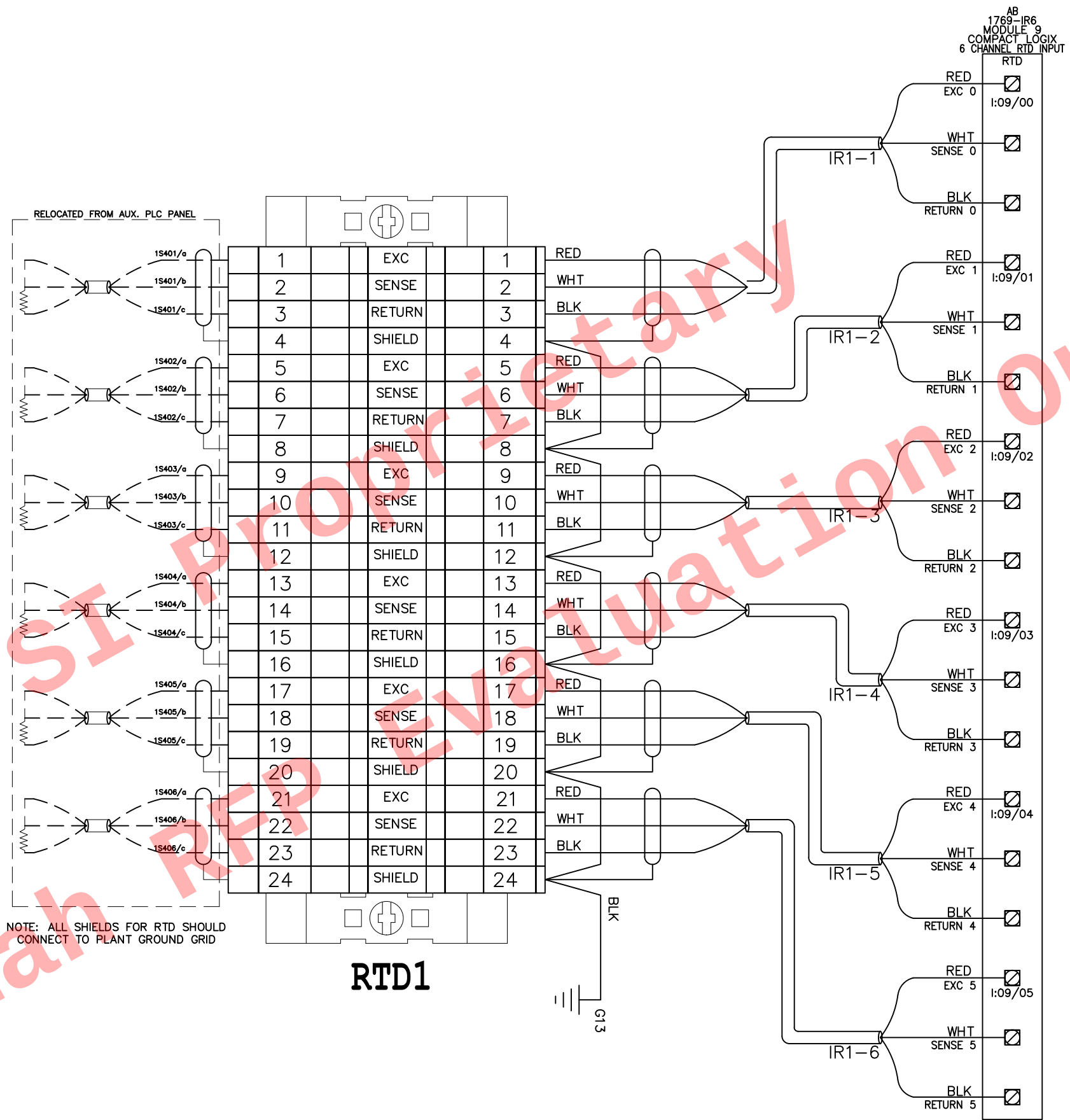
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FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
AI2 MODULE (2/2)**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 14 of 41



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B		
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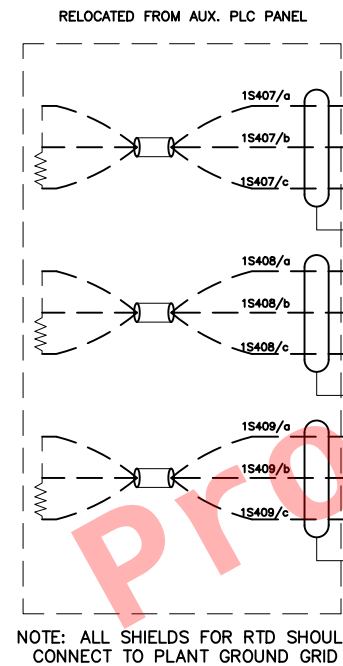
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FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

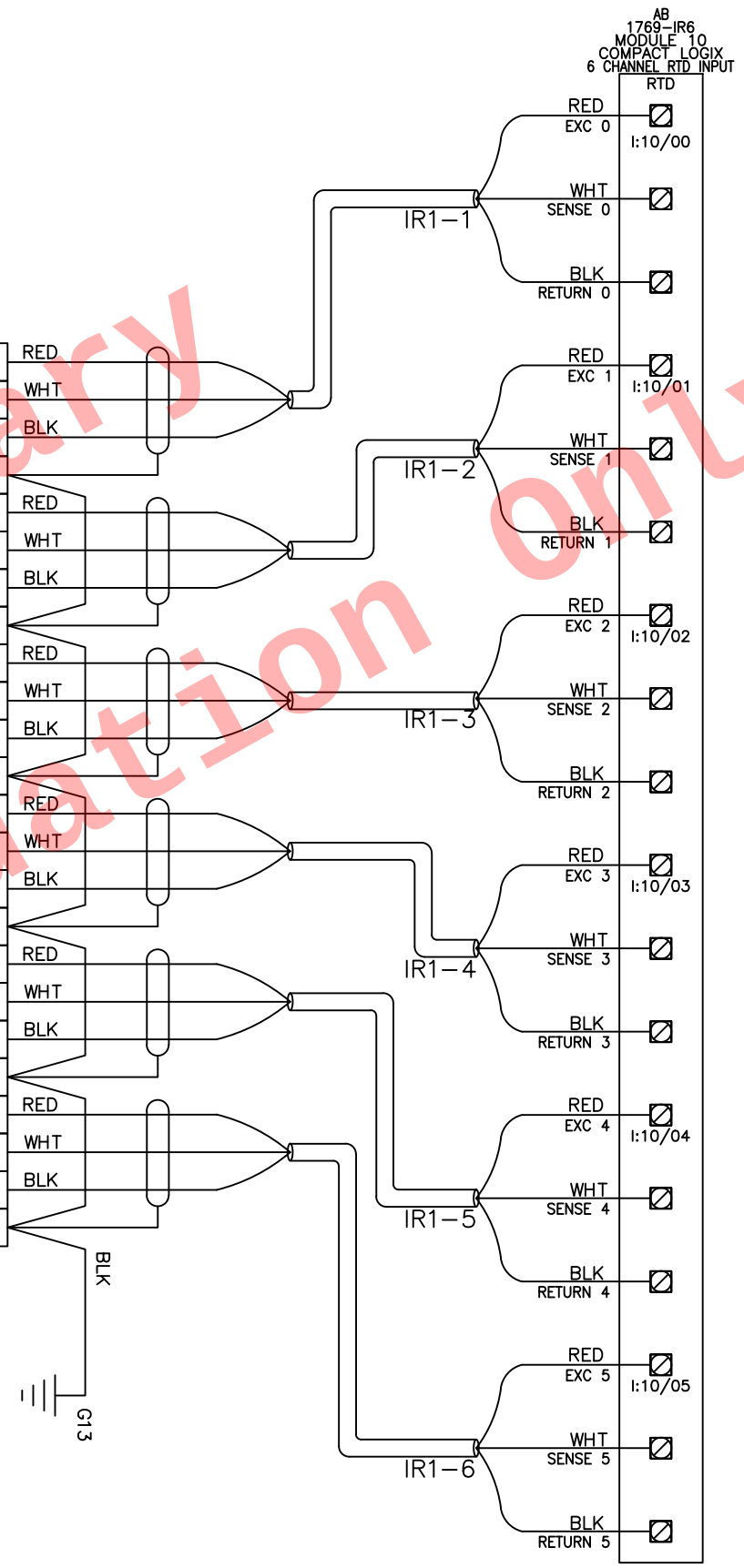
TITLE:
**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
RTD1 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 12 of 13



	1		EXC		1
	2		SENSE		2
	3		RETURN		3
	4		SHIELD		4
	5		EXC		5
	6		SENSE		6
	7		RETURN		7
	8		SHIELD		8
	9		EXC		9
	10		SENSE		10
	11		RETURN		11
	12		SHIELD		12
	13		EXC		13
	14		SENSE		14
	15		RETURN		15
	16		SHIELD		16
	17		EXC		17
	18		SENSE		18
	19		RETURN		19
	20		SHIELD		20
	21		EXC		21
	22		SENSE		22
	23		RETURN		23
	24		SHIELD		24

RTD2



UC1-RTD2-00
TURBINE/GEN 1 THRUST BEARING TEMP 2

UC1-RTD2-01
TURBINE/GEN 1 FRONT GUIDE BEARING TEMP 2

UC1-RTD2-02
TURBINE/GEN 1 FRONT GUIDE BEARING TEMP 2

UC1-RTD2-03
SPARE

UC1-RTD2-04
SPARE

UC1-RTD2-05
SPARE

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ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**UNIT 1 TURBINE/GEN 1
CONTROL PANEL
RTD2 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 13 of 13



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UKIAH LAKE MENDOCINO POWER PLANT UNIT 2 CONTROL

CONTRACT #
PROPOSAL

EQUIPMENT NAME:
UNIT 2
WESTIN DRAWING REFERENCE:
7878-E4

DATE:
4/28/2020

102

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A	RELEASED FOR PROPOSAL	4/28/2020
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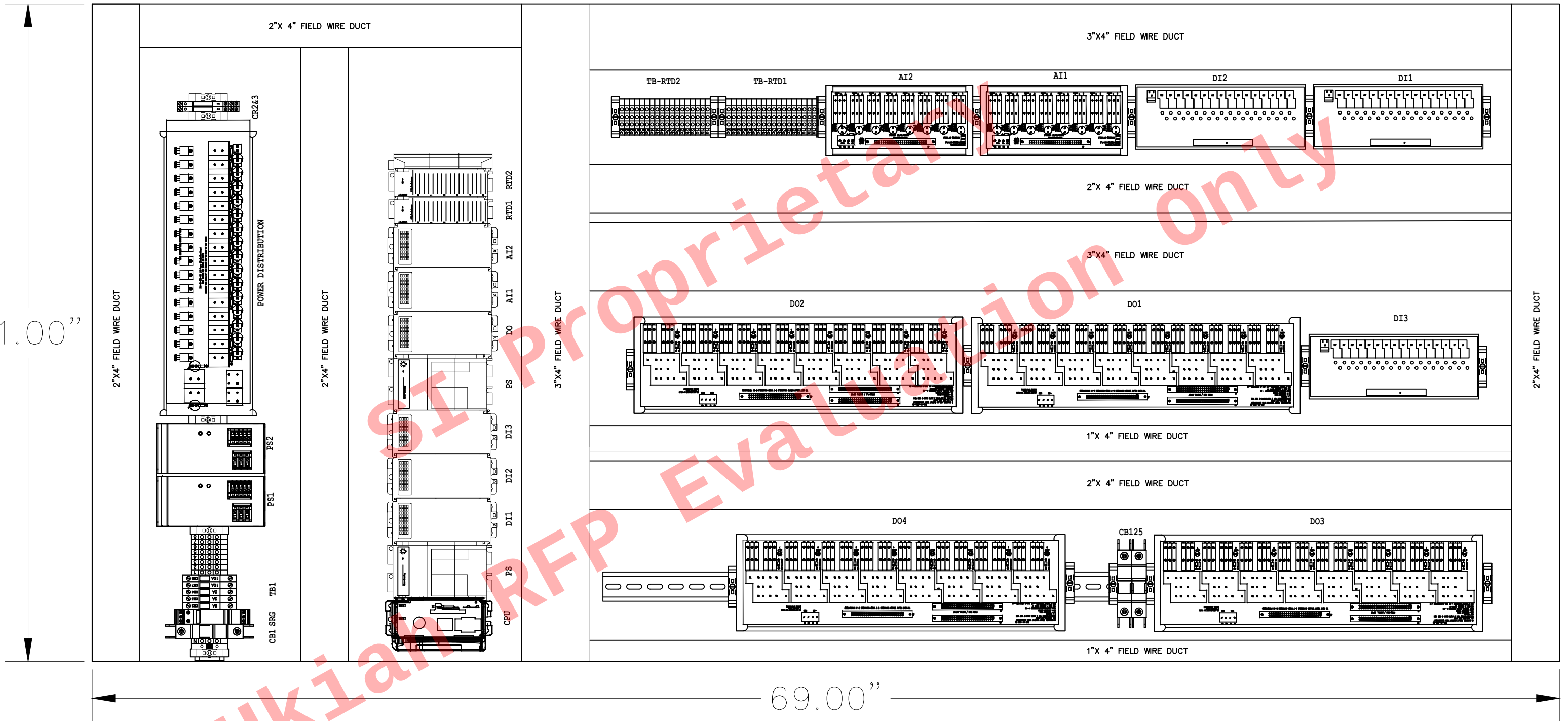
CONTRACT NO:	APPROVAL:
—	
ENGINEER:	CAD OPERATOR:
	S. BELMORE

FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**UNIT 2 TURBINE/GEN
CONTROL PANEL
TITLE PAGE**

DRAWING NO:	SEC:
-	A
DATE:	SHEET:
4/28/2020	Page 1 of 244 of 472

31.00"



REV	DESCRIPTION	DATE
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FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**UNIT 2 TURBINE/GEN 2
ENCLOSURE
PANEL LAYOUT**

DRAWING NO:	SEC: B
DATE: 4/28/2020	SHEET: Page 1 of 246 of 472

GROUP	ITEM	TYPE	DESCRIPTION	MANUFACTURER	PART NO.	QTY
A	1	ENC	Name Plate	SI	CUSTOM	1
	2	ENC	31"Wx69"W Enclosure Back Panel, Steel	SI	CUSTOM	1
	3	ENC				
	4	ENC	Wire Duct Straight, 4"x4"	Panduit	G4X4LG6	A/R
	5	ENC	Wire Duct Cover, 4"	Panduit	C4LG6	A/R
	6	ENC	Wire Duct Straight, 3"x4"	Panduit	G3X4LG6	A/R
	7	ENC	Wire Duct Cover, 3"	Panduit	C3LG6	A/R
	8	ENC	Wire Duct Straight, 2"x3"	Panduit	G2X3LG6	A/R
	9	ENC	Wire Duct Cover, 2"	Panduit	C2LG6	A/R
	10	ENC	Wire Duct Straight 1"X3"	Panduit	G1X3LG6	A/R
	11	ENC	Wire Duct Cover 1"	Panduit	C1LG6	A/R
	12	ENC	Wire Duct Attachment Rivet	Panduit	NR1-M	A/R
	13	ENC	Fluorescent Light Fixture	Hoffman	LF120V18	1
	14	ENC	Door Switch	Cherry	E79-00A	1
	15	ENC				
	16	ENC				
	17	ENC				
	18	ENC				
	19	ENC				
	20	ENC				
	21	ENC				
	23	ENC	Door Switch Bracket	Hoffman	AIFSWD	1
	24	ENC				
	25	ENC				
	26	ENC	Ground Bar	Hoffman	PGSAK	1
	27	ENC				
B	1	NET				
	2	NET				
	3	NET				
	4	NET				
C	1	PLC	Controller, Compact Logix	Allen-Bradley	1769-L35E	1
	2	PLC	Power Supply, 24VDC In	Allen-Bradley	1769-PB4	2
	3	PLC	Input Module, 32 Point, Source out	Allen-Bradley	1769-IQ32	3
	4	PLC	Output Module, 32 Point, Sink/Source	Allen-Bradley	1769-OB32	1
	5	PLC	Analog Input Module, 8 Channel	Allen-Bradley	1769-IF8	2
	6	PLC	Resistive Thermal Input Module, 6 Channel	Allen-Bradley	1769-IR6	2
	7	PLC	Right End Cap Terminator	Allen-Bradley	1769-ECR	1
	8	PLC	Interface Adapter, PLC Digital Input Module	SI	280-01-018	3
	9	PLC	Interface Adapter, PLC Digital Output Module	SI	280-01-013	1
	10	PLC	Interface Adapter, PLC Analog Input Module	SI	319-01-008-00	2
	11	PLC	Digital Input Wiring Module, 32 Point	SI	280-01-018	3
	12	PLC	8-Channel Analog Input Termination Module	SI	319-01-004-02	2
	13	PLC	Cable, Digital Input Module	SI	CUSTOM	2
	14	PLC	Cable, Digital Output Module	SI	CUSTOM	4
	15	PLC	Cable, Analog Input Module	SI	CUSTOM	2
	16	PLC				
	17	PLC	Digital Output Termination Module, 8 Point	SI	319-01-002-01	4
	18	PLC				
	19	PLC				
	20	PLC				
D	1	PWR	24 VDC Power Supply, 10 Amp	Meanwell	NDR-240-24	2
	2	PWR				
	3	PWR	Power Distribution Board	SI	319-01-006-03	1
	4	PWR	Terminal Block, Circuit Breaker	E-T-A	X 222 233 01	5
	5	PWR	Circuit Breaker, 6A	E-T-A	1180-01-06	1
	6	PWR	Circuit Breaker, 2A	E-T-A	1180-01-02	2
	7	PWR	Circuit Breaker, 10A	E-T-A	1180-01-10	2
	8	PWR				
	9	PWR	Circuit Breaker, Single Pole AC, 15 amp	Carlo-Gavazzi	GMB631PC15	1
	10	PWR	Circuit Breaker, 2-Pole AC, 3 amp	Weidmuller	BR2C3UC	1
	11	PWR	Duplex Receptacle, GFI Din Rail Mount	Allen-Bradley	1492-REC15G	1
	12	PWR				
E	1	TRM	Din Rail 35mm	Phoenix Contact	1201730	A/R
	2	TRM	Terminal Block, 6mm	Weidmuller	0380560000	A/R
	3	TRM	End Barrier	Weidmuller	800886	A/R
	4	TRM	Marker Card	Weidmuller	0576260000	A/R
	5	TRM	Terminal Block, Grounding	Weidmuller	0661360000	A/R
	6	TRM	Center Bridge Jumper	Weidmuller	0457000000	A/R
	7	TRM	Partition Plate	Weidmuller	0117920000	A/R
F	1	WIR	Hook-Up Wire, 16 GA 1015 TEW, BLU	Belden	8917/13	A/R
	2	WIR	Hook-Up Wire, 16 GA 1015 TEW, BLK	Belden	8917/10	A/R
	3	WIR	Hook-Up Wire, 16 GA 1015 TEW, RED	Belden	8917/2	A/R
	4	WIR	CAT5e Network Cable-BLUE	Cables To Go	27424	A/R
	5	WIR	CAT5e Network Cable-RED	Cables To Go	27428	A/R
	6	WIR	CAT5e Outside Plant-BLACK	Mohawk	M57561	A/R
G	1	RLY	Weidmuller	Weidmuller	1123090000	2
	2	RLY				
	3	RLY				
	4	RLY				
	5	RLY				
	6	RLY				
	7	RLY				
	8	RLY				
H	1	HMI				
	2	HMI				
	3	HMI				

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FOR:

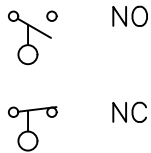
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

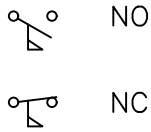
**UNIT 2 TURBINE/GEN 2
ENCLOSURE
BILL OF MATERIAL**

DRAWING NO:		SEC: B
DATE: 4/28/2020	SHEET: 2 of 472	

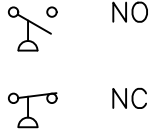
LIQUID LEVEL
ACTUATED SWITCH
CHANGES ON
RISING LEVEL



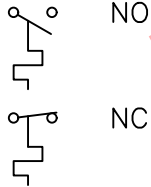
FLOW
ACTUATED SWITCH
CHANGES ON
INCREASING FLOW



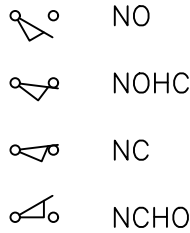
PRESSURE
OR VACUUM
ACTUATED SWITCH
CHANGES ON
RISING PRESSURE



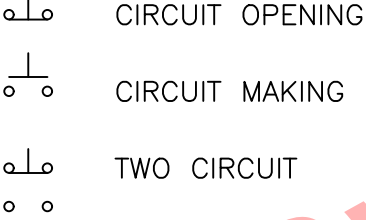
TEMPERATURE
ACTUATED SWITCH
CHANGES ON
RISING TEMPERATURE



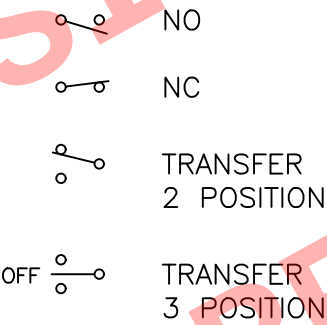
LIMIT SWITCH
DIRECTLY ACTUATED
SPRING RETURNED



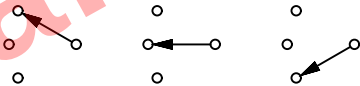
PUSHBUTTON SWITCH
MOMENTARY OR
SPRING RETURN



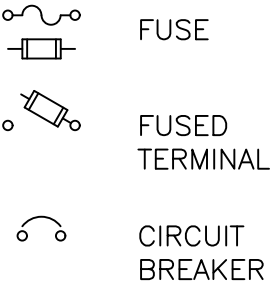
TOGGLE SWITCH



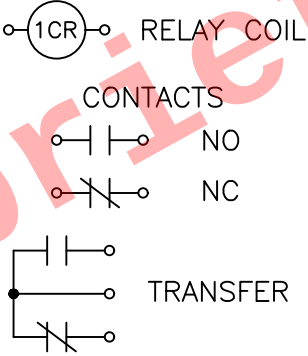
MULTIPOSITION
SWITCH



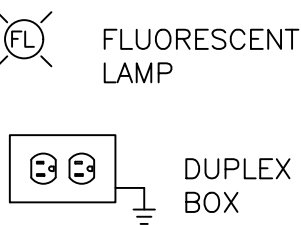
CIRCUIT PROTECTION



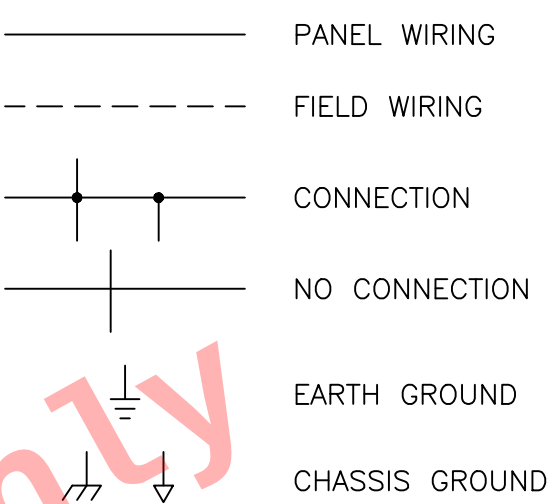
RELAY



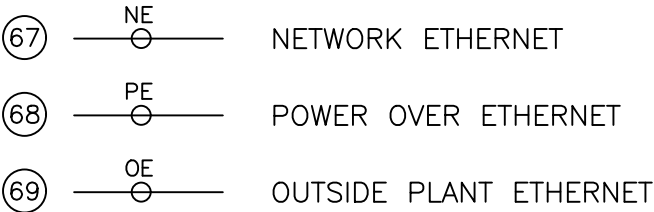
MISCELLANEOUS



WIRING SYMBOLS



ETHERNET CABLES



ABBREVIATIONS

NO	NORMALLY OPEN
NOHC	NORMALLY OPEN HELD CLOSED
NC	NORMALLY CLOSED
NCHO	NORMALLY CLOSED HELD OPENED

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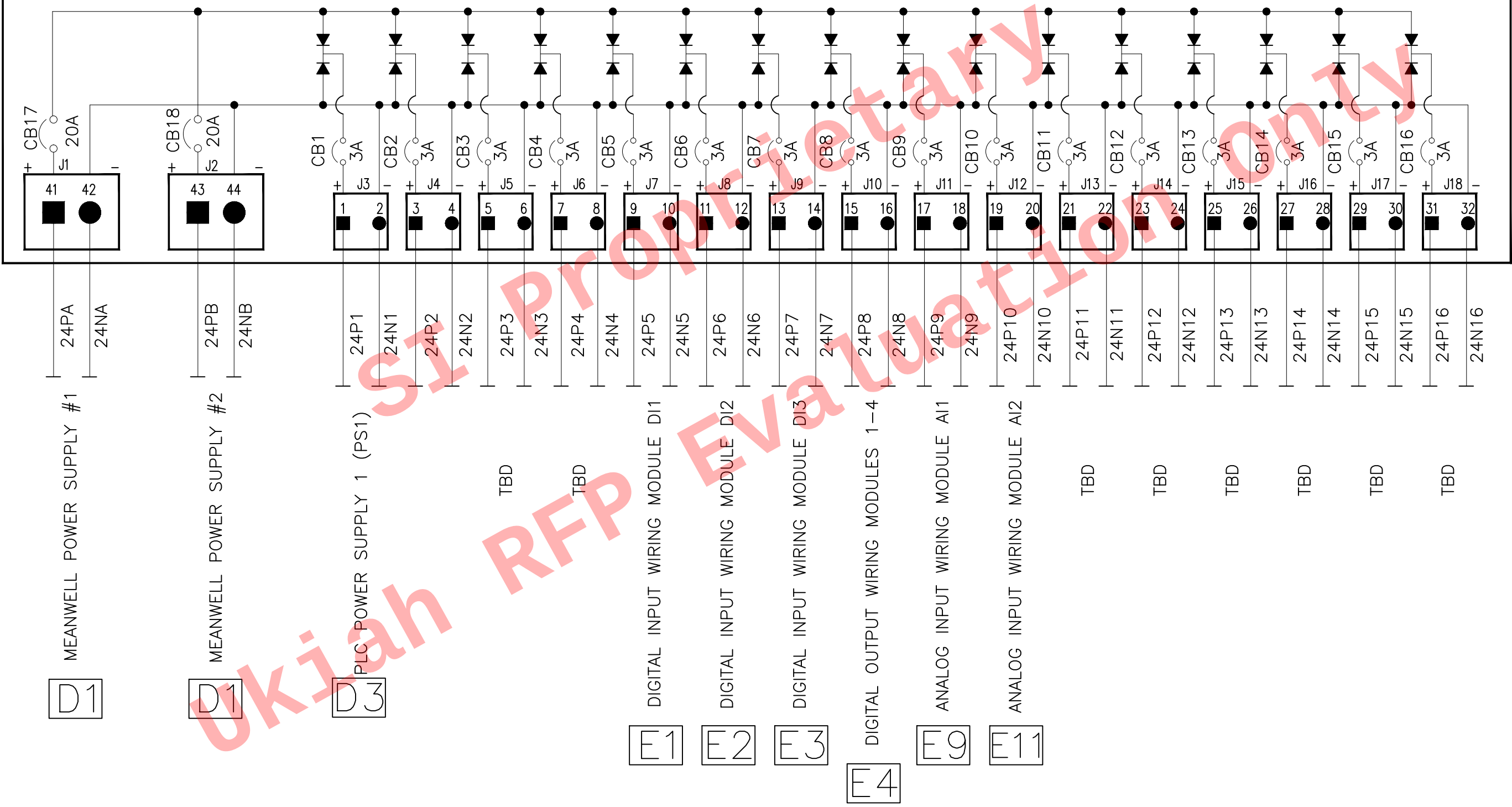
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ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**UNIT 2 TURBINE/GEN 2
CONTROL PANEL
ELECTRICAL SYMBOLS**

DRAWING NO:	SEC: C
DATE: 4/28/2020	SHEET: Page 1 of 47

DC POWER DISTRIBUTION BOARD PDB1



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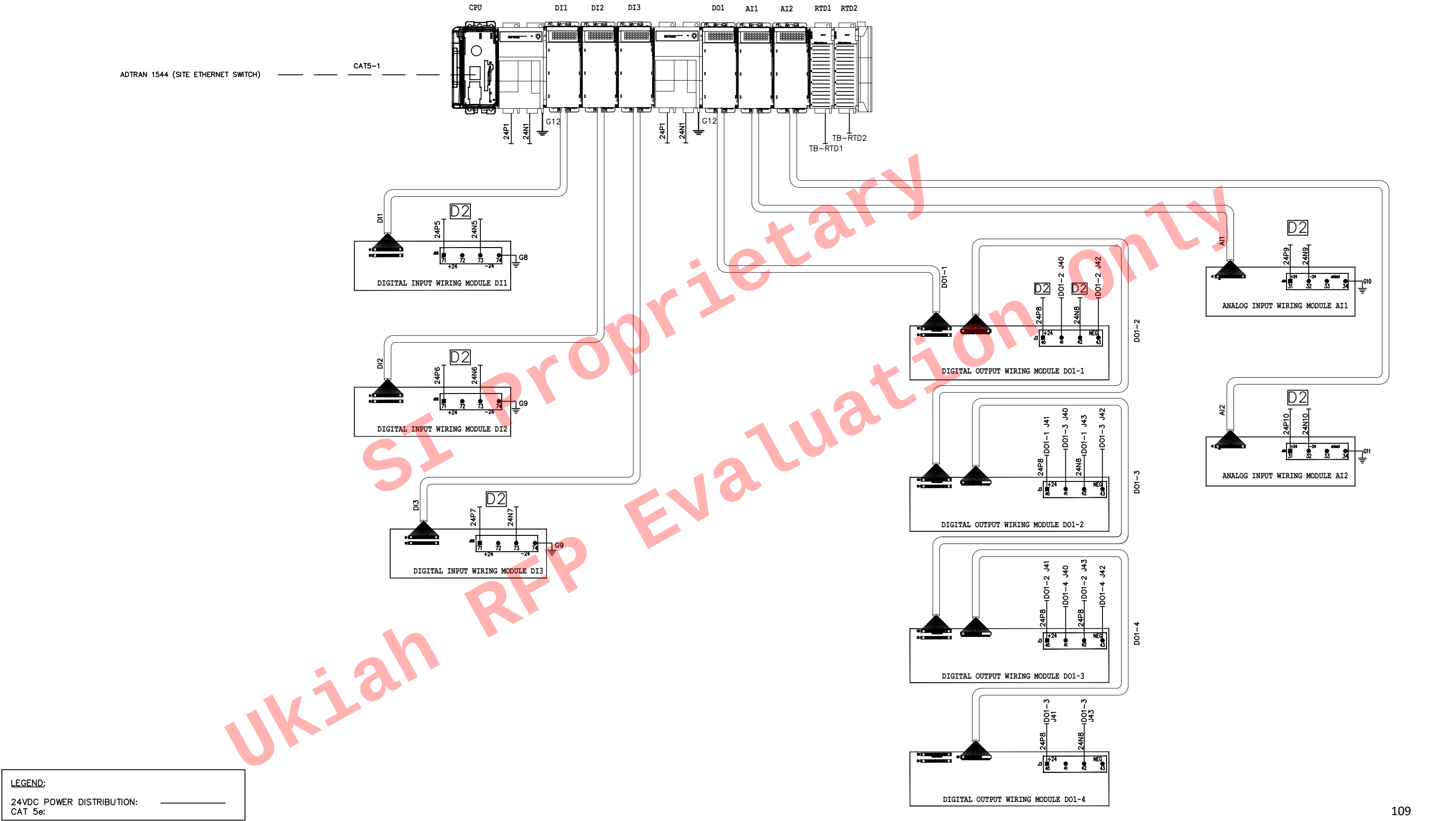
FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 2 TURBINE/GEN 2
CONTROL PANEL
DC POWER WIRING**

DRAWING NO:	SEC: D
DATE: 4/28/2020	SHEET: 250 of 473



LEGEND:
24VDC POWER DISTRIBUTION: _____
CAT 5e: _____

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ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**UNIT 2 TURBINE/GEN 2
CONTROL PANEL
PLC CABLING DIAGRAM**

DRAWING NO:	SEC: D
DATE: 4/28/2020	SHEET: Page 3 of 473

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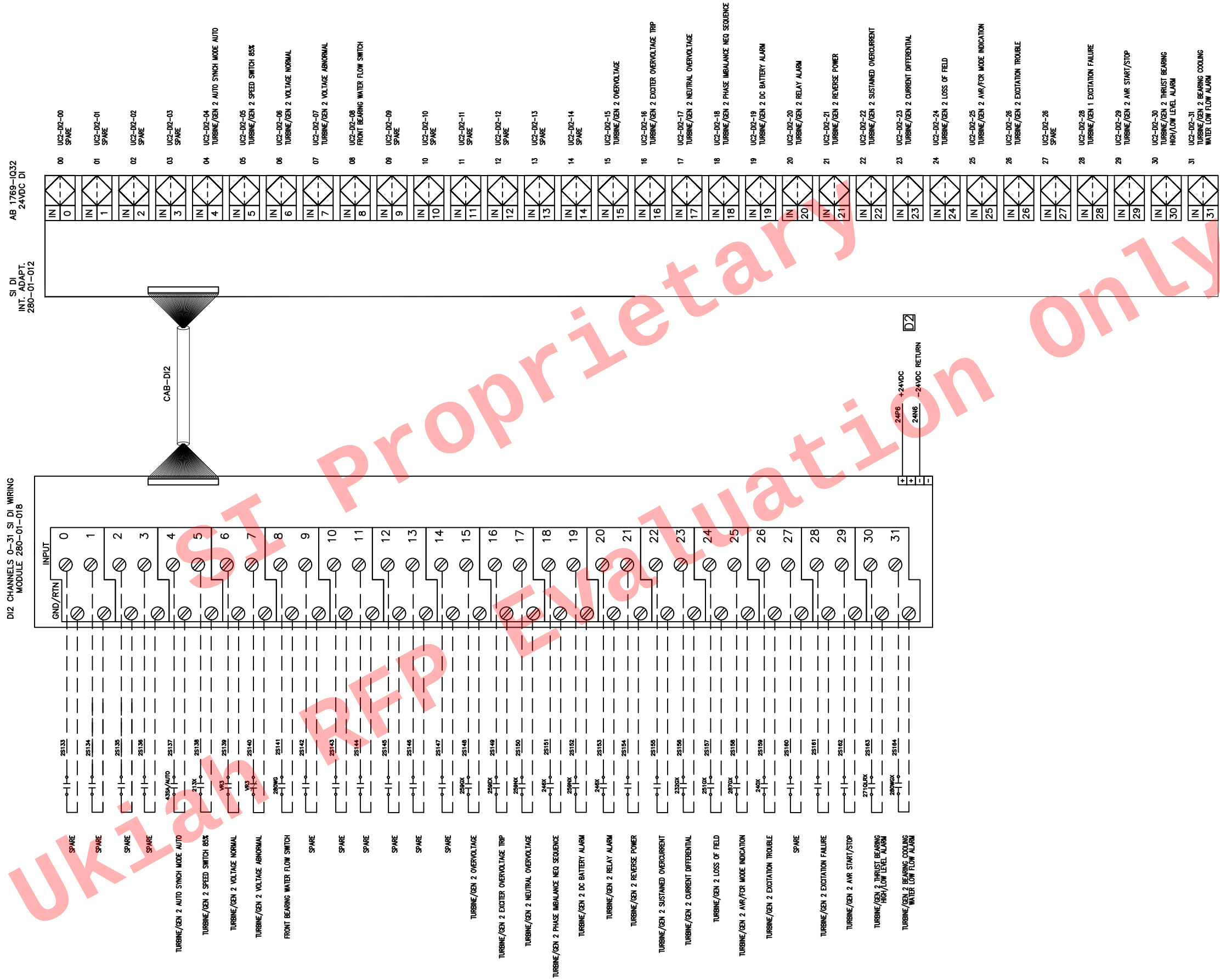
FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 2 TURBINE/GEN 2
CONTROL PANEL
DI2 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 253 of 413



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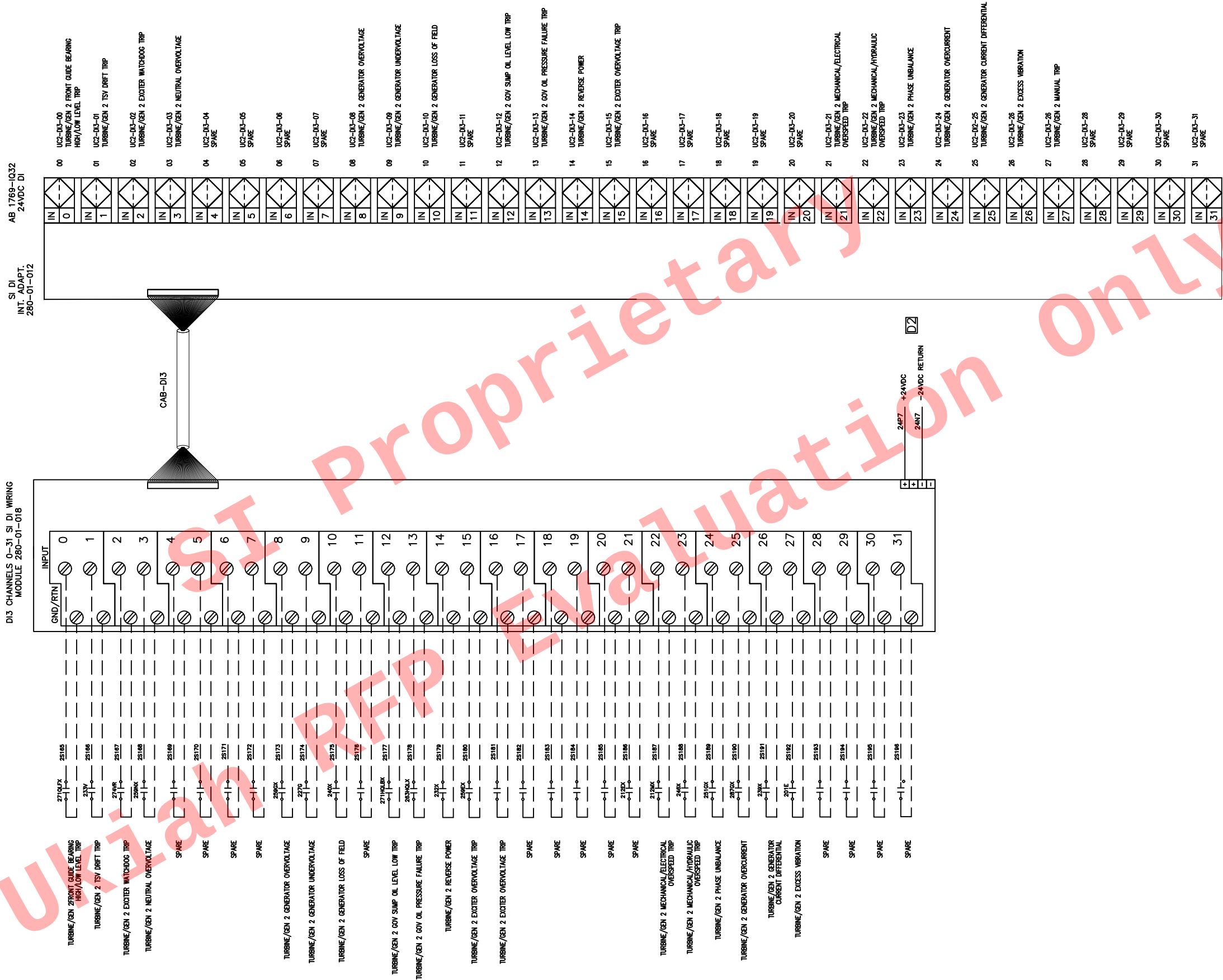
FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

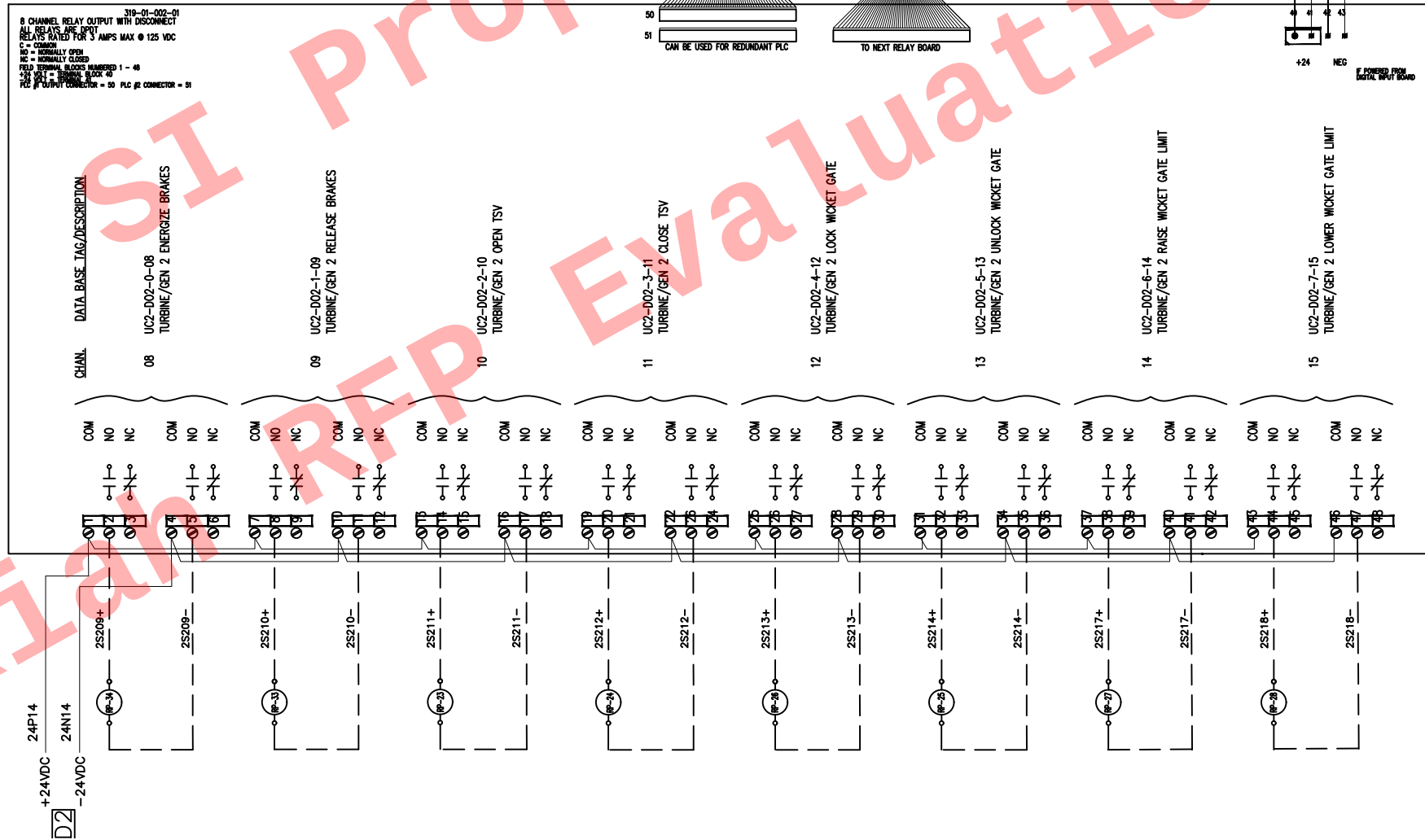
TITLE:

**UNIT 2 TURBINE/GEN 2
CONTROL PANEL
DI3 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 3 of 13

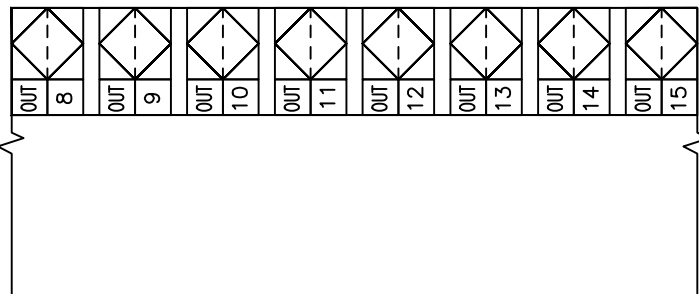


D02
DIGITAL OUTPUT MODULE



SI DI
INT. ADAPT.
280-01-005-01

AB 1769-OB32
24VDC DO



E4

E6

REV	DESCRIPTION	DATE
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CONTRACT NO:	APPROVAL:
ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**UNIT 2 TURBINE/GEN 2
CONTROL PANEL
DO2 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 5 of 13

D03



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CONTRACT NO:

APPROVAL:

ENGINEER:

CAD OPERATOR:
S. BELMORE

FOR:

UKIAH LAKE MENDOCINO POWER PLANT

TITLE:

UNIT 2 TURBINE/GEN 2 CONTROL PANEL DO3 MODULE

DRAWING NO:

SEC:

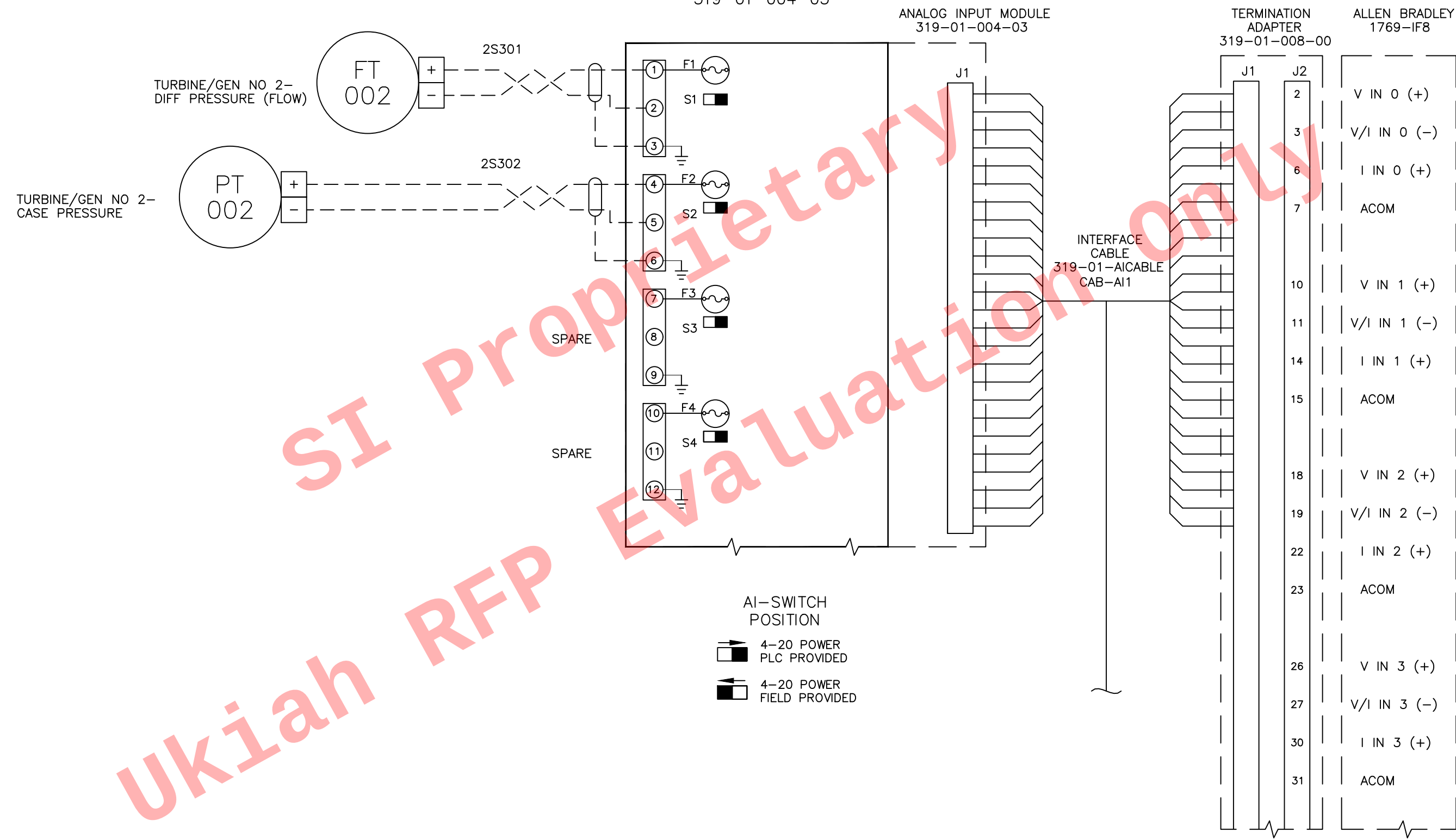
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DATE:
4/28/2020

SHEET:

Page 257 of 478

AI1 CHANNELS 1-4 AI WIRING MODULE
319-01-004-03



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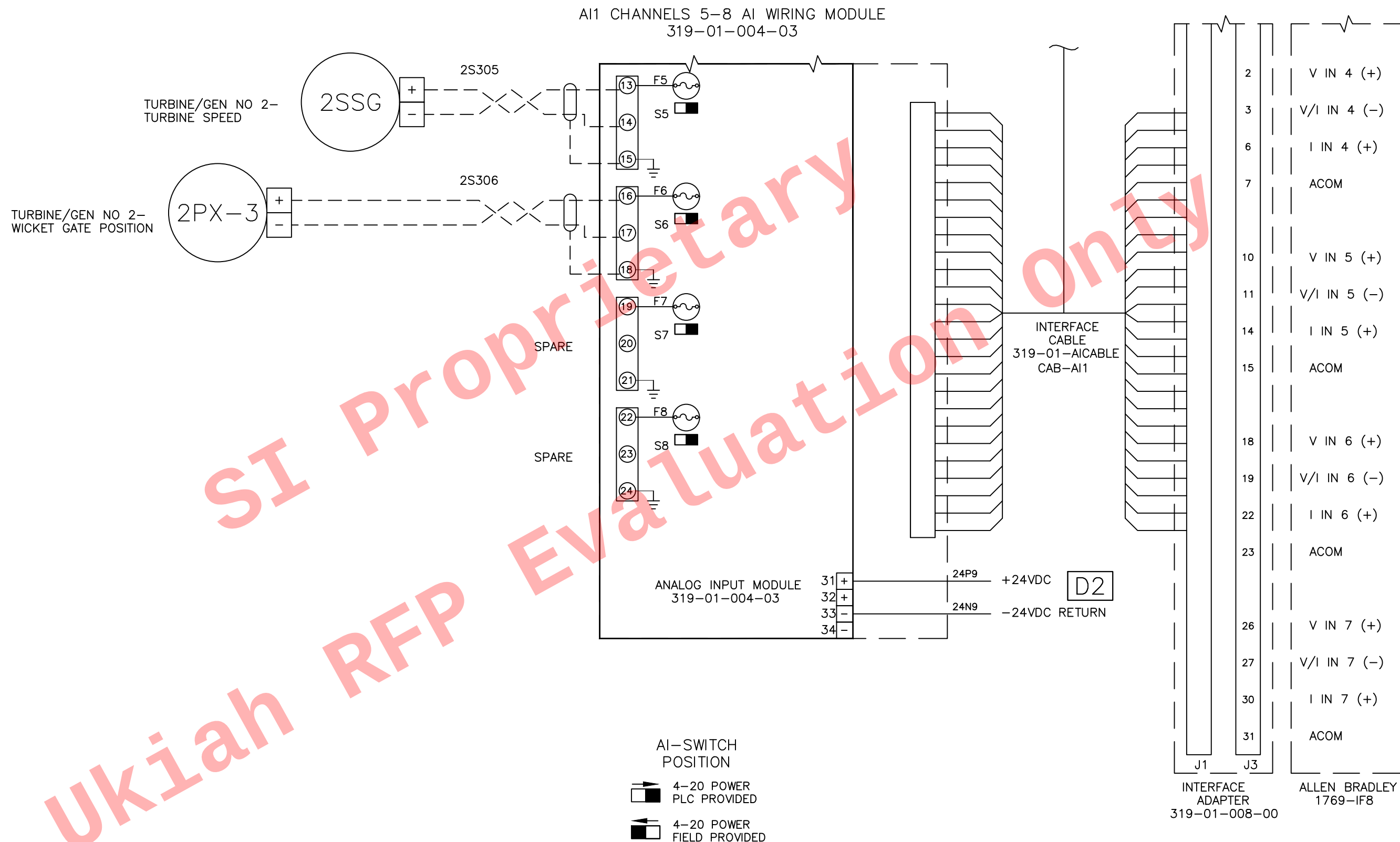
FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 2 TURBINE/GEN 2
CONTROL PANEL
AI1 MODULE (1/2)**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 3258 of 4133



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ENGINEER:	CAD OPERATOR: S. BELMORE

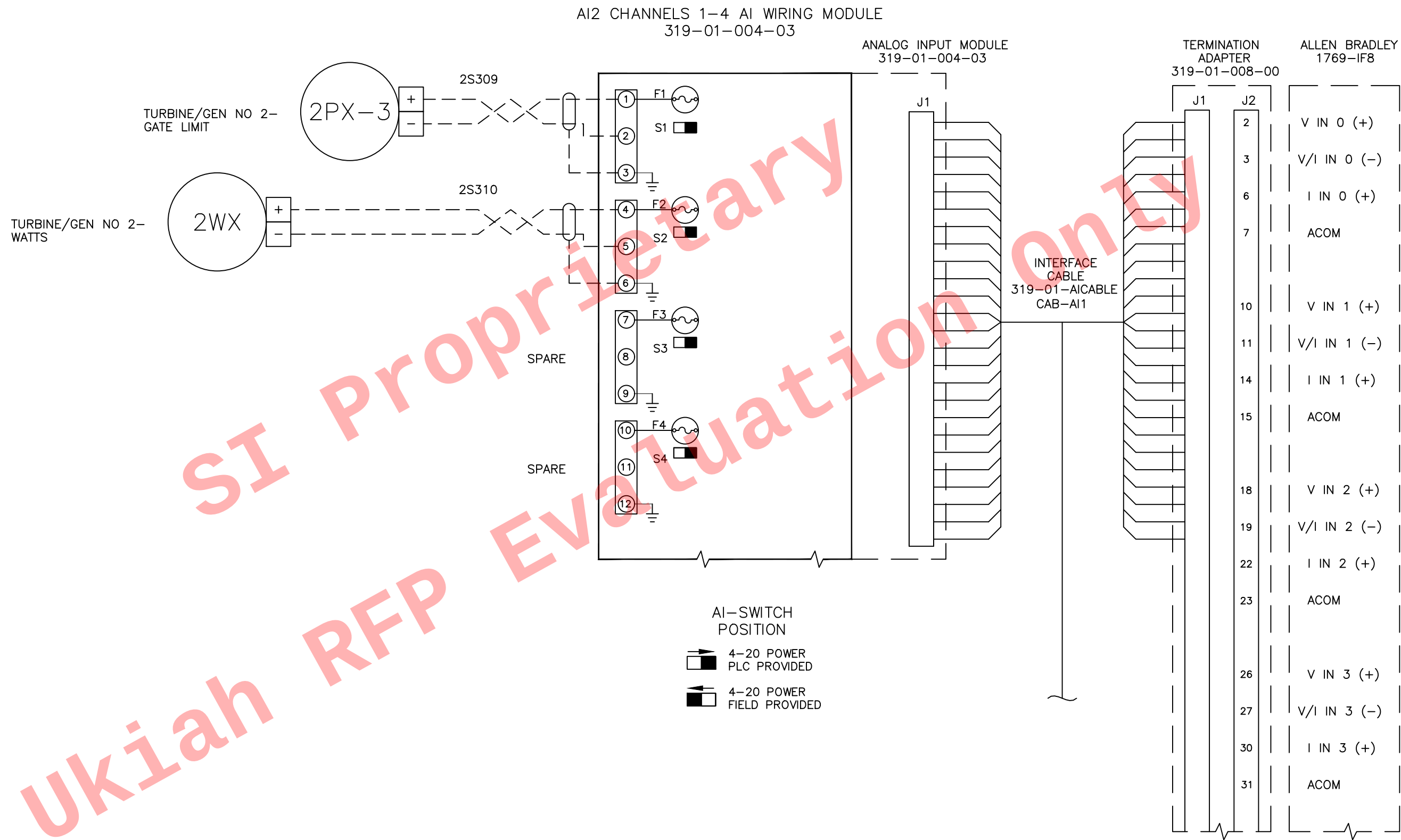
FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 2 TURBINE/GEN 2
CONTROL PANEL
AI1 MODULE (2/2)**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: Page 260 of 413



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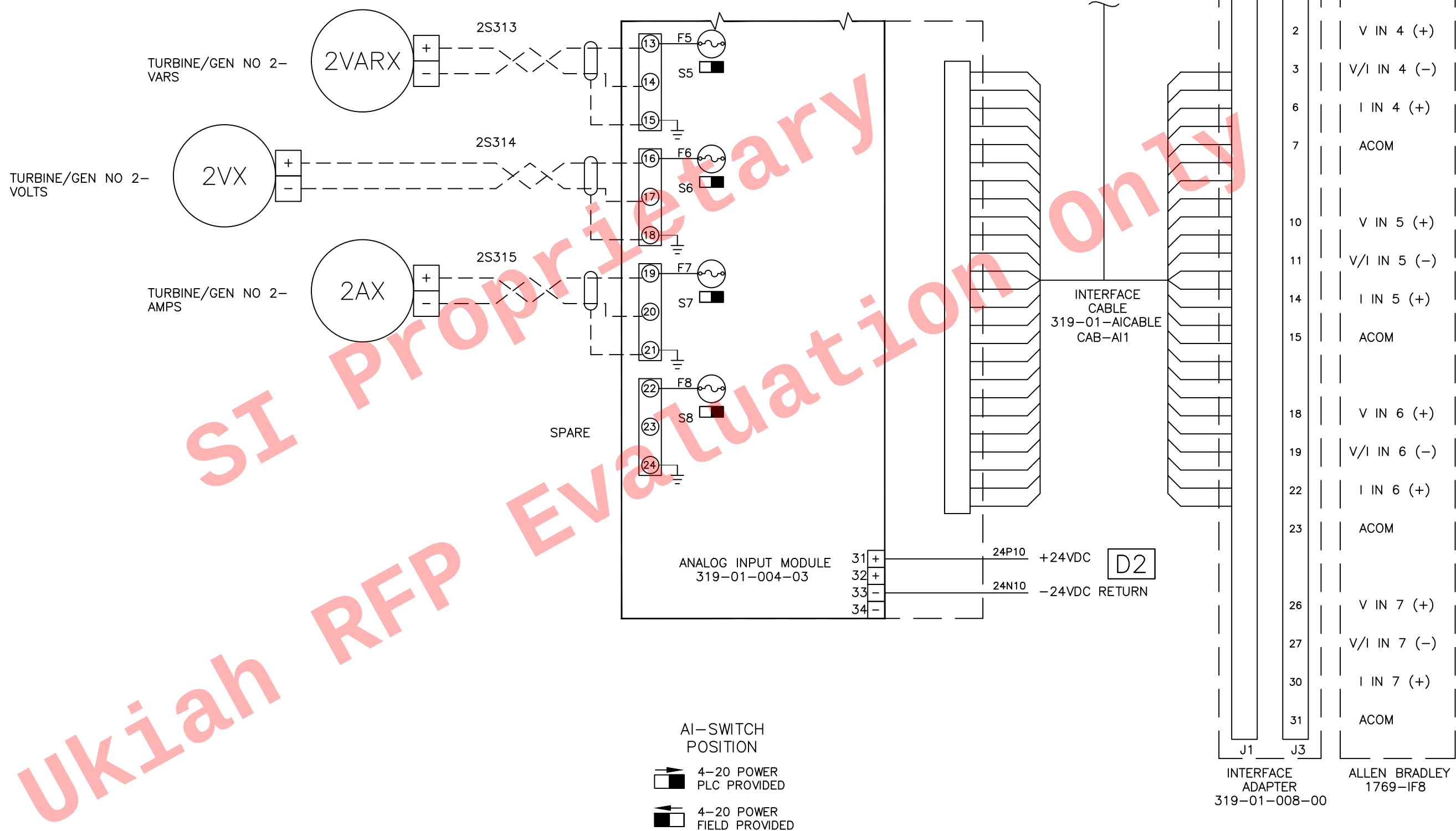
CONTRACT NO:	APPROVAL:
ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:
**UNIT 2 TURBINE/GEN 2
CONTROL PANEL
AI2 MODULE (1/2)**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 10 of 13

AI2 CHANNELS 5-8 AI WIRING MODULE
319-01-004-03



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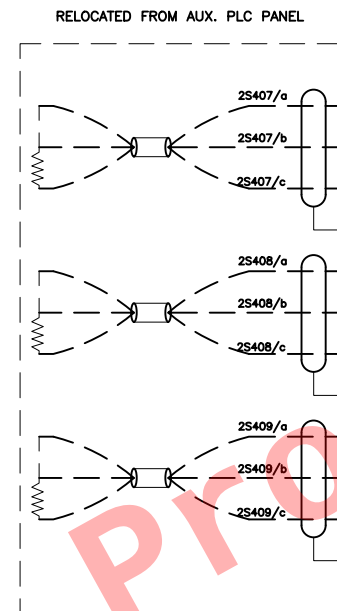
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ENGINEER:	CAD OPERATOR: S. BELMORE

FOR:
**UKIAH
LAKE MENDOCINO
POWER PLANT**

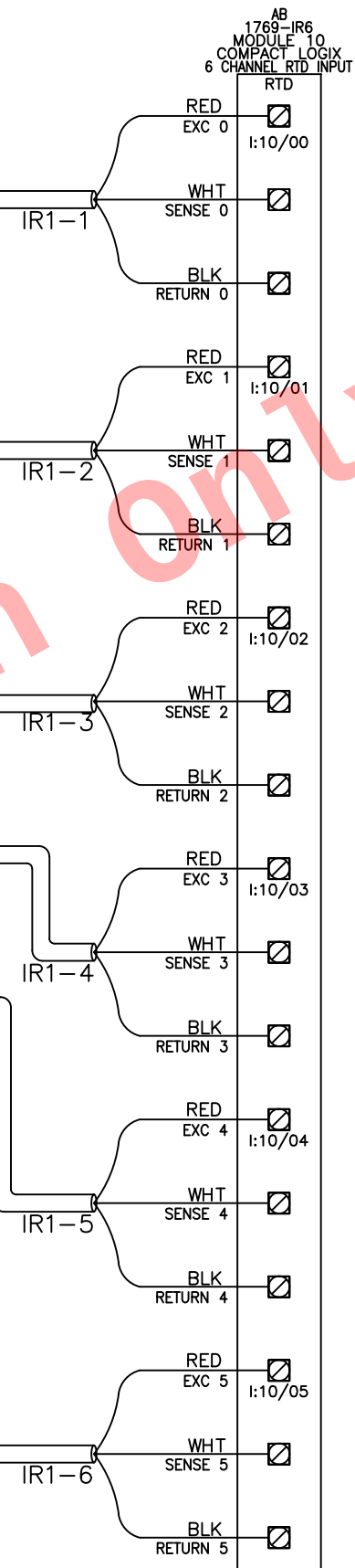
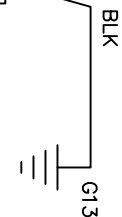
TITLE:
**UNIT 2 TURBINE/GEN 2
CONTROL PANEL
AI2 MODULE (2/2)**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 11 of 13



1	EXC	1
2	SENSE	2
3	RETURN	3
4	SHIELD	4
5	EXC	5
6	SENSE	6
7	RETURN	7
8	SHIELD	8
9	EXC	9
10	SENSE	10
11	RETURN	11
12	SHIELD	12
13	EXC	13
14	SENSE	14
15	RETURN	15
16	SHIELD	16
17	EXC	17
18	SENSE	18
19	RETURN	19
20	SHIELD	20
21	EXC	21
22	SENSE	22
23	RETURN	23
24	SHIELD	24

RTD2



- AB 1769-IR6 MODULE 10 COMPACT LOGIX 6 CHANNEL RTD INPUT
- RTD
- UC2-RTD2-00 TURBINE/GEN 2 THRUST BEARING TEMP 2
- UC2-RTD2-01 TURBINE/GEN 2 FRONT GUIDE BEARING TEMP 2
- UC2-RTD2-02 TURBINE/GEN 2 FRONT GUIDE BEARING TEMP 2
- UC2-RTD2-03 SPARE
- UC2-RTD2-04 SPARE
- UC2-RTD2-05 SPARE

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FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**UNIT 2 TURBINE/GEN 2
CONTROL PANEL
RTD2 MODULE**

DRAWING NO:	SEC: E
DATE: 4/28/2020	SHEET: 13 of 13



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UKIAH LAKE MENDOCINO POWER PLANT PLC DIAGRAM

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FOR:

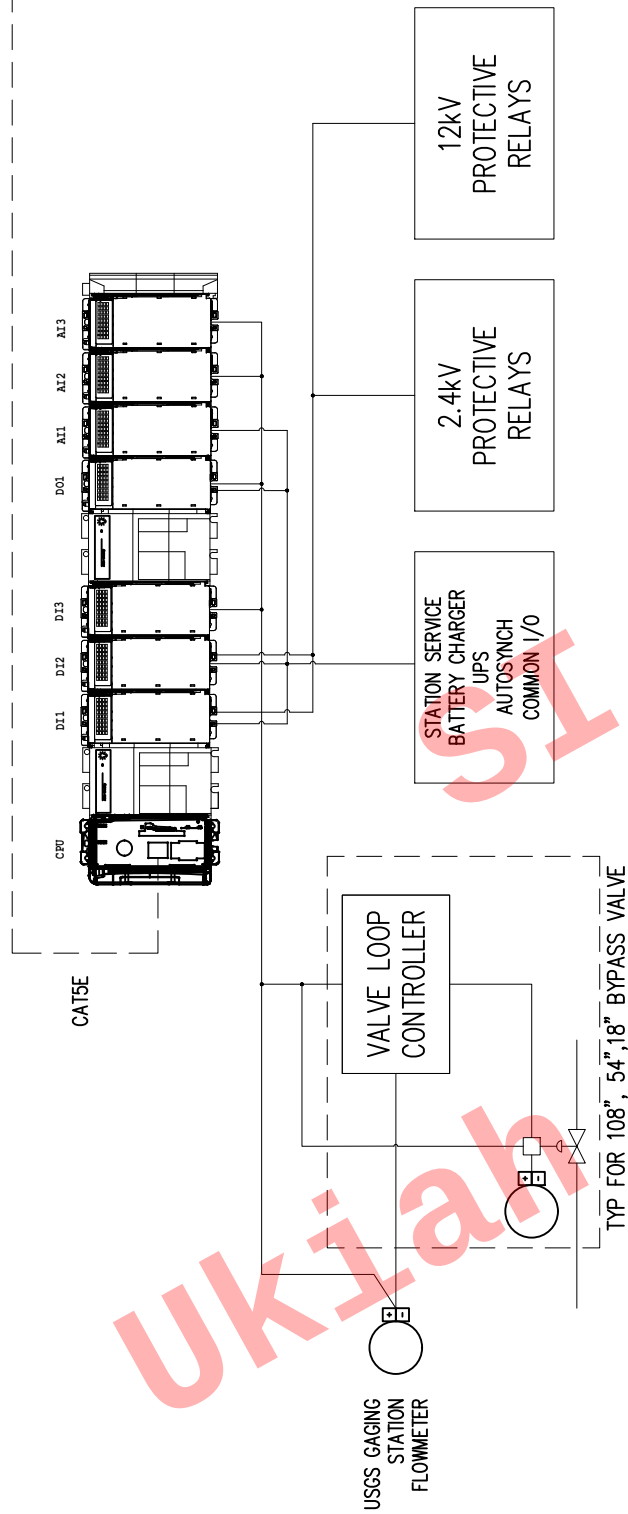
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

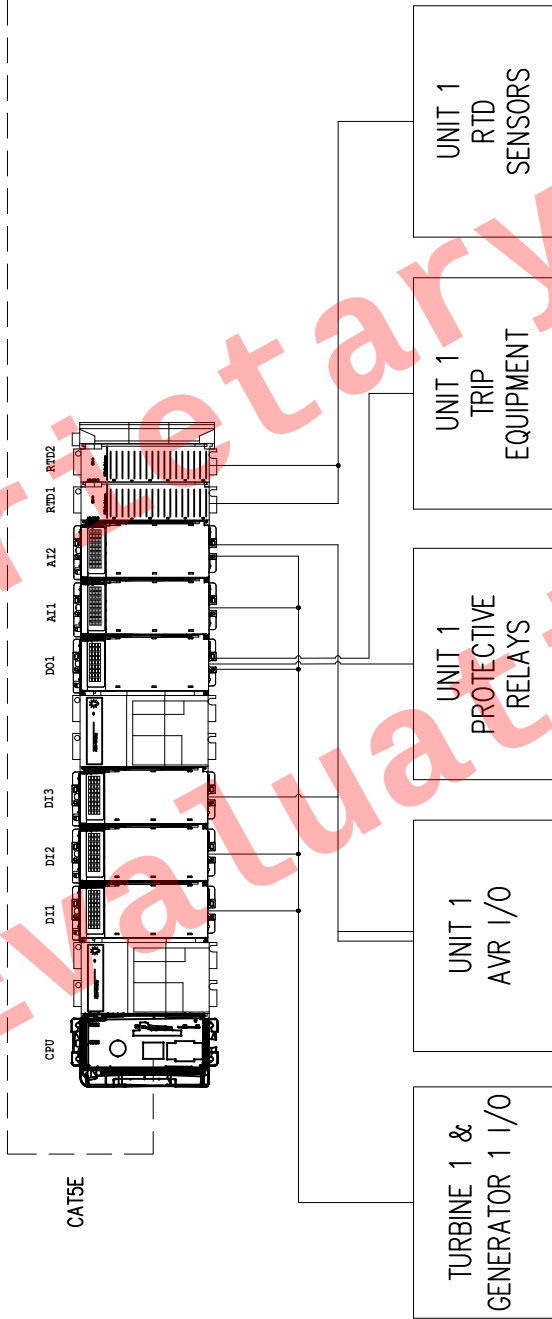
**PLC
IO DIAGRAM
TITLE PAGE**

DRAWING NO:	SEC:
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DATE:	SHEET:
4/28/2020	Page 1 of 47

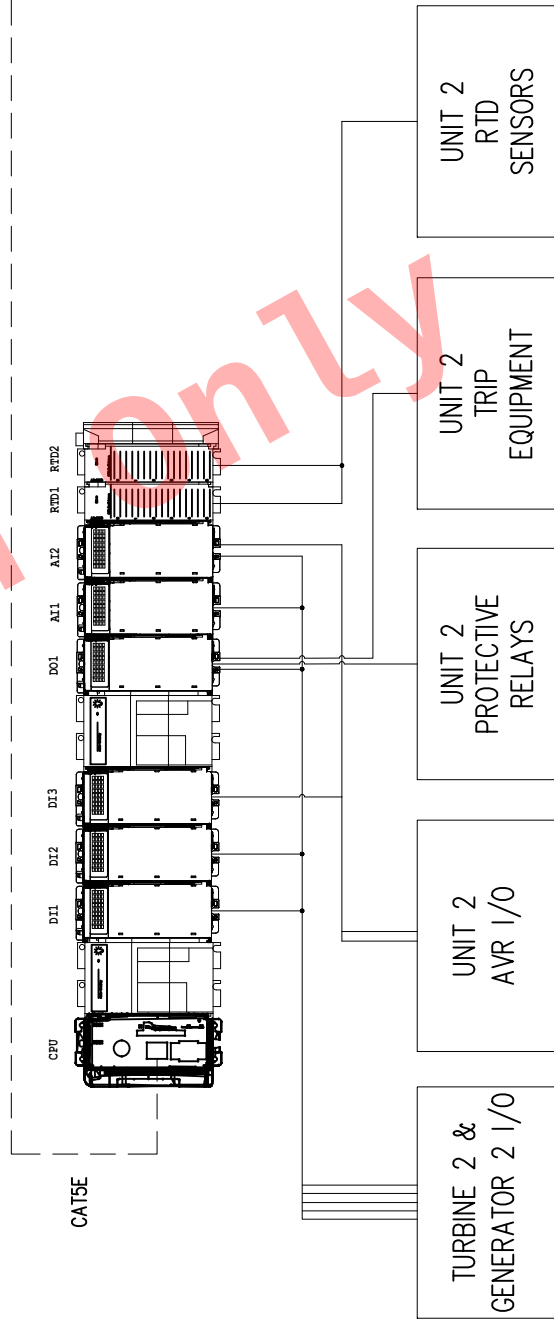
SCADA PLC



UNIT 1 PLC



UNIT 2 PLC



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FOR:

**UKIAH
LAKE MENDOCINO
POWER PLANT**

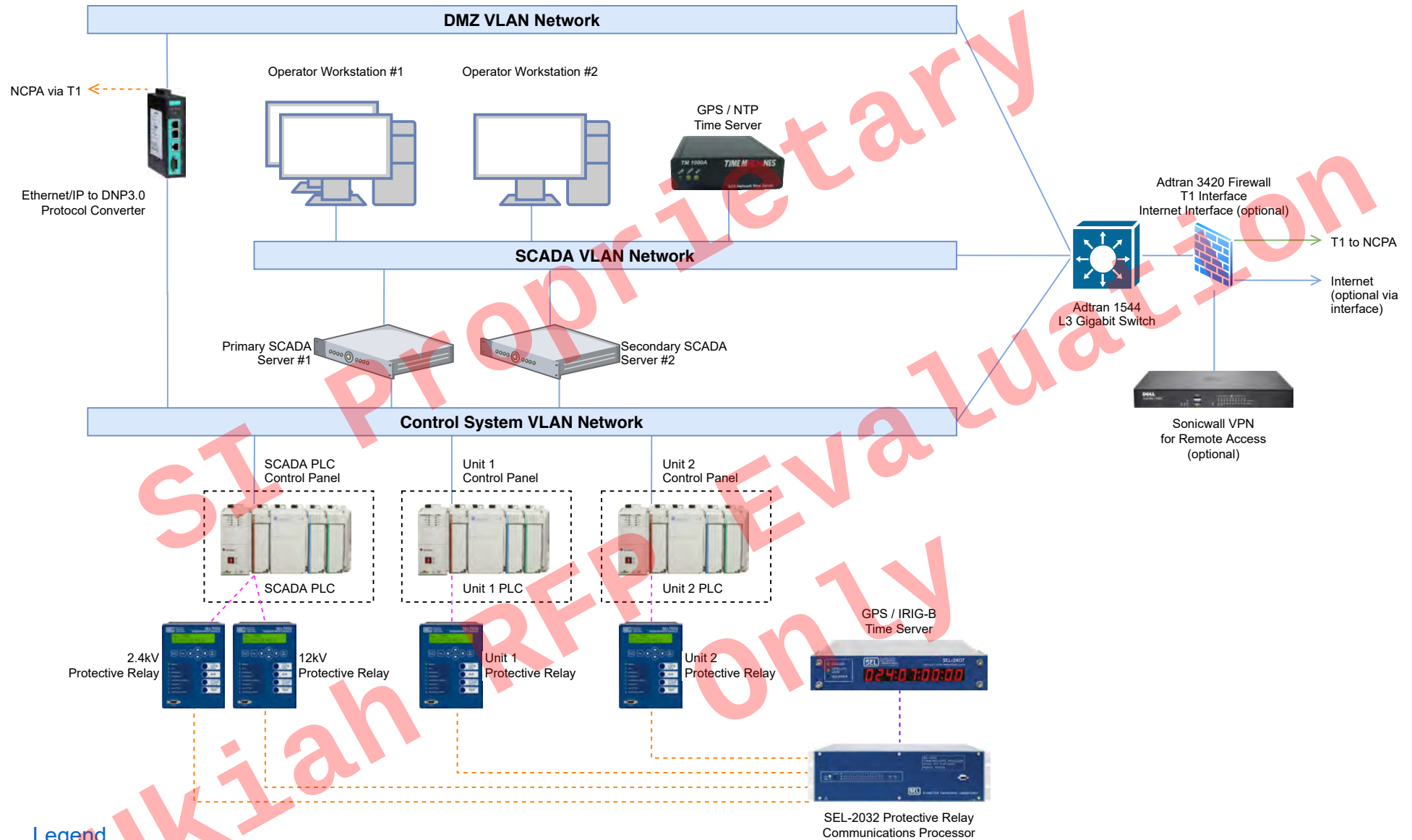
TITLE:

**PLC
IO DIAGRAM**

DRAWING NO:	SEC: G
DATE: 4/28/2020	SHEET: Page 1 of 266 of 474

3. NETWORK & COMPUTER EQUIPMENT

City of Ukiah Hydro Plant SCADA / PLC Upgrade Network Diagram



UKIAH

LAKE MENDOCINO

POWER PLANT SERVER &
COMMUNICATIONS RACK

CONTRACT #
PROPOSAL

DATE:
5/4/2020

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FOR:

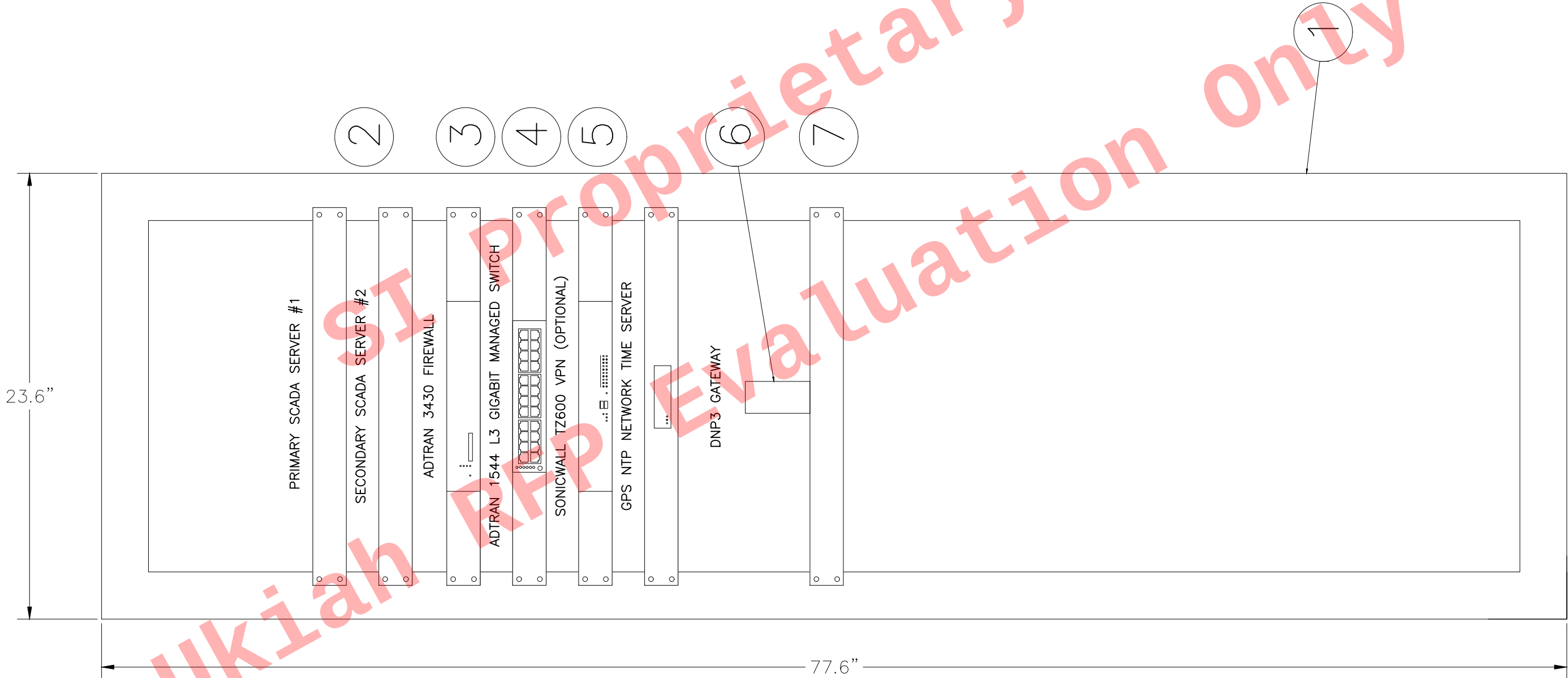
**UKIAH
LAKE MENDOCINO
POWER PLANT**

TITLE:

**SERVER RACK &
COMMUNICATION RACK
TITLE PAGE**

DRAWING NO:	SEC:
-	A
DATE:	SHEET:
5/4/2020	Page 1 of 268 of 474

GROUP	ITEM	TYPE	DESCRIPTION	MANUFACTURER	PART NO.	QTY
A	1	NET	StarTech 4.2U Server Rack	StarTech	4POSTRACK42	1
	2	NET	Dell Poweredge R340 Server	Dell	R340	1
	3	NET	Adtran 3430 Modular Router, Firewall, Dual 10/100Base-T, T1	Adtran	120820F1	1
	4	NET	Adtran 1544 Gigabit Managed Layer 3 Ethernet Switch, 28 port	Adtran	1702544G1	1
	5	NET	VPN/Firewall, POE/POE+ Support	SonicWall	TZ600	1
	6	NET	GPS NTP Network Time Server	Time Machines	TM1000A	1
	7	NET	DNP3 Router	Aprian	A-DNP3R	1
	8	NET	Black Standard Universal Server Rack Cabinet Shelf	StarTech	CABSHLF	1



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FOR:

**UKIAH
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POWER PLANT**

TITLE:

**SERVER RACK
LAYOUT &
BILL OF MATERIAL**

DRAWING NO:	SEC: G
DATE: 5/4/2020	SHEET: Page 1 of 270 of 474



NetVanta 1544

Layer 3 Gigabit Ethernet Switch

Product Features

- 28-port multi-layer Gigabit Ethernet aggregation switch
- 24-Gigabit Ethernet ports and four SFP optical ports
- Four enhanced 2.5 Gbps SFP ports
- Non-blocking, up to 68 Gbps switching capacity
- Line rate Layer 2 and Layer 3 switching
- Static routes, RIP V1/V2, OSPF and BGP
- VRRP
- 802.1Q VLANs, Private VLANs and VLAN assignment via 802.1x
- Advanced QoS with support for 802.1p and DiffServ prioritization with four queues per egress port
- Automate actions with Port Scheduler and TCL scripting
- VoIP ready with LLDP/LLDP-MED and voice VLANs
- Business-class security with RADIUS, TACACS+, 802.1x and port security
- Optimized for iSCSI storage area networks (SANs) solutions
- Wi-Fi® access controller for centralized management of NetVanta Wireless Access Points (WAPs)
- Cable and SFP diagnostics provides easy to use troubleshooting tools for copper and fiber cable
- Familiar CLI and Web GUI
- Next business day advance replacement
- Limited lifetime warranty

NetVanta® 1544 is a managed, 28-port, Layer 3, Gigabit Ethernet switch designed as an access layer or network backbone switch for Small to Medium-sized Enterprises (SMEs). With the combination of the advanced multi-layer switching fabric, high-bandwidth capabilities, and enhanced Quality of Service (QoS) features, the NetVanta 1544 is ideal in Gigabit-to-the-desktop deployments, and converged voice and data networks.

Hardware

The NetVanta 1544 rackmount switch provides 28 Gigabit Ethernet ports, consisting of 24 fixed 10/100/1000Base-T Ethernet ports and four 2.5 Gbps Small Form-factor Pluggable (SFP) ports located on the back. Together the four SFP ports can provide up to 20 Gbps of bandwidth between interconnected NetVanta 1544 switches. "Half-rack" in size, you can scale to 48 Gigabit Ethernet ports and eight SFP optical ports using two NetVanta 1544 switches side-by-side in a single 19-inch rack space.

Multi-layer Switching

The NetVanta 1544 supports advanced multi-layer (Layer 2 and Layer 3) switching. It supports static routes, RIP V1/V2, OSPF, Border Gateway Protocol (BGP) and Virtual Router Redundancy Protocol (VRRP), allowing it to easily scale from small businesses to enterprise-sized networks.

Standards Protocols

Based on the ADTRAN® Operating System (AOS), this device supports Link Layer Discovery Protocol (LLDP) which auto-discovers neighboring Ethernet devices, simplifying integration into multi-vendor environments.

VoIP Ready

NetVanta 1544 has been designed specifically for VoIP. The ability to automatically configure IP phones using LLDP-MED, and the ability to separate voice traffic onto voice VLANs, helps ease the deployment of VoIP.

Quality of Service

NetVanta switches also support QoS to prioritize mission-critical traffic like VoIP and control network congestion. NetVanta 1544 offers 802.1p and DiffServ Class of Service (CoS). It also supports frame tagging, as well as enforcement of tagged traffic received from trusted sources. Four egress queues (per port) are available for assigning traffic priorities using Weighted Round Robin (WRR) and Strict Priority Scheduling.

Security

Rest assured, with NetVanta 1544 your network is protected. This product offers a variety of data security features including DoS protection, MAC-based port security, multilevel user passwords, Secure Shell (SSH) and Secure Socket Layer (SSL) for encrypted user login, and Access Authentication and Authorization (AAA) for authentication with RADIUS and TACACS+. With features such as 802.1x and port security, administrators can assure that only authorized users are allowed access to the network.

AOS also features desktop auditing using DHCP in conjunction with Microsoft Network Access Protection (NAP) protocol to monitor the health of client computers. The two protocols work together to ensure that systems connected to the network are using appropriate corporate policies, such as firewall settings, antivirus settings and other client health information.

Port Scheduler

NetVanta 1544 allows ports to be enabled or disabled based on time of day. This ability to schedule available ports allows for added security and can provide less power consumption during off hours saving on utility cost.

iSCSI Optimized

All ADTRAN NetVanta Gigabit Ethernet switches are optimized for iSCSI Storage Area Networks (SANs) deployments. Network administrators can take advantage of features such as Jumbo frame support (up to 13K), separation of iSCSI network traffic utilizing VLANs, and 802.3x flow control to seamlessly integrate ADTRAN switches with iSCSI SANs devices.

Administration

AOS offers both a Command Line Interface (CLI) that mimics the widely deployed, industry *de facto* standard and an intuitive Web-based Graphical User Interface (GUI) with step-by-step configuration wizards. For automating setup and configuration, NetVanta 1544 supports Auto-Config which provides the ability to automatically obtain the switch configuration via DHCP.

AOS also offers network forensics to aid in troubleshooting network problems by allowing network administrators to easily locate devices on the network by MAC or IP address.





NetVanta 3430

Modular Access Router

Product Features

- Modular access router supporting up to two T1s
- **RapidRoute™** technology for greater performance
- Voice Quality Monitoring (VQM) and Mean Opinion Score (MOS) prediction
- Inherent URL filtering
- Standards-based routing/switching protocols
- Feature-rich ADTRAN® Operating System (AOS)
- IPv6 ready
- CompactFlash® slot for auto-provisioning
- Stateful inspection firewall for network security
- Optional IPSec Virtual Private Network (VPN) for secure corporate connectivity across the Internet
- Onboard hardware encryption accelerator
- Recognizable Command Line Interface (CLI) and intuitive Web-based Graphical User Interface (GUI)
- Network Address Translation (NAT)-compatible Session Initiation Protocol (SIP) Application Layer Gateway (ALG) for Voice over IP (VoIP)
- Wi-Fi® Access Controller for centralized management of NetVanta Wireless Access Points (WAPs)
- Industry-leading five-year North American warranty

The NetVanta® 3430 is a modular access router that uses **RapidRoute** technology to deliver the high-packet throughput required for IP telephony, corporate connectivity, and Internet access. This performance-enhanced platform delivers wire-speed throughput, even with advanced services enabled like Quality of Service (QoS), NAT, firewall, and VPN.

Modular Hardware

The NetVanta 3430 is a modular, 1U-high, rackmountable metal chassis that offers two 10/100Base-T Ethernet interfaces for WAN access LAN segmentation, DMZ, or even broadband backup. The single slot houses any of the NetVanta Series Network Interface Modules (NIMs) and Dial Backup Interface Modules (DIMs). For dial backup, an analog modem DIM or an ISDN BRI DIM is available, preventing downtime by dialing around a failed circuit to any PPP-compliant device.

Standards Protocols

Complementing the versatile hardware, the AOS allows for the support of standards-based switching, Virtual LAN (VLAN) tagging, static and default routes, and demand routing. This enables fast, accurate network convergence using industry-standard routing protocols such as BGP, OSPF, and RIP. In addition, the AOS terminates MPLS, Frame Relay, Multilink Frame Relay, PPP, Multilink PPP, Carrier Ethernet and HDLC Wide Area Network (WAN) protocols. Multihoming is also available to provide redundant or backup WAN links to multiple ISPs, guaranteeing a wide-area connection.

Hierarchical QoS

QoS is also supported for delay-sensitive traffic like VoIP or video. To prioritize mission-critical traffic and control network congestion, the NetVanta 3430 uses Low Latency Queuing, Weighted Fair Queuing (WFQ), Class-based WFQ, and DiffServ marking to establish the priority of IP packets routed over the WAN.

VoIP Ready

In combination with the QoS features, a specialized SIP ALG allows SIP traffic to traverse NAT-enabled firewalls. For enterprise networks, this interoperability allows IP PBXs, phones, and other SIP-based devices to set up, tear down, and pass voice and call control messages seamlessly through the integral NAT-enabled firewall.

The NetVanta 3430 also deploys VQM to capture MOS, jitter, delay, and packet loss statistics necessary to troubleshoot VoIP calls over the WAN. This powerful, yet graphically intuitive, diagnostic tool allows for quick isolation of network issues to ensure superior call quality.

Security

The AOS provides a powerful, high performance stateful inspection firewall that can identify and protect against common Denial of Service (DoS) attacks like TCP syn flooding, IP spoofing, ICMP redirect, ping of death, and IP reassembly problems.

In addition, the AOS is capable of providing an inherent URL-filtering package without the use of an external server. URL-filtering is another level of security that allows system administrators to restrict Internet access by permitting or denying specific URLs. This URL filtering feature also includes the ability to produce top website reports of the most frequently requested websites, allowing system administrators to modify the URL filter lists.

The NetVanta 3430 offers enhanced performance IPSec VPN throughput capabilities to allow for fast network convergence of voice and data traffic through an encrypted network. By supporting IPSec, the NetVanta 3430 is fully compatible with other IPSec VPN-equipped NetVanta products.

Administration

The AOS offers both a CLI that mimics the widely deployed industry *de facto* standard and an intuitive Web-based GUI with step-by-step configuration wizards.

BE ON TIME

TIME MACHINES



GPS Network Time Server / TM1000A



Synchronized Time

With a TM1000A GPS Time Server on the local network, synchronized time is assured no matter the state of your Internet connection. Time accuracy is greatly improved, when compared to Internet based time sources, because delay is reduced to that of the local LAN segment. When paired with our PoE and WiFi based clocks, building and campus wide synchronized time systems can be created. Other systems that benefit from local time sources are voice and video logging systems, VoIP PBX phone systems, and any isolated network with time requirements.



How It Works

The TimeMachines GPS Network Time Server represents a major step forward in technology. It supplies accurate time for computers and time keeping devices on the network. A Network Time Protocol (NTP), with a Stratum 1 time source is available on a local network with no need for an internet connection. It uses an active GPS antenna to maintain the current time as broadcast by United States GPS satellites.



Connect both the included power supply and GPS antenna to base unit, then connect base unit to a local network.



Go to a computer on a network, point a browser to the device at its default ip address to enter the software setup within the web page.



Set parameters to match network, and the system will send out time packets to any device on the system that asks for an update from it.

APPLICATIONS and MARKETS:



TimeMachines GPS based time servers are suited to any application where coordination of events at multiple locations is required. Without coordinated network time, searching for problems across multiple system logs becomes much more difficult. Education, industrial facilities, military installations, public safety command rooms, government, broadcasting, and hospitals are all candidates for synchronized time systems.

TIME SERVER FEATURES and SPECIFICATIONS:



- Receive time information from GPS satellites anywhere on the surface of the earth.
- RFC1119/1305/5905 NTP Protocol to serve time (Network Time Protocol).
- RFC1769/2030/4330 SNTP Protocol (Simple Network Time Protocol).
- Server Time Level: Stratum 1.
- Server Time Precision: Better than 5mS + network jitter.
- All networked computing platforms support time synchronization either natively or with add on drivers including: Windows, Macintosh, and Linux. Many other devices can access the device as well including VoIP phones and digital clocks.
- 10M/100M auto sensing network interface.
- Unit is capable of serving 350+ synchronizations per second. That provides support for over 300,000+ devices updating every 15 minutes on the network.
- Supports IPv4 and IPv6.
- Compliant with FCC Part 15B and CE marked for radiated emissions and is a lead free product.
- Power Requirements: +5V DC at less than 4W continuous.
- Environmental: Commercial temperature range, 0-70C, 95% humidity non-condensing. Altitude -304m to 18,000m.
- Networking: Static or DHCP IPv4 addressing. Standard browser interface for setup.
- Serial port supports both RS-232C levels and TTL (+3.3V) outputting standard NMEA information strings, as well as the 1PPS signal at TTL levels. TTL signals can be turned off via software control.
- Indications: Power, GPS Signal Lock, and 1PPS indications.
- Rear Connections: Power, Cat5 Ethernet, Serial, and GPS antenna via SMA connection.
- Supports +3.3V and 5V active GPS antennas with internal jumper setting.
- Mechanical Dimensions: 5" x 4.2" x 1.3".

GPS SPECIFICATIONS:



- Based on MediaTek MT3339 Chipset.
- 22 channel low power receiver module.
- Sensitivity: -165dBm.
- GPS Time Precision: +/- 10ns RMS jitter.
- Antenna Connection: 1575.42MHz (L1 Band).
- TTFF (Time To First Fix).
- Cold start @ -125dBm typically 33 seconds.
- Re-acquisition (<10s obstruction) typically 1 second.

ANTENNA SPECIFICATIONS:



- Active patch antenna with magnetic base.
- Size: 1.57" x 1.89" x 0.51", 43 grams.
- Amplifier: LNA +20dB, Noise: 1.5dB, VSWR: 2.0, Voltage: 2.7-6.0V.
- Cable: RG174, 5m length, SMA male.
- Environmental: -40 to +85C.
- Waterproof to IPx6.

* Warranty coverage is one year from date of shipment. TimeMachines liability under this warranty is limited to repairing or replacing the defective equipment, at TimeMachines discretion. TimeMachines will not cover any claim if it is found that the product has been subjected to abuse, used in a manner for which it is not designed or acts of nature beyond TimeMachines control such as, but not limited to, lightning strikes, power surges, misuse, neglect, or if unauthorized repairs have been made or attempted by anyone other than authorized personnel by TimeMachines. The standard warranty can be extended for an additional year with the purchase of the optional Service Agreement. In no event will TimeMachines be liable for any indirect, special, incidental, or consequential damages from the sale or use of this product. This disclaimer applies both during and after the term of the warranty. TimeMachines disclaims liability for any implied warranty, including implied warranties of merchantability.

* Specifications subject to change without notice. Check www.timemachinescorp.com for downloads/updates.

1.1. ABOUT THIS DOCUMENT

This document contains the technical data for the DNP3 Router. The DNP3 Router provides intelligent data routing between EtherNet/IP and DNP3 (serial, Ethernet UDP, or Ethernet TCP). The DNP3 Router allows the user to integrate DNP3 devices over a secure link into a Rockwell Logix platform (e.g. ControlLogix or CompactLogix) with minimal effort.

1.2. FEATURES

The DNP3 Router is able to transfer data from various DNP3 devices to a maximum of three Logix controllers. The module operates in one of three modes, simplifying the configuration for all applications.

Mode	Description	Message Initiator
Reactive Tag	The DNP3 Router will convert DNP3 messages to Logix controller tag reads or tag writes.	Remote Device
Scheduled Tag	The DNP3 Router transfers data between a DNP3 device and a number of Logix tags, using a preconfigured scheduled. No Logix or remote device configuration is required.	DNP3 Router
Unscheduled	The DNP3 Router transfers messages received from a Logix Message Instruction.	Logix (Msg)

Table 1 – Modes of Operation

The DNP3 Router is configured using the Aparian Slate application. This program can be downloaded from www.aparian.com free of charge. Slate offers various configuration methods, including a controller tag browser.

Hereafter the DNP3 Router will be referred to as the **module**.

The module can operate in both a Logix “owned” and standalone mode. With a Logix connection the input and output assemblies will provide additional diagnostics information which will be available in the Logix controller environment.

The DNP3 Router allows the user to integrate DNP3 devices into a Logix system with minimal effort. No copying or mapping of data in the Logix controller is required as the DNP3 Router writes directly into Logix tags.

The DNP3 Router also provides DNP3 Secure Authentication 5 which enables the user to connect DNP3 devices to a Logix platform securely. The module also provides a range of statistics and traffic analyser to help fault find any problems.

The DNP3 Router supports DNP3 on three ports which can be configured from the Slate environment; Serial, Ethernet TCP, or Ethernet UDP.

Previously complicated data mapping is made easy by precompiled UDTs which converts the various DNP3 data formats into sensible data in the Logix environment.

The DNP3 Router also supports repeater functionality in Outstation mode allowing the user to have infield configurable repeaters in radio network applications.

The module uses isolated RS232 for DNP3 serial communication providing better noise immunity. The RS232 port also uses a terminal block for convenient installation.

A built-in webserver provides detailed diagnostics of system configuration and operation, including the display of DNP3 operation and communication statistics, without the need for any additional software.

1.3. ARCHITECTURE

The figure below provides an example of the typical network setup in reactive mode.

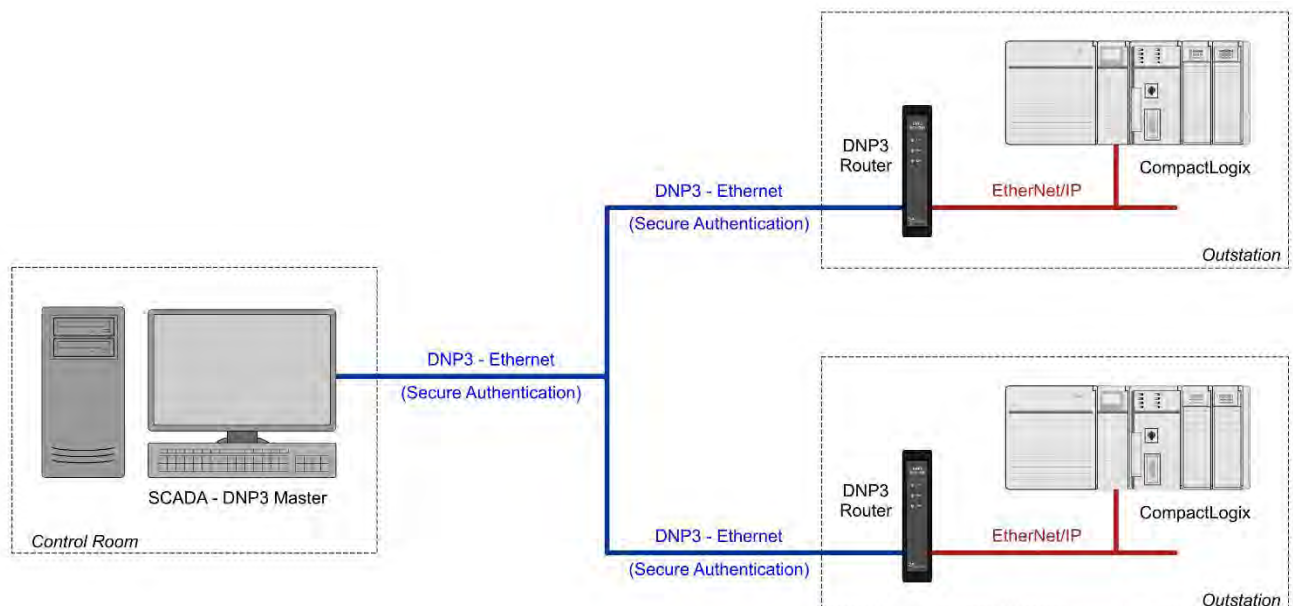


Figure 1 - Example of a typical network setup in reactive mode

By converting and redirecting serial DNP3 messages from legacy devices to EtherNet/IP, the module provides an interface for data exchange to Allen-Bradley ControlLogix and

CompactLogix platforms. This enables user to replace legacy devices and systems with minimal effort and downtime.

The DNP3 Router allows a Logix platform to seamlessly integrate into a DNP3 network with Reactive Tag Mode. The module will route DNP3 message directly to Logix tags with no need for additional ladder logic.

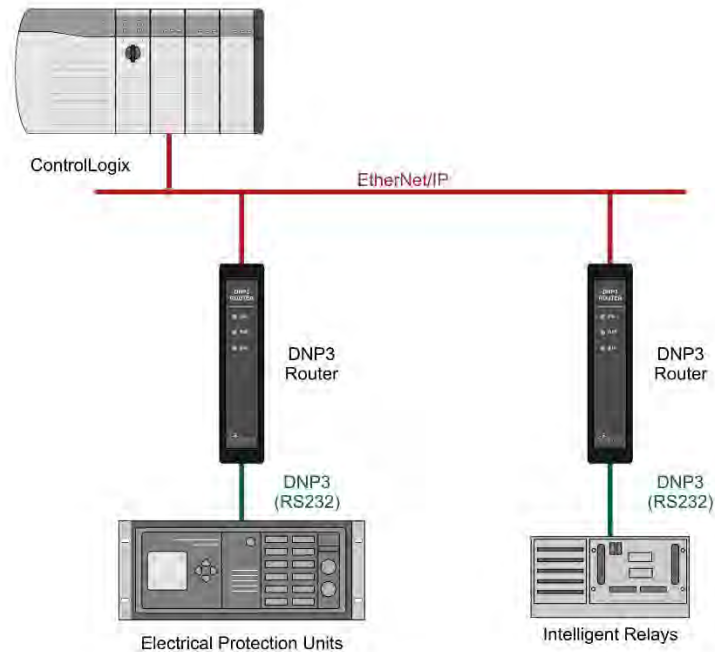


Figure 2 - Example of a typical network setup in scheduled/unscheduled mode

Systems that rely on a central ControlLogix communicating to a number of remote DNP3 devices, (e.g. Electrical Protection Units or Intelligent Relays), may find the DNP3 Router useful when operating in Scheduled Tag Mode as shown in the image above. The module will exchange data between the DNP3 device and Logix platform at a configured interval without any need for additional coding or mapping.

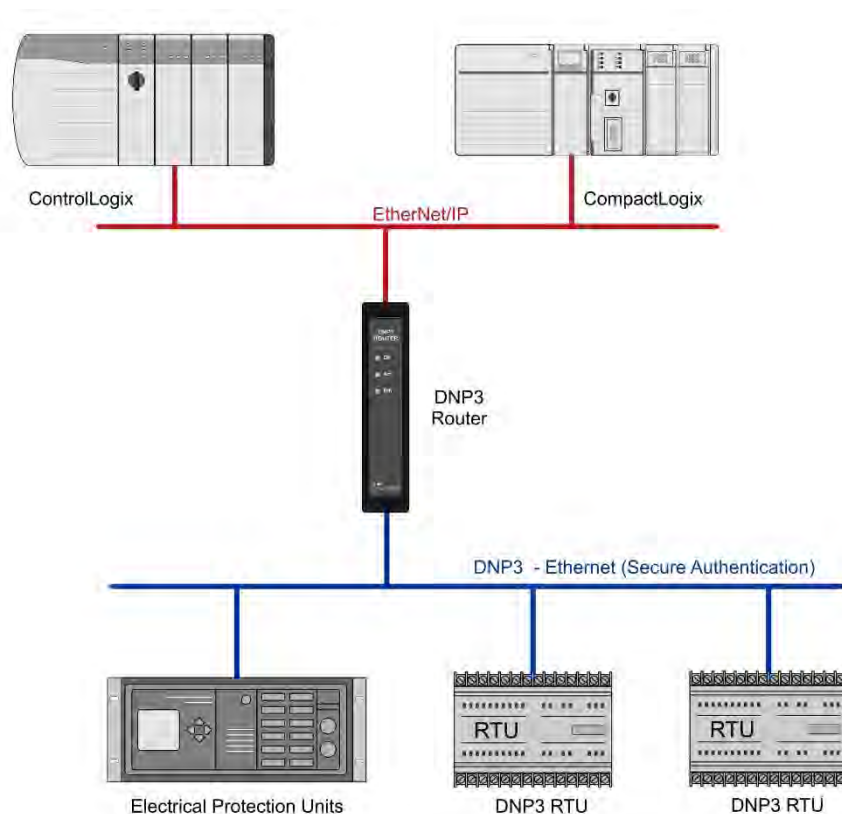


Figure 3 – Example of a typical network setup when using secure authentication

The DNP3 Router also provides the latest DNP3 Secure Authentication 5 standard which allows for secure authentication across the DNP3 network (Serial or Ethernet). The need for network security is essential to utility installations and operations to prevent unwanted attacks from outsiders. The DNP3 Router allows the user to configure the type and level of security needed with minimal effort.

The DNP3 Router also allows the user to implement repeaters into a radio network architecture when the DNP3 Master cannot see all the outstations (see below). The DNP3 Router in Outstation mode can be configured to repeater certain messages as well as route messages to other DNP3 Routers over Ethernet.

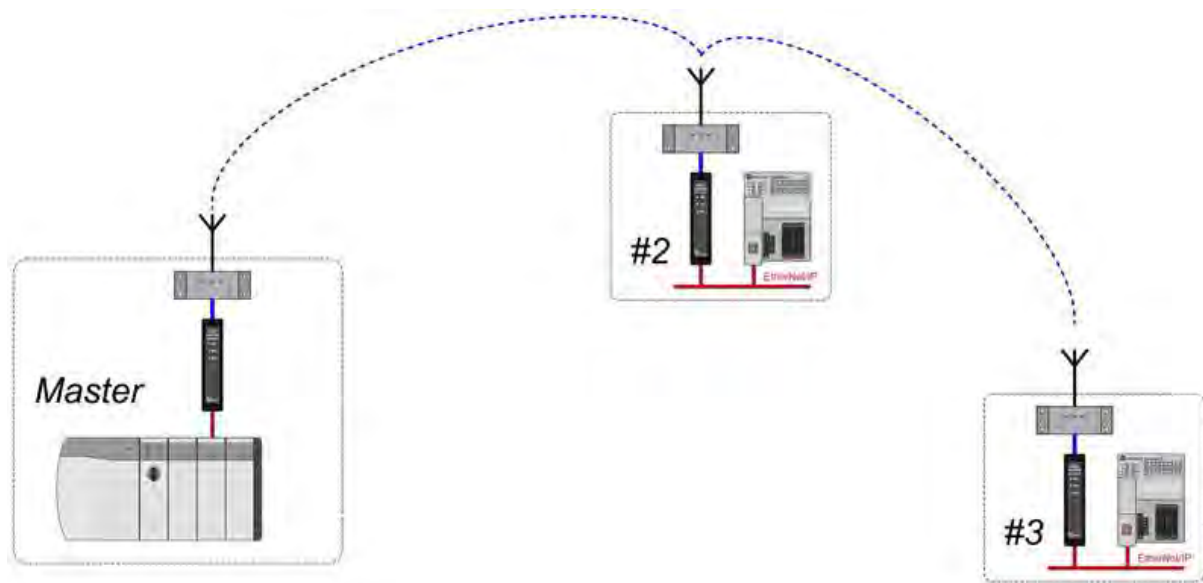


Figure 4 – Example of using the DNP3 Router as a repeater

2. ETHERNET/IP NETWORK

Specification	Rating
Connector	RJ45
Conductors	CAT5 STP/UTP
ARP connections	Max 20
TCP connections	Max 20
CIP connections	Max 10
Communication rate	10/100Mbps
Duplex mode	Full / Half
Auto-MDIX support	Yes

Table 1 - Ethernet specification

3. SERIAL PORT

Specification	Rating
RS232 Connector	4-way terminal
RS232 Conductor	24 – 18 AWG
RS232 Isolation voltage	2.5 kV
BAUD	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200
Parity	None, Even, Odd
Data bits	8
Stop bits	1

Table 2 – Serial port specification

4. DNP3 NETWORK

Specification	Rating
Reactive Tag mode	Max 30 mapping items

Scheduled Tag mode	Max 30 mapping items
Application Functions Supported	Read Write Select/Operate Direct-Operate Direct-Operate-No-Response Confirm (only in Reactive Mode) Immediate Freeze (only in Reactive Mode) Immediate Freeze No Response (only in Reactive Mode) Immediate Freeze and Clear (only in Reactive Mode) Immediate Freeze and Clear No Response (only in Reactive Mode) Cold Restart (only in Reactive Mode) Enable / Disable Unsolicited Messages (only in Reactive Mode) Delay Measure (only in Reactive Mode) Record Current Time (only in Reactive Mode) Unsolicited Response (only in Reactive Mode) Authentication Request Authentication Response
Maximum DNP3 objects per request	30
Maximum DNP3 request size per mapped item in Reactive Tag Mode	1000 bytes
Maximum DNP3 request size per mapped item in Scheduled Tag Mode	230 bytes
Maximum Logix Controller support	3
Unsolicited Response support	Yes
Maximum event buffer per DNP3 group	100,000
Number of Commands per Request	1
Event Read Interval	10ms

Table 3 – DNP3 specification

5. DNP3 SECURITY

Specification	Rating
Key Change Method Supported	Pre-shared
MAC Algorithms Supported	HMAC SHA-1 encryption (4 octets – serial) – for legacy support HMAC SHA-1 encryption (8 octets – serial) HMAC SHA-1 encryption (10 octets – networked) HMAC SHA-256 encryption (8 octets – serial) HMAC SHA-256 encryption (16 octets – networked) AES-GMAC (12 octets)
Key Wrap Algorithms Supported	AES-128 Key Wrap AES-256 Key Wrap
Aggressive Mode Supported	Yes

Table 4 – DNP3 Security

6. ELECTRICAL SPECIFICATIONS

Specification	Rating
Power requirements	Input: 10 – 28V DC, (70mA @ 24VDC)
Power consumption	1.7 W
Connector	3-way terminal
Conductors	24 – 18 AWG
Enclosure rating	IP20, NEMA/UL Open Type
Temperature	-20 – 70 °C
Earth connection	Yes, terminal based
Emissions	IEC61000-6-4
ESD Immunity	EN 61000-4-2
Radiated RF Immunity	IEC 61000-4-3
EFT/B Immunity	EFT: IEC 61000-4-4
Surge Immunity	Surge:IEC 61000-4-5
Conducted RF Immunity	IEC 61000-4-6

Table 5 - Electrical specification



PRECISION 3431 TOWER

Unmatched performance & affordability in a small form factor.



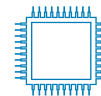
SPACE-SAVING DESIGN

The small form factor is ideal for space-constrained workspaces that need workstation-class performance and reliability. Optional WiFi capabilities and a range of accessible ports keep you connected to everything you need.



LATEST TECHNOLOGY

Power through intensive tasks easily with 9th Generation Intel® Core™ and Xeon® processors and faster memory speeds of up to 2666MHz, 64GB. Run applications at top speeds with next generation AMD Radeon™ Pro or NVIDIA Quadro® professional graphics with up to 55W of graphics support. Scalable storage with SATA or PCIe NVMe SSD options, up to 6TB deliver plenty of room for every project.



INTELLIGENT PERFORMANCE

Dell Precision Optimizer software comes on every Precision workstations and will tune your workstation to provide the best performance for the applications you use most

Optional Dell Precision Optimizer Premium is the only AI-based performance optimizer software in the industry to automatically adjust your workstation settings not only for the applications you use, but how you use them - truly customizing your system's performance for you.



MISSION CRITICAL RELIABILITY

Independent Software Vendor (ISV) certified to ensure the high-performance applications you rely on every day run smoothly. Also, with Xeon processors you can get Error Correcting Code (ECC) memory which identifies and corrects single bit memory errors. Our exclusive Reliable Memory Pro software works on top of ECC memory to identify and map out bad memory sectors and will alert you when the memory is at a critical level and needs replaced - providing layers of protection against memory related errors.

Features & Technical Specifications

PRECISION 3431 TOWER

Feature	Precision 3431 Tower Technical Specifications	Storage Options ⁴	Encrypting Opal 2.0 2.5", 2 TB, 5400, SATA, HDD 2.5", 256 GB/512 GB/1 TB, SATA 20, SSD 2.5", 512 GB/1 TB, SATA, SSD SED 3.5", 500 GB/1 TB/2 TB/4 TB/8TB, 7200, SATA, HDD 3.5", 4 TB, 5400, SATA, HDD M.2 2280, 256 GB/512 GB/1 TB/2 TB PCIe 40, SSD M.2 2280, 512 GB/1 TB PCIe 50, SSD M.2 2280, 512 PCIe 40, SSD SED (Opal 2.0)
Processor Options ¹	9 th generation Intel® Core™ i9, i7, i5, i3, and Pentium; Intel® Xeon® E Processors; Intel® Pentium® Gold G5420, 2 Core, 4MB Cache, 3.8 Ghz w/UHD Graphics 630 Intel® Core™ i3-9100, 4 Core, 6MB Cache, 3.6Ghz, 4.2 Ghz Turbo w/UHD Graphics 630 Intel® Core™ i5-9500, 6 Core, 9MB Cache, 3.0Ghz, 4.4 Ghz Turbo w/UHD Graphics 630 Intel® Core™ i5-9600, 6 Core, 9MB Cache, 3.1Ghz, 4.6 Ghz Turbo w/UHD Graphics 630 Intel® Core™ i7-8700 (6 Core, 12MB Cache, 3.20GHz, 4.6Ghz Turbo w/ HD Graphics 630) Intel® Core™ i7-9700, 8 Core, 12MB Cache, 3.0Ghz, 4.8 Ghz Turbo w/UHD Graphics 630 Intel® Core™ i9-9900, 8 Core, 16MB Cache, 3.1Ghz, 4.9 Ghz Turbo w/UHD Graphics 630 Intel® Xeon® E-2224, 4 Core, 8MB Cache, 3.4Ghz, 4.6Ghz Turbo Intel® Xeon® E Processor E-2174G (4 Core HT, 8MB Cache, 3.8Ghz, 4.7Ghz Turbo) Intel® Xeon® E-2236, 6 Core, 8MB Cache, 3.4Ghz, 4.8Ghz Turbo Intel® Xeon® E-2246G, 6 Core, 8MB Cache, 3.6Ghz, 4.8Ghz Turbo w/UHD Graphics 630 Intel® Xeon® E-2224G, 4 Core, 8MB Cache, 3.5Ghz, 4.7Ghz Turbo w/UHD Graphics 630	Storage Controller	Integrated: Intel Rapid storage Controller 12.0 supporting SATA 6Gb/s and host based RAID 0/1
Operating System Options ²	Windows® 10 Professional (64 bit) Windows® 10 Pro for Workstations (64 bit) w/ Intel Xeon processors Windows® 10 Home (64 bit) Red Hat® Enterprise Linux® 7.5 (coming soon) Red Hat 8.0 (coming soon) Ubuntu Linux 16.04 Ubuntu Linux 18.04 NeoKylin 6.0 SP3 (China only)	Communications	Integrated: Intel Ethernet Connection I219-LM 10/100/1000 Optional: Intel 10/100/1000 PCIe Gigabit Networking card Aquantia® AQtion™ AQN-108 5/2.5 GbE NIC Adapter Optional: Wireless / Bluetooth w/ vPro support
Chipset	Intel® C246 Chipset	Audio Controller	Integrated Realtek ALC3234 High Definition Audio Codec (2 Channel)
Memory Options ³	4 Dimm Slots; Up to 64GB 2666Mhz Non-ECC & ECC DDR4 Memory	Speakers	Internal Speaker; Optional Dell 2.0 stereo speaker systems available and Dell sound bar for select flat-panel displays
Graphics Options ³	One PCI Express® x16 Gen 3 Graphics card up to 55W Entry 3D cards: AMD Radeon Pro WX 4100 AMD Radeon Pro WX 3100 AMD Radeon Pro WX 3200 (coming soon) AMD Radeon Pro WX 2100 NVIDIA Quadro P1000 NVIDIA Quadro P620 NVIDIA Quadro P400 Professional 2D cards: Intel HD Graphics 630	Add-in cards	Thunderbolt 3 PCIe Card Support for up to (1) additional PCIe SSD on Dell Precision Ultra-Speed drive (x8) with active cooling Serial Port PCIe Card Parallel Port PCIe Card Smart Card Reader (CAC/PIV) Remote Access Host Card, Tera2 USB Type-C 3.1 Gen 2 PCIe Card
Storage Options ⁴	Support for up to (1) M.2 PCIe SSD on motherboard slot and Up to (1) 3.5" SATA or (2) 2.5" SATA. Support for Intel Ready Mode technology Support for up to (1) additional PCIe SSD on Dell Precision Ultra-Speed drive (x8) with active cooling 2.5", 500 GB/1 TB, 7200, SATA, HDD 2.5", 500 GB, 7200, SATA, HDD FIPS Self	I/O Ports	Front 2 - USB 2.0 Type A 1 - USB 3.1 Type A (5Gb) 1 - USB 3.1 Type C (10Gb), data only 1 - Universal Audio Jack 1 - Internal SD Card reader (Optional) Internal 3 - SATA 6Gb/s Rear 2 - USB 2.0 Type A (with SmartPower) 4 - USB 3.1 Type A (5Gb) 2 - PS2 2 - Display Port 1 - Optional Port (VGA, HDMI 2.0, DP++ 1.2, Type C w/DP-Alt mode) 1 - RJ45 Network Connector 1 - Serial 1 - Audio Line out 2 - SMA
		Chassis	HxWxD: 11.42" x 3.65" x 11.5" (29cm x 9.26cm x 29.2cm), Min weight: 11.28lb (5.117kg) Bays: (1) internal 3.5" bay - supports (1) 3.5" or (2) 2.5" drives; (1) external slimline optical bay Slots: (1) half height PCIe x16 Gen3; (1) half height PCIe x4 Gen 3; (1) M.2 (22x80mm) Power Supply: 260W 92% efficient PSU (80PLUS Platinum Certified) Energy Star Compliant; 200W 85% efficient PSU (80PLUS Bronze Certified) Energy Star Compliant 200W 85% efficient PSU (80PLUS Gold Certified) Energy Star Compliant



DELL 24 MONITOR – E2420HS

Upgrade your essentials.



AMPLIFY YOUR WORK

Enhance your daily workflow with a 24" FHD monitor with height adjustability and integrated speakers.



DELL DISPLAY MANAGER

Superior productivity and manageability featuring quick access keys, preset layouts, multi-monitor configuration and remote management for IT managers.



AWARDED THE ENERGY STAR® MOST EFFICIENT MARK IN 2020¹

Delivering cutting edge energy-efficiency that represents the best in energy savings and environmental protection.¹



TRUSTED RELIABILITY

As the world's #1 monitor company*, we take pride in our unyielding commitment to quality and the utmost satisfaction of our customers.

Features & Technical Specifications

Monitor

Diagonal Viewing Size	Dell 24 Monitor – E2420HS 60.47 cm (23.8 inches)
Horizontal	527.04 mm (20.75 inches)
Vertical	296.46 mm (11.67 inches)
Maximum Preset Resolution	1920 x 1080 at 60 Hz
Aspect Ratio	16:9
Pixel Pitch	0.275 mm x 0.275 mm
Pixel Per Inch (PPI)	92
Brightness	250 cd/m ² (typical)
Color Support	Color gamut (typical): 83% (CIE1976) 72% (CIE1931) Color depth: 16.7 Million
Contrast Ratio	1000:1 (typical)
Viewing Angle	178°/178°
Response Time	8 ms typical (Normal) 5 ms typical (Fast) (gray to gray)
Panel Type	IPS (In-Plane Switching)
Display Screen Coating	Anti-Glare
Backlight Technology	LED
ComfortView with Flicker-free screen	Yes
Dell Display Manager Compatibility	Yes
Remote Asset Management	Yes, via Dell Command Monitor
GSA/TAA	Yes
Optional Soundbar	Dell Stereo Soundbar – AC511M

Connectivity

Connectors	1 x VGA 1 x HDMI 1.4
HDCP Support	HDMI HDCP 1.2

Design Features

Adjustability	Height adjustable (100 mm) and Tilt (-5° to 21°)
Security	Security lock slot (cable lock sold separately)
Flat Panel Mount Interface	VESA (100 mm)

Power

AC input voltage/frequency/current	100 VAC to 240 VAC / 50 Hz or 60 Hz ± 3 Hz / 0.8 A (typical)
Power Consumption (Operational)	17W (Typ). 25W (Max). 14.36W (ENERGY STAR®)
Power Consumption Stand by/Sleep	Less than 0.3W

Dimensions (with stand)

Height (Fully extended & Compressed ~ Standard)	489.10 mm (19.26 inches) & 389.10 mm (15.32 inches)
Width	550.60 mm (21.68 inches)
Depth	187.0 mm (7.36 inches)

Weight

Weight (panel only - for VESA mount / no cables)	3.30 kg (7.28 lbs)
Weight (monitor and cables with stand)	4.91 kg (10.82 lbs)
Weight (with packaging)	6.64 kg (14.64 lbs)

Standard Service Plan

3-Years Advanced Exchange Service⁴ and Limited Hardware Warranty⁵

Optional Service Plan

Dell ProSupport⁶

Environmental Compliance

Awarded the ENERGY STAR® Most Efficient Mark in 2020, EPEAT® registered where applicable⁷, TCO Certified Display

What's in the box?

Components

- Monitor with stand

Cables

- Power cable
- 1 x HDMI Cable
- 1 x VGA Cable (EMEA and Japan only)
- 1 x VESA screw cover

Documentation

- Quick Setup Guide
- Safety and Regulatory Information

Dell Latitude 5401

Setup and specifications guide



Identifier	GUID-26CC9B57-795F-4689-8649-667D70D1F3BD
Status	Released

Technical specifications

Identifier	GUID-9735FCAB-1A62-42BB-A7CD-04A062AEF546
Status	Released

Chipset

Table 2. Chipset

Description	Values
Chipset	CM246
Processor	9th Generation Intel Core i5/i7
DRAM bus width	Dual 64 bit
Flash EPROM	24/32 MB(32 MB for Vpro SKU)
PCIe bus	PCIe 3.0

Identifier	GUID-BFA52F40-8AD1-4DF0-8D0F-942766BC2118
Status	Released

Processors

Table 3. Processors

Description	Values		
Processors	9th Generation Intel Core i5-9300H	9th Generation Intel Core i5-9400H	9th Generation Intel Core i7-9850H
Wattage	35 W	35 W	35 W
Core count	4	4	6
Thread count	8	8	12
Speed	4.1 GHz	4.3 GHz	4.6 GHz
Cache	8M	8M	12M
Integrated graphics	Intel UHD Graphics 630	Intel UHD Graphics 630	Intel UHD Graphics 630

Identifier	GUID-F07064B8-2EB4-49EC-88A8-43B102E42417
Status	Released

Memory

Table 4. Memory specifications

Description	Values
Slots	Two-SODIMM slots
Type	Dual-channel DDR4
Speed	2666 MHz
Maximum memory	32 GB
Minimum memory	4 GB
Memory size per slot	16 GB
Configurations supported	• 8 GB DDR4 (2 x 4 GB) • 8 GB DDR4 (1 x 8 GB) • 16 GB DDR4 (2 x 8 GB) • 16 GB DDR4 (1 x 16 GB) • 32 GB DDR4 (2 x 16 GB)

Identifier	GUID-29AB3B25-B4D9-4B9A-B1BF-821E8A6A7B8F
Status	Released

Ports and connectors

Table 5. External ports and connectors

Description	Values
External:	
Network	One RJ-45, 10/100/1000
USB	• Two USB 3.1 Gen 1 port • One USB 3.1 Gen 1 with PowerShare • One USB 3.1 Gen 2 (Type-C) with Thunderbolt
Audio	One Universal Jack (headset + mic phone in + line in support) port
Video	One HDMI 2.0 port
Media card reader	One SD-card slot (Optional), One microSD- card slot
Docking port	Supported
Power adapter port	One
Security	Wedge-shaped lock slot

Table 6. Internal ports and connectors

Description	Values
Internal:	

Description	Values
M.2	One M.2 2280/2230 slot for solid-state drive
ⓘ NOTE: To learn more about the features of different types of M.2 cards, see the knowledge base article SLN301626 .	

Identifier	GUID-0ADBC39B-BF43-40EB-BFC0-6F7114D249D1
Status	Released

Storage

Your computer supports one of the following configurations:

- 2.5-inch 5400rpm hard-disk drive
- 2.5 inch 7200rpm Hard-drive drive
- M.2 2230 solid-state drive
- M.2 2280 solid-state drive

Table 7. Storage specifications

Storage type	Interface type	Capacity
2.5-inch 5400rpm hard-disk drive	SATA up to 6 Gbps	Up to 1 TB
2.5 inch 7200rpm Hard-drive drive	SATA up to 6 Gbps	Up to 1 TB
M.2 2230 solid-state drive PCIe NVMe	PCIe Gen3x2 NVMe, up to 16 Gbps	Up to 512 GB
M.2 2280 solid-state drive PCIe NVMe	PCIe Gen3x4 NVMe, up to 32 Gbps	Up to 1 TB
M.2 2280 solid-state drive Class 20	SATA Class 20	Up to 512 GB

Identifier	GUID-7DF32F47-45CF-4A08-AD99-B01EEC4F3CE6
Status	Released

Dimensions and weight

Table 8. Dimensions and weight

Description	Values
Height:	
Front	20.4 mm (0.8 in.)
Rear	22.85 mm (0.9 in.)
Width	323.05 mm (12.72 in.)
Depth	216 mm (8.5 in.)
Weight	1.53 kg (3.37 lb)
ⓘ NOTE: The weight of your computer depends on the configuration ordered and the manufacturing variability.	

Identifier	GUID-2959A596-4E1F-4C1B-9E6C-857583B2F398
Status	Released

Operating system

- Windows 10 Home (64-bit)

POWEREDGE R340

Accelerate Business Growth

The Dell EMC PowerEdge R340 is a single-socket 1U rack server designed for productivity and data intensive applications for remote office/branch offices.



Boost your business productivity

The Dell EMC PowerEdge R340 boosts business productivity, provides the flexibility to scale, and automates daily tasks. It is the ideal solution that allows you to focus on what matters: Accelerate your business growth. The R340 offers features to support your demanding and growing business needs.

- Accelerate your business with improved performance due to 100% more cores with Intel® Xeon® E-2200 processors, 11% increase in memory speed, and 20% more PCIe lanes.¹
- Harness data growth with up to 8 x internal 2.5" or 4 x 3.5" hot-plug hard drives.
- Manage operational costs with Multi-Vector cooling which automatically calculates and delivers the proper airflow needed for optimal cooling.

Simplify your IT infrastructure

The Dell OpenManage portfolio offers innovations that simplifies management tasks, making IT operations efficient and cost-effective throughout the server lifecycle.

- The embedded iDRAC9 with Lifecycle Controller, server deployment, configuration and updates are fast and worry-free.
- Access your servers anywhere, anytime from your mobile device with OpenManage Mobile (requires OpenManage Enterprise).
- Resolve issues with up to 72% less IT effort using automated proactive and predictive technology from ProSupport Plus and SupportAssist.²

Keep your data safe

Every PowerEdge server is made with a cyber-resilient architecture, building security into the server's entire life cycle. Dell EMC is laser-focused on security (from design to end-of-life) to ensure trust and deliver worry-free, secure servers.

- Keep your data safe with software RAID.
- Maintain data safety with cryptographically-signed firmware packages and Secure Boot.
- Protect your server from malicious malware with iDRAC9 Enterprise Server Lockdown mode.
- Wipe all data from storage media quickly and securely with System Erase

PowerEdge R340

- Improved performance due to 100% more cores
- Scale with 17% more storage capacity
- Protect your server from malicious malware with iDRAC9 Enterprise Server Lockdown mode

¹ Based on Dell EMC Internal analysis comparing R340 vs the previous generation. September 2019.

² Based on June 2018 Principled Technologies Report commissioned by Dell EMC, "Save time and IT effort resolving server hardware issues with ProSupport Plus and SupportAssist", compared to Basic Warranty without SupportAssist.

PowerEdge R340

Features	Technical Specification	
Processor	1 processor from the following: Intel® Xeon® E-2200 product family, Intel Pentium®, Intel Core i3®, Intel Celeron®	
Memory	4 x DDR4 DIMM slots, Supports UDIMM, up to 2666MT/s, 64GB Max. Supports registered ECC	
Storage controllers	Internal controllers: PERC H730P, H330, HBA330 (non-RAID) Software RAID: PERC S140 External HBAs: 12Gbps SAS HBA (non-RAID)	
Internal boot	Boot Optimized Storage Subsystem (BOSS): 2 x M.2 240GB (RAID 1 or No RAID) or 1 x M.2 240GB (No RAID only) Internal Dual SD Module ³ : 2x microSD (16GB, 32GB or 64GB) or 1x microSD (16GB, 32GB or 64GB)	
Drive bays	Up to 8 x 2.5 hot-plug SATA, SAS (optional) or SSD Up to 4 x 3.5 hot-plug SATA, SAS (optional) or SSD	
Power supplies	Single or dual 350W (Platinum) or 550W (Platinum) hot-plug redundant power supplies	
Dimensions	Form factor: Rack (1U)	Chassis width: 434.00mm (17.08 in) Chassis depth: 595.63mm (23.45 in) (3.5" HDD config) Chassis depth: 544.836mm (21.45 in) (2.5" HDD config) Note: These dimensions do not include: bezel, redundant PSU Chassis weight: 13.6 kg (29.98 lb.)
Embedded management	iDRAC9 with Lifecycle Controller iDRAC Direct iDRAC RESTful API with Redfish	
Bezel	Optional security bezel	
OpenManage™ Software	OpenManage Enterprise	OpenManage Power Manager OpenManage Mobile
Integrations and connections	Integrations: Microsoft® System Center VMware® vCenter™ BMC Truesight (available from BMC) Red Hat Ansible	Connections: Nagios Core & Nagios XI Micro Focus Operations Manager i (OMi) IBM Tivoli Netcool/OMNIBus
Tools	iDRAC Service Module OpenManage Server Administrator Dell EMC Repository Manager Dell EMC System Update	Dell EMC Server Update Utility Dell EMC Update Catalogs Dell EMC RACADM CLI IPMI Tool
Security	TPM 1.2/2.0 optional Cryptographically signed firmware Silicon Root of Trust	Secure Boot System Lockdown (requires OpenManage Enterprise) System Erase
I/O & Ports	Networking Options: 2 x 1GbE LOM Network Interface Controller (NIC) ports Front ports: 1x USB 2.0, 1 x iDRAC micro USB 2.0 management port Rear ports: 2 x USB 3.0, VGA, serial connector	2 x PCIe Gen 3.0 slots: • One x8 slot low-profile, half-length with x4 slot width • One x16 slot low-profile/full-height, half-length with x8 bandwidth
Supported operating systems	Citrix® XenServer® Microsoft® Windows Server® with Hyper-V (2016 and 2019) Red Hat® Enterprise Linux Ubuntu® Server LTS	SUSE® Linux Enterprise Server VMware® ESXi For specifications and interoperability details, see Dell.com/OSsupport .
OEM-ready version available	From bezel to BIOS to packaging, your servers can look and feel as if they were designed and built by you. For more information, visit Dell.com/OEM .	
Recommended support	ProSupport Plus for critical systems or ProSupport for comprehensive hardware and software support for your PowerEdge solution. Consulting and deployment offerings are also available. Contact your Dell EMC representative today for more information. Availability and terms of Dell EMC Services vary by region. For more information, visit Dell.com/ServiceDescriptions .	
Dell Financial Services	Deliver results with easy financing. Explore financial options that move at the speed of business. For more information, visit https://www.emc.com/products/how-to-buy/global-financial-services/index.htm .*	

3 ESXi (only OS supported)

Learn more at [DellEMC.com/PowerEdge](https://www.dell.com/PowerEdge)

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15" High-Speed HMI



- 1024 x 768 Pixel High-Resolution TFT
- Ethernet
- 2 Serial Ports
- Aluminum Enclosure

System	CPU	32-bit RISC Cortex-A8, 1 GHz
	Memory (RAM)	256 MB
	Memory (Flash)	256 MB
	RTC	Built-in
I/O Ports	Serial	1 x DE9P COM1: RS-232 1 x DE9S COM1: RS-485 2 or 4 wire, COM3: RS-485 2 wire
	Ethernet	1 x 10/100 Base-T
	CANbus	N/A
	USB Host	1 x USB 2.0
	USB Client	1 x USB 2.0
	Audio	N/A
	Video	N/A
	Wi-Fi	N/A
	HDMI	N/A
	SD Card Slot	SD/SDHC
	SD Card Slot	SD/SDHC
Display	Display Type	15" TFT LCD
	Size (W x H)	12.04 x 9.06 inches [306 x 230 mm]
	Resolution (pixels)	1024 x 768
	Luminance (cd/m ²)	400
	Contrast Ratio	700:1
	Max. Colors	16.2 M
	Backlight Lifetime (hours)	50,000+
Touch Screen	Type	4-wire resistive touch
	Active Area Accuracy	Length (X) $\pm 2\%$, width (Y) $\pm 2\%$
Electrical	Input Voltage	24 $\pm 20\%$ VDC
	Input Current	1000 mA @ 24 VDC
	Power Isolation	Built-in
	Isolation Resistance	Exceed 50 M Ω at 500 VDC
Mechanical	Enclosure	Aluminum, charcoal grey
	PCB Coating	Yes
	Dimensions (W x H x D)	14.41 x 11.54 x 2.24 inches [366 x 293 x 57 mm]
	Weight	6.06 lbs. [2.75 kg]
	Mounting	Panel or VESA 75 x 75 mm mounting
Environmental	Operating Temperature	32° ~ 122° F (0° ~ 50° C)
	Storage Temperature	-4° ~ 140° F (-20° ~ 60° C)
	Relative Humidity	10% ~ 90% (non-condensing)
	Vibration Endurance	10 to 25 Hz (X, Y, Z direction, 2 G, 30 minutes)
	Ratings	IP65 compliant front panel, NEMA 4X indoor use only
	Certifications	cULus, CE, RoHS
Software	EZwarePlus (v4.00.01 or later)	
Notes		

SonicWall TZ series

Integrated threat prevention and SD-WAN platform for small/medium organizations and distributed enterprises

The SonicWall TZ series enables small to mid-size organizations and distributed enterprises realize the benefits of an integrated security solution that checks all the boxes. Combining high-speed threat prevention and software-defined wide area networking (SD-WAN) technology with an extensive range of networking and wireless features plus simplified deployment and centralized management, the TZ series provides a unified security solution at a low total cost of ownership.

Flexible, integrated security solution

The foundation of the TZ series is SonicOS, SonicWall's feature-rich operating system. SonicOS includes a powerful set of capabilities that provides organizations with the flexibility to tune these Unified Threat Management (UTM) firewalls to their specific network requirements. For example, creating a secure high-speed wireless network is simplified through a built-in wireless controller and support for the IEEE 802.11ac standard or by adding our SonicWave 802.11ac Wave 2 access points. To reduce the cost and complexity of connecting high-speed wireless access points and other Power over Ethernet (PoE)-enabled devices such as IP cameras, phones and printers, the TZ300P and TZ600P provide PoE/PoE+ power.

Distributed retail businesses and campus environments can take advantage of the many tools in SonicOS to gain even greater benefits.

Branch locations are able to exchange information securely with the central office using virtual private networking (VPN). Creating virtual LANs (VLANs) enables segmentation of the network into separate corporate and customer groups with rules that determine the level of communication with devices on other VLANs. SD-WAN offers a secure alternative to costly MPLS circuits while delivering consistent application performance and availability. Deploying TZ firewalls to remote locations is easy using Zero-Touch Deployment which enables provisioning of the firewall remotely through the cloud.

Superior threat prevention and performance

Our vision for securing networks in today's continually-evolving cyber threat landscape is automated, real-time threat detection and prevention. Through a combination of cloud-based and on-box technologies we deliver protection to our firewalls that's been validated by independent third-party testing for its extremely high security effectiveness. Unknown threats are sent to SonicWall's cloud-based Capture Advanced Threat Protection (ATP) multi-engine sandbox for analysis. Enhancing Capture ATP is our patent-pending Real-Time Deep Memory Inspection (RTDMI™) technology. The RTDMI engine detects and blocks malware and zero-day threats by inspecting directly in memory. RTDMI technology is precise, minimizes false positives, and identifies and mitigates sophisticated



Benefits:

Flexible, integrated security solution

- Secure SD-WAN
- Powerful SonicOS operating system
- High-speed 802.11ac wireless
- Power over Ethernet (PoE/PoE+)
- Network segmentation with VLANs

Superior threat prevention and performance

- Patent-pending real-time deep memory inspection technology
- Patented reassembly-free deep packet inspection technology
- On-box and cloud-based threat prevention
- TLS/SSL decryption and inspection
- Industry-validated security effectiveness
- Dedicated Capture Labs threat research team
- Endpoint security with Capture Client

Easy deployment, setup and ongoing management

- Zero-Touch Deployment
- Cloud-based and on-premises centralized management
- Scalable line of firewalls
- Low total cost of ownership

attacks where the malware's weaponry is exposed for less than 100 nanoseconds. In combination, our patented single-pass Reassembly-Free Deep Packet Inspection (RFDPI) engine examines every byte of every packet, inspecting both inbound and outbound traffic directly on the firewall. By leveraging Capture ATP with RTDMI technology in the SonicWall Capture Cloud Platform in addition to on-box capabilities including intrusion prevention, anti-malware and web/URL filtering, TZ series firewalls stop malware, ransomware and other threats at the gateway. For mobile devices used outside the firewall perimeter, SonicWall Capture Client provides an added layer of protection by applying advanced threat protection techniques such as machine learning and system rollback. Capture Client also leverages the deep inspection of encrypted TLS traffic (DPI-SSL) on TZ series firewalls by installing and managing trusted TLS certificates.

The continued growth in the use of encryption to secure web sessions means it is imperative firewalls are able to scan encrypted traffic for threats. TZ series firewalls provide complete

protection by performing full decryption and inspection of TLS/SSL and SSH encrypted connections regardless of port or protocol. The firewall searches for protocol non-compliance, threats, zero-days, intrusions, and even defined criteria by looking deep inside every packet. The deep packet inspection engine detects and prevents hidden attacks that leverage cryptography. It also blocks encrypted malware downloads, ceases the spread of infections and thwarts command and control (C&C) communications and data exfiltration. Inclusion and exclusion rules allow total control to customize which traffic is subjected to decryption and inspection based on specific organizational compliance and/or legal requirements.

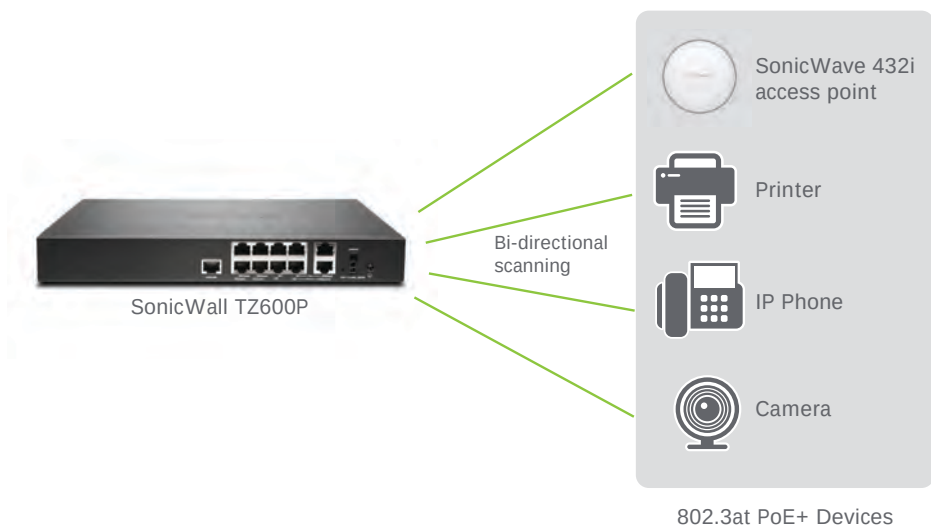
Easy deployment, setup and ongoing management

SonicWall makes it easy to configure and manage TZ series firewalls and SonicWave 802.11ac Wave 2 access points no matter where you deploy them. Centralized management, reporting, licensing and analytics are handled through our cloud-based Capture

Security Center which offers the ultimate in visibility, agility and capacity to centrally govern the entire SonicWall security ecosystem from a single pane of glass.

A key component of the Capture Security Center is Zero-Touch Deployment. This cloud-based feature simplifies and speeds the deployment and provisioning of SonicWall firewalls at remote and branch office locations. The process requires minimal user intervention, and is fully automated to operationalize firewalls at scale in just a few steps. This significantly reduces the time, cost and complexity associated with installation and configuration, while security and connectivity occurs instantly and automatically. Together, the simplified deployment and setup along with the ease of management enable organizations to lower their total cost of ownership and realize a high return on investment.

** 802.11ac currently not available on SOHO/SOHO 250 models; SOHO/SOHO 250 models support 802.11a/b/g/n*



Integrated Security and Power for Your PoE-enabled Devices

Provide power to your PoE-enabled devices without the cost and complexity of a Power over Ethernet switch or injector. TZ300P and TZ600P firewalls integrate IEEE 802.3at technology to power PoE and PoE+ devices such as wireless access points, cameras, IP phones and more. The firewall scans all traffic coming from and going to each device using deep packet inspection technology and then removes harmful threats such as malware and intrusions, even over encrypted connections.

42U Adjustable Depth Open Frame 4 Post Server Rack Cabinet - Flat Pack w/ Casters, Levelers and Cable Management Hooks

StarTech ID: 4POSTRACK42



The 4POSTRACK42 42U Server Rack lets you store your servers, network and telecommunications equipment in a sturdy, adjustable depth open-frame rack.

Designed with ease of use in mind, this 42U rack offers easy-to-read markings for both rack units (U) and depth, with a wide range of mounting depth adjustments (22 - 40in) that make it easy to adapt the rack to fit your equipment.

This durable 4-post rack supports a static loading capacity of up to 1320lbs (600kg), and offers compliance with several industry rack standards (EIA/ECA-310, IEC 60297, DIN 41494) for a universal design that's compatible with most rack equipment.

For a complete rack solution that saves you time and hassle, the rack includes optional accessories such as casters, leveling feet and cable management hooks. The base is also pre-drilled for securing the rack to the floor if needed, providing you with many options to customize the rack to fit your environment.

Backed by a StarTech.com 2-year warranty and free lifetime technical support.

Applications

- Durable storage for rackmount servers, KVM switches, and networking equipment
- Suitable for rackmount equipment where security at the rack level is not required
- Audio/Video editing room, radio or television studio broadcast rackmount equipment

Features

- 42U Open frame design
- Adjustable mounting depth from 22 - 40in
- Supports a static loading capacity of 1320lbs (600kg)
- Easy-to-read rack Unit (U) and depth adjustment markings
- Casters, leveling feet and cable management hooks included
- Pre-drilled holes to secure the rack directly to the floor
- Easy to assemble
- Flat-packed for easy shipping

Technical Specifications

Warranty	2 Years
Casters	Included
Fan(s)	No
Frame Type	Open Frame
Front Door Type	Open
Industry Standards	DIN 41494
Industry Standards	EIA/ECA-310-E
Industry Standards	IEC 60297-3-100
Key Lock	No
Rack Type	4-Post
U Height	42U
Weight Capacity	1326 lb [600 kg]
Color	Black
Enclosure Type	Steel
External Depth	26.1 in [661.8 mm]
External Height	77.6 in [1971 mm]
External Width	23.6 in [600 mm]
Height with Casters	80.5 in [2044 mm]
Internal Height	73.7 in [1871.5 mm]
Internal Width	18.3 in [465 mm]
Maximum Mounting Depth	40 in [1016 mm]
Minimum Mounting Depth	22 in [558.8 mm]
Product Weight	85.1 lb [38.5 kg]
Flat Pack	Yes
Shipping (Package) Weight	90.6 lb [41 kg]
Included in Package	2 - Left Vertical Rail
Included in Package	2 - Right Vertical Rail
Included in Package	2 - Base Bracket
Included in Package	8 - Corner Section
Included in Package	4 - Center Section
Included in Package	2 - Top Bracket
Included in Package	48 - M8 Bolt
Included in Package	48 - M8 Washer

4. SCADA SYSTEM HARDWARE DATASHEETS

SCADA SYSTEM PLC DATASHEETS



Representative Photo Only
(actual product may vary based on configuration selections)

CompactLogix 8 Channel Analog Current/Voltage Input Module

- Current, voltage, thermocouple and RTD modules available
- Over-range and under-range detection
- Selectable response to a input sensor fault
- Optional ability to direct output device operation during an abnormal condition
- Individually configurable channels

SPECIFICATIONS	
Product Series	CompactLogix (Bul. 1768 / 1769)
Component Type PLC & I/O	Analogue Input Module
Number of Analogue Inputs	8 qty
Analogue Input Type(s)	Current / Voltage: Single-Ended / Differential
Analogue Input Range(s)	0 ... 20mA 4 ... 20mA -10 ... 10V DC 0 ... 10V DC 0 ... 5V DC 1 ... 5V DC
Analogue Resolution, Input	16 bit (signed)
Operating Temperature, Max	60 °C max
Operating Temperature, Min	0 °C min
Storage Temperature, Max	85 °C max
Storage Temperature, Min	-40 °C min
Relative Humidity, Max	95 %RH
Humidity type	Non-condensing

REFERENCES	
IECEX Certificate	-
Supplier Declaration of Conformity:	-
Installation Guide:	-
User Manual:	-
Manufacturer Datasheet:	-
Manufacturer Catalogue & Product Selection:	-

Catalogue No: **1769-IQ32**
COMPACTLOGIX 32DI 10-30V DC MODULE

Automation Systems > Modular Programmable Controllers > Compact PLC Systems > Allen-Bradley Bulletin 1769 CompactLogix™ > CompactLogix™ I/O Modules > CompactLogix™ Digital I/O Modules



Representative Photo Only
(actual product may vary based on configuration selections)

CompactLogix 32 Point 24V DC Input Module

- AC and DC modules available
- I/O density from 8 to 32 points per module
- Solid state and relay contact output modules available
- High speed input modules
- Input filtering is standard
- Optical isolation available

SPECIFICATIONS	
Product Series	CompactLogix (Bul. 1768 / 1769)
Component Type PLC & I/O	Digital Input Module
Number of Digital Inputs	32 qty
Digital Input Type	24V DC Sinking/Sourcing type
Type, Digital Input	24V DC Snk/Src type
Digital Input Range	10 ... 26.4V DC
Operating Temperature, Max	60 °C max
Operating Temperature, Min	0 °C min
Storage Temperature, Max	85 °C max
Storage Temperature, Min	-40 °C min
Relative Humidity, Max	95 %RH
Humidity type	Non-condensing

REFERENCES	
IECEX Certificate	-
Supplier Declaration of Conformity:	-
Installation Guide:	-
User Manual:	-
Manufacturer Datasheet:	-
Manufacturer Catalogue & Product Selection:	-

Catalogue No: **1769-IR6**
COMPACTLOGIX 6AI RTD MODULE

Automation Systems > Modular Programmable Controllers > Compact PLC Systems > Allen-Bradley Bulletin 1769 CompactLogix™ > CompactLogix™ I/O Modules > CompactLogix™ Analogue I/O Modules



Representative Photo Only
(actual product may vary based on configuration selections)

CompactLogix 6 Channel RTD/Resistance Input Module

- Current, voltage, thermocouple and RTD modules available
- Over-range and under-range detection
- Selectable response to a input sensor fault
- Optional ability to direct output device operation during an abnormal condition
- Individually configurable channels

SPECIFICATIONS	
Product Series	CompactLogix (Bul. 1768 / 1769)
Component Type PLC & I/O	Analogue Input Module
Number of Analogue Inputs	6 qty
Analogue Input Type(s)	RTD / Resistance
Analogue Input Range(s)	0 ... 150Ω 0 ... 500Ω 0 ... 1kΩ 0 ... 3kΩ 100Ω Pt 385 100Ω Pt 392 200Ω Pt 385 200Ω Pt 392 500Ω Pt 385 500Ω Pt 392 1kΩ Pt 385 1kΩ Pt 392 120Ω Ni 618 120Ω Ni 672 10Ω NiFe 519
Analogue Resolution, Input	Configuration Dependent
Operating Temperature, Max	60 °C max
Operating Temperature, Min	0 °C min
Storage Temperature, Max	85 °C max
Storage Temperature, Min	-40 °C min
Relative Humidity, Max	95 %RH
Humidity type	Non-condensing

Catalogue No: **1769-OB32**
COMPACTLOGIX 32DO 20.4-26.4V DC MODULE

Automation Systems > Modular Programmable Controllers > Compact PLC Systems > Allen-Bradley Bulletin 1769 CompactLogix™ > CompactLogix™ I/O Modules > CompactLogix™ Digital I/O Modules



Representative Photo Only
(actual product may vary based on configuration selections)

CompactLogix 32 Point 24V DC Output Module

- AC and DC modules available
- I/O density from 8 to 32 points per module
- Solid state and relay contact output modules available
- High speed input modules
- Input filtering is standard
- Optical isolation available

SPECIFICATIONS	
Product Series	CompactLogix (Bul. 1768 / 1769)
Component Type PLC & I/O	Digital Output Module
Number of Digital Outputs	32 qty
Digital Output Type	24V DC Sourcing (NPN) type
Type, Digital Output	24V DC Source type
Digital Output Range	20.4 ... 26.4V DC
Rated Current per Digital Output, Max	0.5 A max, per DO
Rated Current per Module, Max	4 A max, per module
Operating Temperature, Max	60 °C max
Operating Temperature, Min	0 °C min
Storage Temperature, Max	85 °C max
Storage Temperature, Min	-40 °C min
Relative Humidity, Max	95 %RH
Humidity type	Non-condensing
REFERENCES	
IECEX Certificate	-
Supplier Declaration of Conformity:	-
Installation Guide:	-
User Manual:	-
Manufacturer Datasheet:	-
Manufacturer Catalogue & Product Selection:	-

Catalogue No: **1769-PB4**
COMPACTLOGIX 4A POWER SUPPLY 24V DC

Automation Systems > Modular Programmable Controllers > Compact PLC Systems > Allen-Bradley Bulletin 1769
CompactLogix™ > CompactLogix™ Power Supplies



Representative Photo Only
(actual product may vary based on configuration selections)

CompactLogix Power Supply 24V DC Input, 4A @ 5V DC Output

- AC or DC power options for CompactLogix™ controllers and distributed Compact I/O architecture



SPECIFICATIONS	
Product Series	CompactLogix (Bul. 1768 / 1769)
Component Type PLC & I/O	Power Supply
Operating Temperature, Max	60 °C max
Operating Temperature, Min	0 °C min
Storage Temperature, Max	85 °C max
Storage Temperature, Min	-40 °C min
Relative Humidity, Max	95 %RH
Humidity type	Non-condensing

REFERENCES	
IECEX Certificate	-
Supplier Declaration of Conformity:	-
Installation Guide:	-
User Manual:	-
Manufacturer Datasheet:	-
Manufacturer Catalogue & Product Selection:	-



Representative Photo Only
(actual product may vary based on configuration selections)

CompactLogix Address Reserve Module, 1 slot

- High functionality in an economical platform
- DIN rail or panel mount for flexible installation options
- L1 and L2 controllers offer embedded I/O to lower costs, save panel space and simplify configuration
- Integrated Motion and Safety control (selected models) saves time and money on third-party hardware and integration
- Analogue, digital and specialty I/O modules cover a wide range of applications
- Advanced system integration via EtherNet/IP™ to plant-wide networks

SPECIFICATIONS	
Product Series	CompactLogix (Bul. 1768 / 1769)
Component Type PLC & I/O	Specialty Module
Function of Module	Reserve module slots
Memory, On Board	384 kB memory
Operating Temperature, Max	60 °C max
Operating Temperature, Min	0 °C min
Storage Temperature, Max	85 °C max
Storage Temperature, Min	-40 °C min
Relative Humidity, Max	95 %RH
Humidity type	Non-condensing
REFERENCES	
IECEEx Certificate	-
Supplier Declaration of Conformity:	-
Installation Guide:	-
User Manual:	-
Manufacturer Datasheet:	-
Manufacturer Catalogue & Product Selection:	-

Catalogue No: **1769-ECR**
COMPACTLOGIX END CAP TERMINATOR RIGHT

Automation Systems > Modular Programmable Controllers > Compact PLC Systems > Allen-Bradley Bulletin 1769
CompactLogix™ > CompactLogix™ Accessories > End Caps



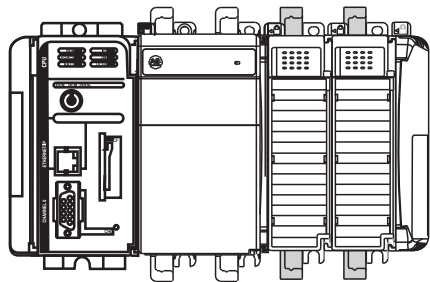
Representative Photo Only
(actual product may vary based on configuration selections)

CompactLogix End Cap / Bus Terminator, Right Hand Side

- High functionality in an economical platform
- DIN rail or panel mount for flexible installation options
- L1 and L2 controllers offer embedded I/O to lower costs, save panel space and simplify configuration
- Integrated Motion and Safety control (selected models) saves time and money on third-party hardware and integration
- Analogue, digital and specialty I/O modules cover a wide range of applications
- Advanced system integration via EtherNet/IP™ to plant-wide networks

SPECIFICATIONS		
Product Series		CompactLogix (Bul. 1768 / 1769)
Component Type PLC & I/O		End Cap
REFERENCES		
IECEEx Certificate	-	
Supplier Declaration of Conformity:	-	
Installation Guide:	-	
User Manual:	-	
Manufacturer Datasheet:	-	
Manufacturer Catalogue & Product Selection:	-	

1769 Modular CompactLogix Controllers

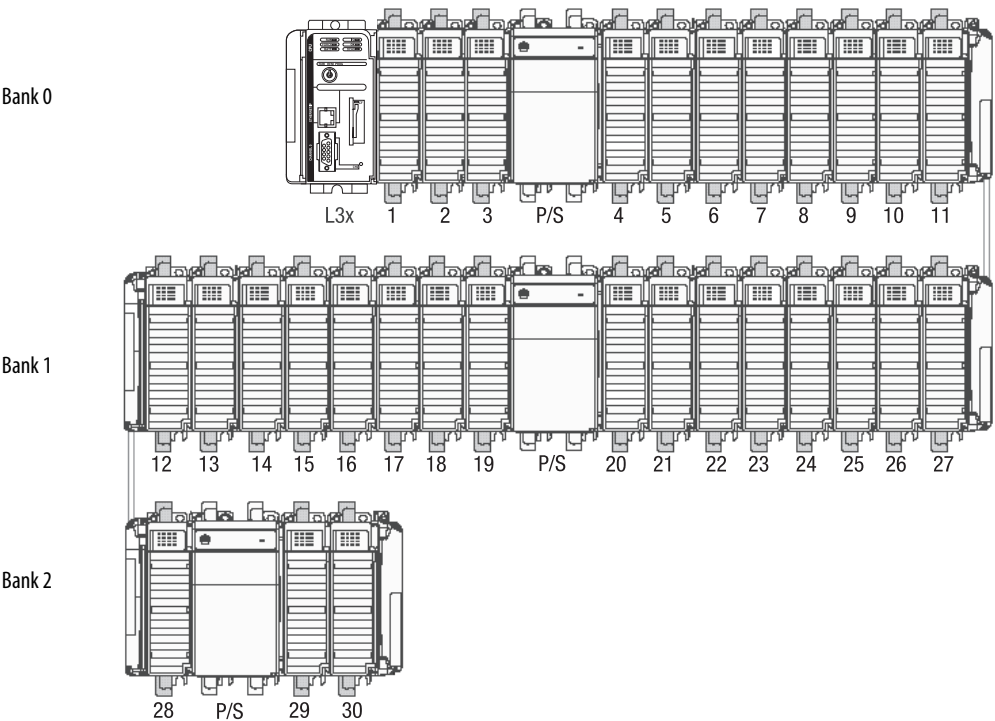


In a 1769-L3x controller system, the 1769 I/O modules can be placed to the left and the right of the power supply. As many as eight modules can be placed on each side of the power supply.

Table 31 - Features - 1769 Modular CompactLogix Controllers

Characteristic	1769-L31	1769-L32C	1769-L32E	1769-L35CR	1769-L35E
Available user memory	512 KB	750 KB	750 KB	1.5 MB	1.5 MB
CompactFlash card	1784-CF128	1784-CF128	1784-CF128	1784-CF128	1784-CF128
Communication ports	2 RS-232 ports (isolated DF1 or ASCII; nonisolated DF1 only)	1 ControlNet port 1 RS-232 serial port (DF1 or ASCII)	1 EtherNet/IP port 1 RS-232 serial port (DF1 or ASCII)	1 ControlNet port 1 RS-232 serial port (DF1 or ASCII)	1 EtherNet/IP port 1 RS-232 serial port (DF1 or ASCII)
Module expansion capacity	16 1769 modules	16 1769 modules	16 1769 modules	30 1769 modules	30 1769 modules
Power supply distance rating	4 modules	4 modules	4 modules	4 modules	4 modules

The CompactLogix controller has a power supply distance rating of four modules. The controller must be the leftmost module in the first bank of the system. The maximum configuration for the first bank of a CompactLogix controller is the controller and three I/O modules to the left of the power supply and eight I/O modules to the right of the power supply.



1769-L3x Local I/O Performance

You can configure an individual RPI for each local 1769 Compact I/O module. The RPI defines the frequency at which the controller sends and receives all I/O data on the backplane.

Type of Module	Guideline
Digital and analog (any mix)	1...4 modules can be scanned in 1 ms 5...30 modules can be scanned in 2 ms - Some input modules have a fixed 8 ms filter, so selecting a faster RPI has no effect
Specialty	- Full-sized 1769-SDN modules add 2 ms per module 1769-HSC modules add 1 ms per module - Full-sized 1769-ASCII modules add 1 ms per module

You can always select an RPI that is slower than listed above. These considerations show how fast modules can be scanned—not how fast an application can use the data. The RPI is asynchronous to the program scan. Other factors, such as program execution duration, affect I/O throughput.

Table 32 - Technical Specifications - 1769 Modular CompactLogix Controllers

Attribute	1769-L31	1769-L32C	1769-L32E	1769-L35CR	1769-L35E
User memory	512 KB	750 KB	750 KB	1.5 MB	1.5 MB
Optional flash memory	1784-CF128				
Number of I/O modules, max	16	16	16	30	30
Number of I/O banks, max	3				
Number of expansion I/O modules, max	16 1769 modules			30 1769 modules	
Replacement battery	1769-BA				
Current draw @ 5V DC	330 mA	650 mA	660 mA	680 mA	660 mA
Current draw @ 24V DC	40 mA	40 mA	90 mA	40 mA	90 mA
Power dissipation	2.61 W	4.21 W	5.5 W	4.36 W	5.5 W
Isolation voltage	30V (continuous), basic insulation type Type tested at 710V DC for 60 s; RS232 channel 0 to system No isolation between RS232 channel 1 and system	30V (continuous), basic insulation type Type tested at 710V DC for 60 s; RS232 to system, ControlNet to system, RS232 to ControlNet, ControlNet channel A to ControlNet channel B	30V (continuous), basic insulation type Type tested at 710V DC for 60 s; RS232 to system, Ethernet to system, RS232 to Ethernet	30V (continuous), basic insulation type Type tested at 710V DC for 60 s; RS232 to system, ControlNet to system, RS232 to ControlNet, ControlNet channel A to ControlNet channel B	30V (continuous), basic insulation type Type tested at 710V DC for 60 s; RS232 to system, Ethernet to system, RS232 to Ethernet
Communication ports	CH0 - RS-232 DF1, DH-485, ASCII Fully isolated 38.4 Kbps max CH1 - RS-232 DF1, DH-485 Nonisolated 38.4 Kbps max	RS232 Fully isolated 38.4 Kbps max ControlNet port	RS232 Fully isolated 38.4 Kbps max EtherNet/IP port 10/100 BASE-T	RS232 Fully isolated 38.4 Kbps max ControlNet port	RS232 Fully isolated 38.4 Kbps max EtherNet/IP port 10/100 BASE-T
Serial cables	1756-CP3 or 1747-CP3, right angle connector to controller, straight to serial port, 3 m				
Weight, approx	0.30 kg (0.66 lb)	0.32 kg (0.70 lb)	0.30 kg (0.66 lb)	0.32 kg (0.70 lb)	0.30 kg (0.66 lb)
Slot width	1				
Module location	DIN rail or panel mount				

Table 32 - Technical Specifications - 1769 Modular CompactLogix Controllers

Attribute	1769-L31	1769-L32C	1769-L32E	1769-L35CR	1769-L35E
Panel-mounting screw torque	1.1...1.8 N•m (10...16 lb•in) - use M4 or #8 screws				
Power supply distance rating	4 modules				
Power supply	1769-PA2, 1769-PB2, 1769-PA4, 1769-PB4				
Wire category ⁽¹⁾	2 - on communication ports				
North American temperature code	T5	T4A			
IEC temperature code	NA	NA	T4	NA	T4
Enclosure type rating	None (open-style)				

(1) Use this conductor category information for planning conductor routing. See the Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

Table 33 - Certifications - 1769 Modular CompactLogix Controllers

Certification ⁽¹⁾	1769-L31	1769-L32C, 1769-L35CR	1769-L32E, 1769-L35E
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584. UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E194810.		
CE	European Union 2004/108/EC EMC Directive, compliant with: - EN 61326-1; Meas./Control/Lab., Industrial Requirements - EN 61000-6-2; Industrial Immunity - EN 61000-6-4; Industrial Emissions - EN 61131-2; Programmable Controllers (Clause 8, Zone A & B)		European Union 2004/108/EC EMC Directive, compliant with: - EN 61000-6-2; Industrial Immunity - EN 61000-6-4; Industrial Emissions
C-Tick	Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions		
EX	—		European Union 94/9/EC ATEX Directive, compliant with: - EN 60079-15; Potentially Explosive Atmospheres, Protection 'n' - EN 60079-0; General Requirements (Zone 2) - II 3 G Ex nA IIC T4 X
CI	—	ControlNet International conformance tested to ControlNet specifications	—
EtherNet/IP	—	—	ODVA conformance tested to EtherNet/IP specifications.
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3		

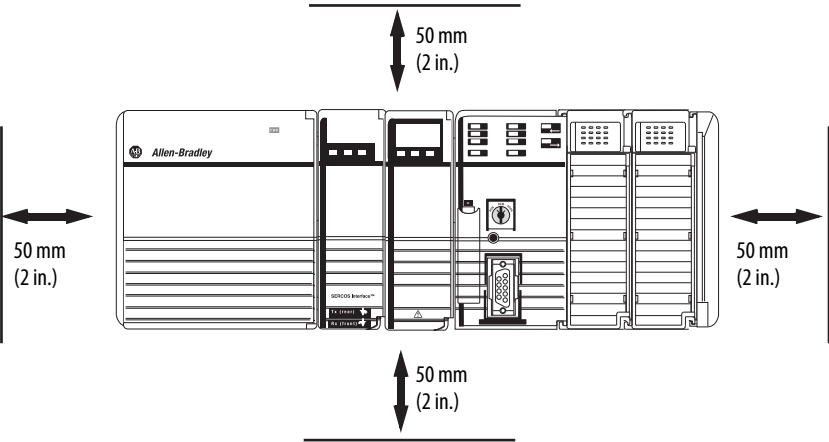
(1) When marked. See the Product Certification link at <http://www.ab.com> for Declarations of Conformity, Certificates, and other certification details.

Real-time Clock Accuracy

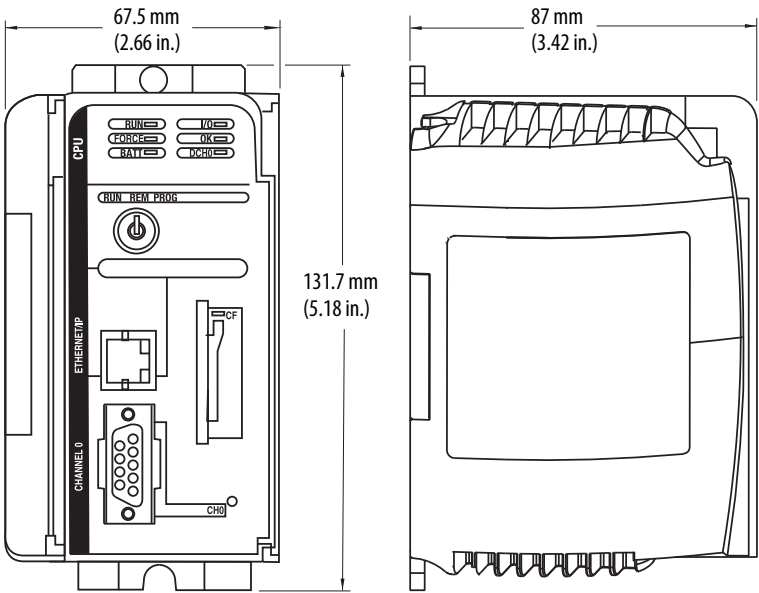
The following table lists the real-time clock accuracy specifications for the 1769 Modular CompactLogix controllers.

Ambient Temperature	Accuracy
0° C (32° F)	54...-56 s/mo
25° C (77° F)	9...-124 s/mo
40° C (104° F)	-84...-234 s/mo
55° C (131° F)	-228...-394 s/mo
60° C (140° F)	-287...-459 s/mo

1769-L3x Minimum Spacing Requirements



1769-L3x CompactLogix Dimensions





8 CHANNEL RELAY OUTPUT MODULE

The model 390-01-002-01 relay output module is designed to support the operation of up to 16 devices using 8 output channels. This board supports redundant operation, being able to be connected to 2 PLC output modules allowing your control system to have a robust control strategy. Additionally, each board can be daisy chained up to 32 channels in length to save on manufacturing cost as well as reducing total cable length. The 390-01-002-01 is designed to allow field wiring to be terminated on any 1769-OB series up to 32 output channels.



Specification	Model SI 390-01-002-01
Wire Termination	Designed to support up to two (2) output devices per channel
	Wire gauge range from 22-14
Power	Each channel has two (2) NO/NC and is fully isolated from the other channels
	Rated for 125 VDC/3A
	Relays are field replaceable
	Channels are fully isolated
Channels per Module	LED power indicator used to reflect status of the relay output
	8, 16 outputs total
Maximum Voltage	125VDC
Temperature Range	-20°C to 70°C
Mounting	Din rail, mounting brackets included
Connection Type, Plug Connector	50 pin flat-ribbon cable plug connector, 100 mil spacing between pins
Environmental	
Temperature	-20°C to 70°C
RH	5% to 95%



8 CHANNEL ANALOG INPUT MODULE

The model 390-01-004-03 analog input module is designed to support either field powered or PLC powered analog inputs. Each of the eight analog input channels is provided with disconnects to fully isolate the field wiring to the analog input module. The disconnect switches allow for insertion of the series current measurement device (such as a current meter) into the circuit, direct emulation of the field device by inserting a 4-20 ma stimulator, or direct measurement of the field signal, completely isolating the AB analog channel.

The 390-01-004-003 is designed to allow field wiring to be terminated onto an AB 1769-IQ32 Module and can provide either field powered or PLC powered inputs. For the PLC powered inputs, each channel is provided with a source power fuse.

24 volt PLC power source is provided to the board by a 4 screw connector to allow multiple analog input boards to be powered from a common 24 volt power supply.



Specification	Model SI 390-01-004-003
Wire Termination	Designed to support one twisted pair, shielded cable per channel
	Wire gauge range from 22-14
	Each channel has three disconnect switches which allows full isolation from the shield ground and analog inputs from analog input module
Power	Same field wiring for both field powered and PLC powered analog loops
	Nominal 24 volt
	Fused per channel to 50 ma
	Field replaceable fuses
	Per channel switch used to specify the source of analog input current power
Channels per Module	LED power indicator used to reflect status of the PLC field power status
	8
	Maximum Voltage
	36 volts
Temperature Range	-20°C to 70°C



32 CHANNEL DIGITAL TERMINATION MODULE

The model 280-01-018-00 digital input termination board is designed to support dry contact field wiring providing ground true interconnect to the AB 1769 Series digital input module. Model 280-01-018-00 provides all of the necessary wetting voltages to the field device. The field terminations are designed to support wires ranging from 22 to 12 gauge in diameter.



Specification	Model SI 280-01-018-00
Each Channel Provides	Wetting voltage and common return
Channels per Module	32
Input Channel Voltage	Board provided 24 volts nominal, maximum of 36 volts
Ambient Temperature	-20°C to 70°C
Mounting	Din rail, mounting brackets included
Connection Type, Plug Connector	50 pin flat-ribbon cable plug connector, 100 mil spacing between pins
Temperature Range	-20°C to 70°C
Field Wire Size Range	22 to 12 gauge stranded wire

SCADA SYSTEM POWER DATASHEETS



Features

- Universal AC input / Full range
- Built-in active PFC function
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- UL 508 (industrial control equipment) approved
- EN61000-6-2(EN50082-2) industrial immunity level
- 100% full load burn-in test
- 3 years warranty

Applications

- Industrial control system
- Semi-conductor fabrication equipment
- Factory automation
- Electro-mechanical

Description

NDR-240 is one economical slim 240W Din rail power supply series, adapt to be installed on TS-35/7.5 or TS-35/15 mounting rails. The body is designed 63mm in width, which allows space saving inside the cabinets. The entire series adopts the full range AC input from 90VAC to 264VAC and conforms to EN61000-3-2, the norm the European Union regulates for harmonic current.

NDR-240 is designed with metal housing that enhances the unit's power dissipation. With working efficiency up to 90%, the entire series can operate at the ambient temperature between -20°C and 70°C under air convection. It is equipped with constant current mode for over-load protection, fitting various inductive or capacitive applications. The complete protection functions and relevant certificates for industrial control apparatus (UL508, TUV EN60950-1, and etc.) make NDR-240 a very competitive power supply solution for industrial applications.

Model Encoding

NDR - 240 - 24

Output voltage

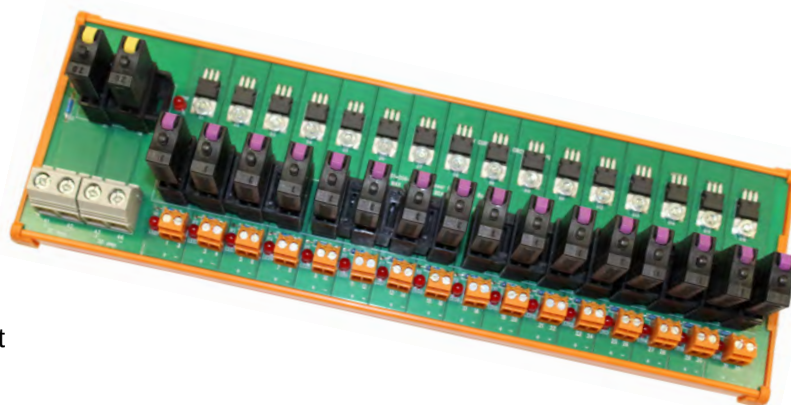
Output wattage

Series name

REDUNDANT POWER DISTRIBUTION MODULE

FEATURES

- Solid State Dual Diode per Output
- Individual Circuit Breakers
- Circuit Breakers are Removable & Replaceable
- Input Circuit Breakers Rated for 20 amps
- Each Breaker can Operate as a Disconnect
- Breakers Range ¼ amp to 20 amp



SI 319-01-006

TECHNICAL INFORMATION

DESCRIPTION

Specification

Maximum DC Volts	48 volts
Maximum Current Input	20 amps per Input (40 amps both Power supplies)
Maximum Current per Output Channel	Terminal blocks rated for 20 amps, individual Circuit Breaker to 20 amps
Voltage Across Dual Diode Max.	0.25 volts

Terminal Ratings

Torqueing Min/Max	.5 Nm / .6 Nm
Clamping Screw	M 3
Touch Safe Protection (Safe from Finger Touch)	DIN VDE 0470
Wire Connection Size (Min/Max) Output Terminals	AWG 26 / AWG 12
Wire Connection Size (Min/Max) Input Terminals	AWG 20 / AWG 8
Rated Current – Output Channels	20 amps
Rated Currents – Input Channels	20 amps

Physical Data

Operating Temperature	-20 +70 degrees C
Source Power	Up to 20 amps per power supply
Output Circuits	16 individually protected output channels.
Input Terminal Block (pairs)	2 pairs of terminal blocks, one per input power source
Output Terminal Blocks (pairs)	16 pairs of terminal blocks, one per output channel
Isolation Terminal Block to Ground	1,500 volt isolation to ground
Max. Rating per Output Circuit Breaker	20 AMP Max. Rating per Output Circuit Breaker
Max. Rating Input Circuit Breaker	20 AMP Max. Rating Input Circuit Breaker

Miniature Circuit Breakers Type GMB63



- Protection of circuits against short circuit and overload conditions
- UL489 branch circuit protection
- 1, 2, 3 pole arrangements
- 22 amperage sizes up to 63Amps
- Icn of 10kA
- Bimetallic element for small overloads
- Magnetic element for short circuit protection
- 240VAC and 480 Y / 277VAC versions
- Lug or screw terminals
- Line of accessories

Product Description

Competitive line of UL 489 miniature circuit breakers for 240VAC and 480Y/277VAC application where supplementary or branch circuit protection is required. GMB circuit breakers are available in 1, 2 and 3 pole configurations, with amperage rating up to 63A.

Ordering Key

GMB63 H 1P C 20 R

Miniature Circuit _____
 Voltage _____
 Number of Poles _____
 Tripping Characteristics _____
 Overload Range _____
 Terminal Type _____

Selection Guide (Refer to page 2 for list of valid part numbers)

MCB	Voltage	Number of Poles	Tripping Characteristics	Overload Range	Terminal Type
GMB63 Family	Blank- 240V H - 480Y/277V	1P - 1 pole 2P - 2 pole 3P - 3 pole	B - B curve C - C curve D - D curve	0.5A, 1A, 1.6A, 2A 3A, 4A, 5A, 6A, 8A 10A, 13A, 15A, 16A, 20A, 25A, 30A, 32A, 35A, 40A, 50A, 60A, 63A	Blank - lug (standard) R - ring

Description

X1180 kit includes an 1180 miniaturized, single pole, push button resettable, thermal circuit breaker, approved to cRUus (UL 1077) and CSA (C22.2 No. 235), standard amperages 0.1A to 10A, with blade terminals fit into the 10plus terminal block. The 10plus terminal block, 6mm wide, is available with screw or spring type terminals and a LED circuit breaker status indication option, approved to cRUus (UL1059, UL786E) and CSA (C22.2 No. 235).

Typical Applications

Protection of loads in power distribution systems in control cabinets and process control.

Ordering Information - X1180 - Kit

Type No.	
X1180	Single pole thermal circuit breaker, plug-in mounting
Version	
01	with switching function, without label
Terminal Block	
ST201	Terminal block, screw terminal
ST202	Terminal block, LED 24 VDC, screw terminal
XT201	Terminal block, push-in terminal
XT202	Terminal block, LED 24 VDC, push-in terminal
Current Ratings	
0.1... 10A	
X1180 - 01 - ST201 - 1A	

* Kit includes one circuit breaker & one terminal block with spacer.

Ordering Information - 10Plus Terminal Block

Part Number	Description
10plus-ST-201	Black terminal block screw terminal
10plus-ST-202	Black terminal block LED 24VDC screw terminal
10plus-ST-203	Black terminal block LED 12VDC screw terminal
10plus-XT-201	Black terminal block push terminal
10plus-XT-202	Black terminal block LED 24VDC push terminal
10plus-XT-203	Black terminal block LED 12VDC push terminal

Ordering Information - 1180 Circuit Breaker

Type No.	
1180	Single pole thermal circuit breaker, plug-in mounting
Version	
01	with switching function, without label
Current rating range	
0.1... 10A	
1180 - 01 - 1A	ordering example

Approvals

Authority	Voltage Rating	Current Range
VDE	AC 250 V; DC 65 V	0.1... 10A
UL	AC 250 V; DC 72 V	0.1... 10A
CSA	AC 250 V; DC 72 V	0.1... 10A



X1180-01-XXXX...



10Plus

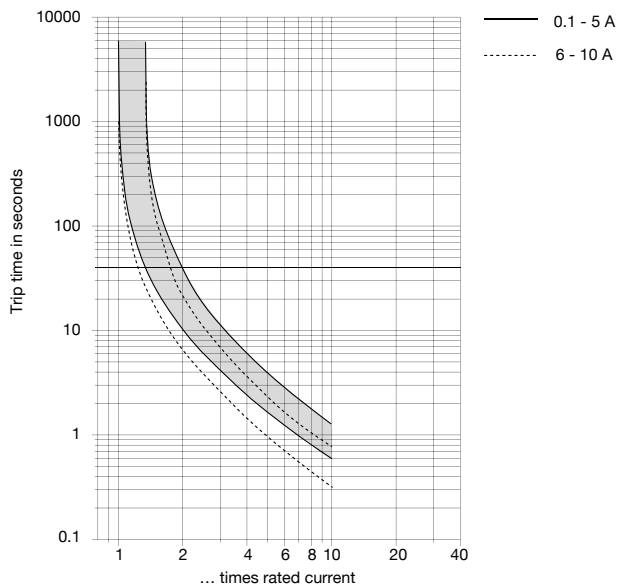


1180

Technical Data

Voltage rating	AC 250 V; DC 65 V (UL, UL Canada; AC 250 V; DC 72 V)
Current Rating	0.1... 10A
Typical Life	6,000 operations at 1 x I _N (low inductance) 3,000 operations at 1 x I _N (inductive) 500 operations at 2 x I _N (inductive)
Ambient temperature	-20...+60 °C (T 60) -4... +140 °F
Interrupting capacity (UL 1077)	AC 250 V 2,000 A DC 72 V 2,000 A

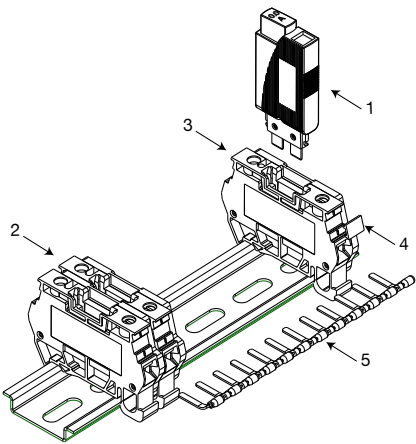
Typical time/current characteristic @ +23 °C/+73.4 °F



The time/current characteristic curve depends on the ambient temperature prevailing. In order to eliminate nuisance tripping, please multiply the circuit breaker current ratings by the derating factor shown below. See also section Technical information.

Ambient temperature °F °C	-4 -20	+14 -10	+32 0	+73,4 +23	+104 +40	122 +50	+140 +60
Derating factor	0.76	0.84	0.92	1	1.08	1.16	1.24

Note: When several devices are mounted together, each device should only carry 80 % of its rating or it must be derated accordingly.



1) Y 307 374 01

Label for circuit breaker 1180, surface for marking 4.5 x 5 mm
(Packaging quantity 120 pcs)

2) 10Plus-ST-201

Terminal block for DIN rail mounting, with screw terminals up to 4 mm² conductor, width 8.2 mm. Approvals: UL File 335289 - cRUus (UL1059, UL786E) and CSA (C22.2 No. 235). Dimensions 57.8 x 39 x 6 mm

3) 10plus-ST-202

Terminal block for DIN rail mounting, with LED DC 24 V (lighted after tripping), with screw terminals; current rating LED 2 mA. Approvals: UL File 335289 - cRUus (UL1059, UL786E) and CSA (C22.2 No. 235). Dimensions 57.8 x 39 x 6mm

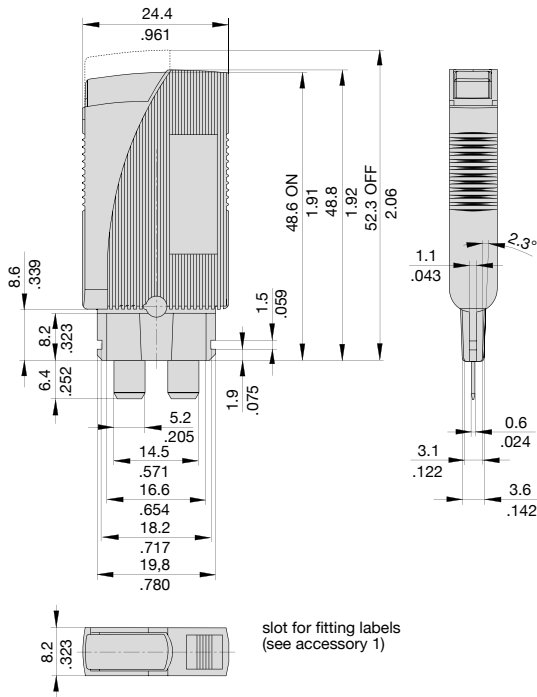
4) Y 307 375 11

Label for terminal block, surface for marking 6 x 12 mm
(Packaging quantity 20 pcs)

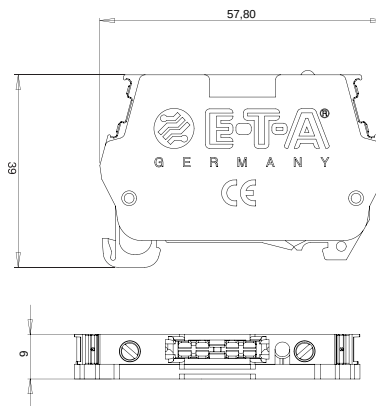
5) X 222 232 11

Busbar 24 amp, 12 poles, cuttable

Dimensions

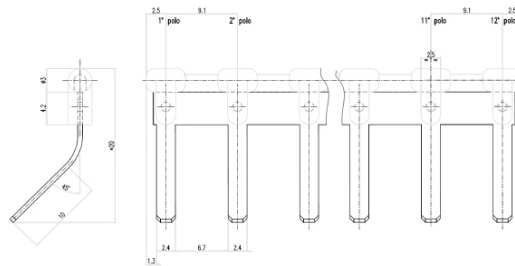


Dimensions 10plus



Accessory

X 222 232 11- Busbar, 24Amp, 12 pole, cuttable



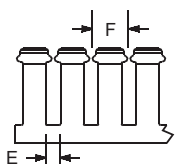
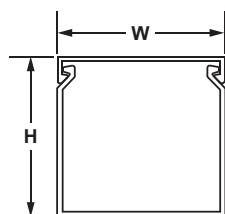
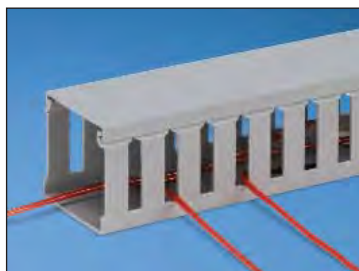
Dimensions

W x L	3 x 105,1 mm
Pitch	9.1 mm

SCADA SYSTEM ENCLOSURE DATASHEETS

Panduit® Type G Wide Slot Wiring Duct

- Wide slot/finger design provides greater sidewall rigidity and can be used with a wide range of wire bundle sizes
- Material: Lead-free PVC
- UL recognized continuous use temperature: 122°F (50°C)
- UL 94 flammability rating of V-0
- Conforms with NFPA 79-2007 section 13.3.1 requirement for flame retardant material
- Provided with mounting holes
- Base and cover length is 6 feet



	E	F
For .5" duct height:	0.37" [9.4]	0.80" [20.3]
0.75" to 2" duct height:	0.31" [7.9]	0.80" [20.3]
3" to 4" duct height:	0.31" [7.9]	1.00" [25.4]
5" duct height:	0.38" [9.4]	1.33" [33.8]



To order cover with protective film add "-F" to part number. 6" cover not available with film.

Base Part Number	Duct Size (W x H)*		Slot Width		Cover Part Number	Std. Pkg. Qty.	Base Ctn. Qty.	Cover Ctn. Qty.
	In.	mm	In.	mm				
G.5X.5LG6	0.69 x 0.60	17.5 x 15.2	0.38	9.7	C.5LG6	6	120	120
G.5X1LG6	0.69 x 1.06	17.5 x 26.9	0.31	7.9	C.5LG6	6	120	120
G.5X2LG6	0.69 x 2.03	17.5 x 51.6	0.31	7.9	C.5LG6	6	120	120
G.75X.75LG6	0.93 x 0.82	23.6 x 20.8	0.31	7.9	C.75LG6	6	120	120
G.75X1LG6	0.93 x 1.06	23.6 x 26.9	0.31	7.9	C.75LG6	6	120	120
G.75X1.5LG6	0.93 x 1.57	23.6 x 39.9	0.31	7.9	C.75LG6	6	120	120
G.75X2LG6	0.93 x 2.03	23.6 x 51.7	0.31	7.9	C.75LG6	6	120	120
G1X1LG6	1.26 x 1.12	32.0 x 28.4	0.31	7.9	C1LG6	6	120	120
G1X1.5LG6	1.26 x 1.62	32.0 x 41.1	0.31	7.9	C1LG6	6	120	120
G1X2LG6	1.26 x 2.12	32.0 x 53.8	0.31	7.9	C1LG6	6	120	120
G1X3LG6	1.26 x 3.12	32.0 x 79.2	0.31	7.9	C1LG6	6	120	120
G1X4LG6	1.26 x 4.10	32.0 x 104.1	0.31	7.9	C1LG6	6	60	120
G1.5X1LG6	1.75 x 1.12	44.5 x 28.4	0.31	7.9	C1.5LG6	6	120	120
G1.5X1.5LG6	1.75 x 1.62	44.5 x 41.1	0.31	7.9	C1.5LG6	6	120	120
G1.5X2LG6	1.75 x 2.12	44.5 x 53.8	0.31	7.9	C1.5LG6	6	120	120
G1.5X3LG6	1.75 x 3.12	44.5 x 79.2	0.31	7.9	C1.5LG6	6	120	120
G1.5X4LG6	1.75 x 4.10	44.5 x 104.1	0.31	7.9	C1.5LG6	6	60	120
G2X1LG6	2.25 x 1.12	57.2 x 28.4	0.31	7.9	C2LG6	6	120	120
G2X1.5LG6	2.25 x 1.62	57.2 x 41.1	0.31	7.9	C2LG6	6	120	120
G2X2LG6	2.25 x 2.12	57.2 x 53.8	0.31	7.9	C2LG6	6	120	120
G2X3LG6	2.25 x 3.12	57.2 x 79.2	0.31	7.9	C2LG6	6	60	120
G2X4LG6	2.25 x 4.10	57.2 x 104.1	0.31	7.9	C2LG6	6	60	120
G2X5LG6	2.25 x 5.10	57.2 x 129.5	0.38	9.7	C2LG6	6	60	120
G2.5X3LG6	2.75 x 3.12	69.9 x 79.2	0.31	7.9	C2.5LG6	6	120	120
G3X1LG6	3.25 x 1.12	82.6 x 28.4	0.31	7.9	C3LG6	6	120	120
G3X2LG6	3.25 x 2.12	82.6 x 53.8	0.31	7.9	C3LG6	6	120	120
G3X3LG6	3.25 x 3.12	82.6 x 79.2	0.31	7.9	C3LG6	6	60	120
G3X4LG6	3.25 x 4.10	82.6 x 104.1	0.31	7.9	C3LG6	6	60	120
G3X5LG6	3.25 x 5.10	82.6 x 129.5	0.38	9.7	C3LG6	6	60	120
G4X1.5LG6	4.25 x 1.62	108.0 x 41.1	0.31	7.9	C4LG6	6	120	120
G4X2LG6	4.25 x 2.12	108.0 x 53.8	0.31	7.9	C4LG6	6	60	120
G4X3LG6	4.25 x 3.12	108.0 x 79.2	0.31	7.9	C4LG6	6	60	120
G4X4LG6	4.25 x 4.10	108.0 x 104.1	0.31	7.9	C4LG6	6	60	120
G4X5LG6	4.25 x 5.10	108.0 x 129.5	0.38	9.7	C4LG6	6	60	120
G6X4LG6	6.25 x 4.15	158.8 x 105.4	0.31	7.9	C6LG6	6	60	120

Part number shown for LG (Light Gray). For other color availability see color selection guide, page C1.48.
Base and cover sold separately.

*"H" dimension includes duct and cover.

A.
System
Overview

B1.
Cable Ties

B2.
Cable
Accessories

B3.
Stainless
Steel Ties

C1.
Wiring
Duct

C2.
Surface
Raceway

C3.
Abrasion
Protection

C4.
Cable
Management

D1.
Terminals

D2.
Power
Connectors

D3.
Grounding
Connectors

E1.
Labeling
Systems

E2.
Labels

E3.
Pre-Printed
& Write-On
Markers

E4.
Permanent
Identification

E5.
Lockout/
Tagout
& Safety
Solutions

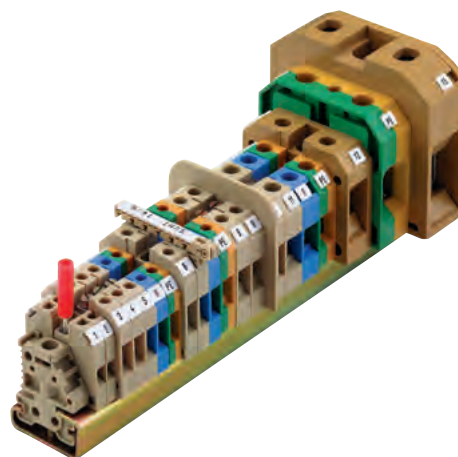
F.
Index

TERMINAL BLOCKS

SAK-Series

The advantages of all SAK modular terminals:

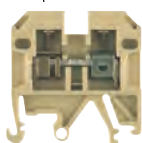
- Separation of electrical and mechanical functions:
 - steel clamping yoke for the mechanical function
 - copper busbar for the electrical function
- Maintenance-free and vibration-proof screw connection
- Low voltage drop and gas-tight contact point
- High contact forces, not reliant on the cross-section
- Three different clip-on foot designs available
- Various insulation materials
- Large selection of special terminals with diverse connection systems
- Large range of accessories available



PA 6.6 material

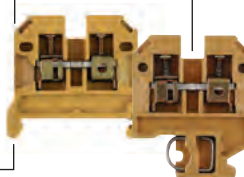
Cross-sections
from 0.5 mm²
to 35 mm²

Combination foot
TS 32 and TS 35 rail in one



Cross-sections
from 0.5 mm²
to 95 mm²

Special foot
for TS 35



Temperature ranges
and materials
100 °C – PA 6.6
130 °C – KrG

Special foot
for TS 32

Product range

Clamp type	Rated cross-section						Flat blade connection	Push-on connection	Spring connection	Solder connection
	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²	35 mm²				
Modular feed-through terminals										
PA 6.6 / TS 32	•	•	•	•	•	•		•	•	•
KRG / TS 32	•	•	•	•	•	•	•	•	•	•
PA 6.6 / TS 35	•	•	•	•	•	•		•	•	•
KRG / TS 35	•	•	•	•	•	•	•			
PA 6.6 / comb. foot	•	•	•	•	•	•				
PA 6.6 / TS 15	•	•						•		•
Modular 2-tier terminals		•								
Modular PE terminals										
PA 6.6 / TS 32	•	•		•	•	•				
PA 6.6 / TS 35	•	•	•	•	•	•				
PA 6.6 / TS 15	•	•								
Modular fuse terminals										
PA 6.6 / TS 32				•						
PA 6.6 / TS 35				•						
KrG / TS 32				•	•					
KrG / TS 35				•	•					
PA 6.6 / TS 15		•								
PA 6.6 / comb. foot		•								
Modular 2-tier fuse terminals										
PA 6.6 / TS 32		•								
PA 6.6 / TS 35		•								
PA 6.6 / comb. foot		•								
Modular disconnect terminals										
TS 35		•		•						
PA 6.6 / TS 15		•								
Modular 2-tier disconnect terminals		•						•		
Modular ceramic terminals		•		•						

DIN rail perforated - NS 15 PERF 250MM - 1207644

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DIN rail perforated, Standard profile, width: 15 mm, height: 5.5 mm, acc. to EN 60715, material: Steel, galvanized, passivated with a thick layer, length: 250 mm, color: silver

RoHS

Key Commercial Data

Packing unit	1 pc
Minimum order quantity	20 pc
GTIN	 4 046356 366021
GTIN	4046356366021
Weight per Piece (excluding packing)	20.000 g
Custom tariff number	72166190
Country of origin	Germany

Technical data

Dimensions

Height	5.5 mm
Length	250 mm
Width	15 mm
Hole width	12.20 mm
Hole height	4.20 mm
Drill hole spacing	20.00 mm

General

Material	Steel
Coating	galvanized, passivated with a thick layer
Color	silver

DIN rail perforated - NS 15 PERF 250MM - 1207644

Technical data

Standards and Regulations

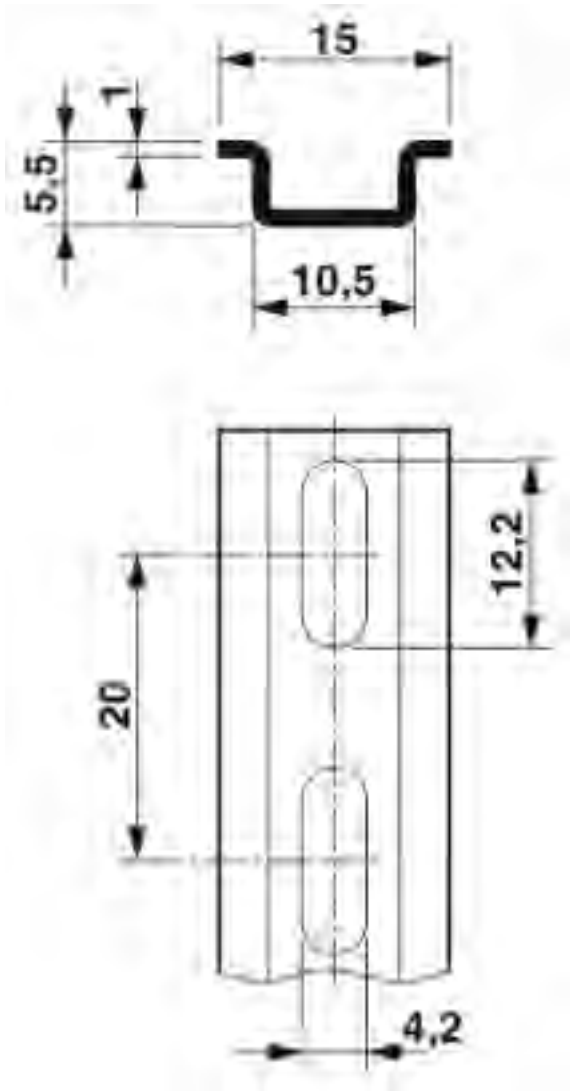
Test standard	acc. to EN 60715
Connection in acc. with standard	IEC / EN

Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

Dimensional drawing



DIN rail perforated - NS 15 PERF 250MM - 1207644

Classifications

eCl@ss

eCl@ss 4.0	23150300
eCl@ss 4.1	23150300
eCl@ss 5.0	27141100
eCl@ss 5.1	27141100
eCl@ss 6.0	27141100
eCl@ss 7.0	27141143
eCl@ss 8.0	27141143
eCl@ss 9.0	27400602

ETIM

ETIM 2.0	EC001285
ETIM 3.0	EC001285
ETIM 4.0	EC000212
ETIM 5.0	EC001285
ETIM 6.0	EC001285
ETIM 7.0	EC001285

UNSPSC

UNSPSC 6.01	30212109
UNSPSC 7.0901	39121708
UNSPSC 11	39121708
UNSPSC 12.01	39121708
UNSPSC 13.2	39121708
UNSPSC 18.0	39121708
UNSPSC 19.0	39121708
UNSPSC 20.0	39121708
UNSPSC 21.0	39121708

5. SCADA SYSTEM SOFTWARE



**SYSTEMS
INTEGRATED**

*Innovative and Enduring Systems
Based on Standards*

123456789

*DATA...WHEN AND WHERE
YOU NEED IT*

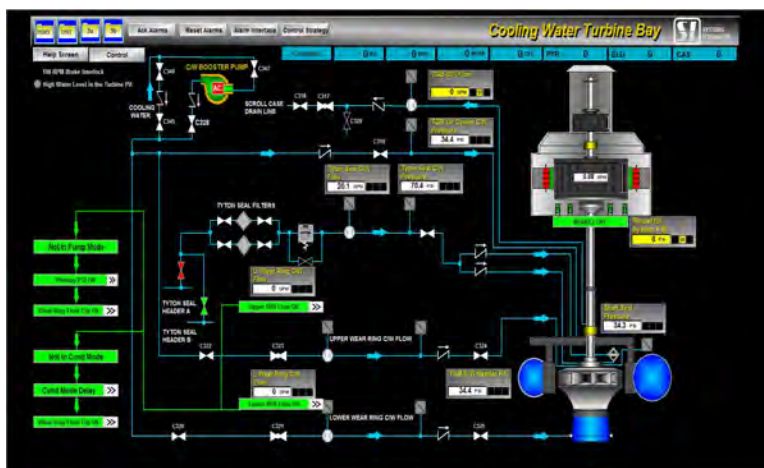
ONSITE[®] DATAVIEWS[®]

EDITION SCADA

ORDERING IS EASY. CALL TODAY!

Systems Integrated: 800/966-1174

ONSITE® DATAVIEWS® Edition SCADA software monitors, controls, and manages operations for Critical Infrastructure Systems



- Facility/Building Management Systems
- Hydroelectric Power Plants
- Water Treatment and Distribution Systems
- Wastewater Collection and Treatment Systems
- Electric Power Substation and Distribution Automation Systems

Custom development has never been so easy.

When you need high quality data acquisition and control solutions, *ONSITE* is the answer. *ONSITE* is a highly scalable system built on a distributed system architecture using LINUX servers and Windows-based clients. *ONSITE* is fully configurable, expandable and upgradeable.

ONSITE merges existing technologies with the newest innovations, and continues to support expandability for years to come.

Based on cutting edge technology, *ONSITE* is easy to use and combines the process functionality of a Distributed Process Control System (DCS), the archival functions of commercial databases, and the data presentation capabilities of dedicated graphics packages. Designed specifically for the utility industry, *ONSITE* is a powerful solution for your data acquisition and equipment control requirements.

System Design Features

The *ONSITE* system provides the following, standard system design features.

Open Systems... *ONSITE* runs on LINUX servers and Windows clients and is designed using C/C++ programming language. You can easily integrate any conforming system to access *ONSITE* data...you decide when, where, and how.

Hardware Independent... Your system may include PCs, workstations, and minicomputers. Our knowledgeable engineers have extensive experience with all hardware types.

Systems Integrated can evaluate your existing systems, your new requirements, then recommend the best possible hardware solution. Ultimately, you choose your own hardware—and the hardware vendors—that best meet your needs.

Scalability... Design an optimum system today and expand it tomorrow. *ONSITE* operates on a wide range of hardware configurations—without special programming.

You can monitor a small unit process or a large decentralized system; and add additional functionality or entire sites without impacting day-to-day operations. You define your parameters and *ONSITE* supports it.

Modularity... *ONSITE* is an interactive, modular suite of programs that allow you to easily grow and expand your system. Each *ONSITE* software module performs one specific task within the system. This strategy optimizes overall efficiency for your organization.

Networking... *ONSITE* includes a powerful network manager that handles all system communications. Modules link directly to the network manager to send and receive messages.

This networking system makes it possible for software modules to reside on the same computer or miles apart and connected by WAN. As you expand your system, *ONSITE* functionality is not impacted.

The same network manager seamlessly integrates your custom applications into the *ONSITE* system—without the high cost of outside consultants or lengthy programming projects.

ONSITE®—

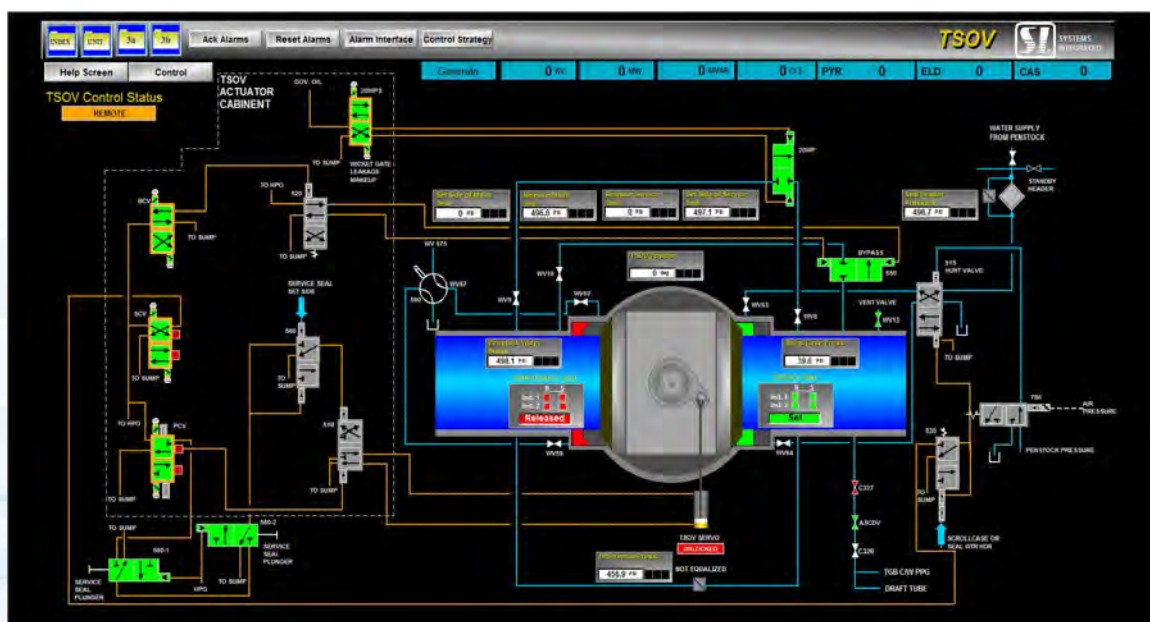
The Total, Flexible

SCADA Solution

SCADA FEATURES

The *ONSITE* developers know the utilities industry from an insider's viewpoint. As a result, we know your requirements and continuously enhance built-in capabilities. *ONSITE*

- Provides a complete system solution integrating proprietary and third-party software.
- Supports the latest hardware and software solutions, thus avoiding obsolescence.
- Provides monitoring capabilities for all intelligent system equipment including computer nodes, routers, switches, RTUs, and PLCs...anything with an IP address.
- Supports bumpless transfer to backup computers to protect core functions against the failure of any single computer.
- Implements redundant network communications, regardless of the medium—Ethernet, fiber optics, microwave, and so forth. *ONSITE* automatically detects failures and switches to alternate channels when necessary to ensure ongoing system functionality.
- Maintains data security. In addition to the standard operating system security, *ONSITE* includes multiple configurable security levels that range from *Read Only* to *Unrestricted* access, and that can be set for individual *ONSITE* modules.
- Provides numerous ways to collect and save historic data. You define the parameters including on exception or schedule or by deadband values.
- Supports nearly instantaneous access to data from local or remote sites, in a format that is most comfortable for the end users and that is fully configurable.



Advanced HMI Design with DATAVIEWS Visualization Software

You do not need to schedule exhaustive training cycles to learn to use *ONSITE* functions. Menus, tool-bars, onscreen buttons, and logical options create an intuitive environment for all configuration, monitoring, and control functions. *ONSITE* is easy to use, and is designed so that even the most complex functions are easy to define.

Window functionality is similar to those available in any office environment. Users can move, size, stack, minimize, maximize, and close any number of *ONSITE* applications on any number of monitors and workstations. *ONSITE* automatically scales graphics to fit in the windows, and graphics always display proportionally.

Software Overview

ONSITE uses only mature and reliable products with a solid industry-wide reputation.

- LINUX™ and Windows operating systems.
- Oracle™'s complete RDBMS system. Provides all SQL™ functions, 4GL interfaces for configuration, and the GUI Reports Builder.
- *ONSITE* provides core SCADA controls, data acquisition, historical archiving, and graphic interfaces to all collected data.
- *DATAVIEWS* provides the graphic functionality necessary to design custom Human-Machine Interface (HMI) screens.
- RTU and PLC configuration and maintenance software for all RTUs and PLCs.
- ACSL. Advanced Continuous Simulation Language.
- OS-API. Application Programming Interface library for custom application development from Windows, LINUX™, and Oracle™.

Security

Your data is always secure with *ONSITE*. Three discrete security levels control user access, with primary control residing in *ONSITE*. Different levels of security are available for each *ONSITE* module, ranging from Read Only to Unrestricted. System administrators can define access for each application and each user if desired, or set access for user groups.

The User Group functions allow you to quickly add and remove functionality for an entire group of staff—for example, technician and operator User Groups may have completely different access rights. With this flexibility, your organization can define the exact configuration that best suits your requirements. Like all *ONSITE* functions, access definition is a simple point-and-click process.

***ONSITE provides a complete system solution
that is user-friendly, easy to customize, and
designed specifically for utility industries.***

Menus and Toolbars

ONSITE applications include menus and toolbars that support standard Windows functionality and ONSITE specifics. Simply point and click to perform configuration tasks, operate the system, and access realtime and historic data.

Graphics

ONSITE contains two high-resolution graphic tools—the Process Graphics program and the Graphics Editor.

- The Process Graphics program runs all graphic screens, allowing users to monitor and control equipment and change operating values.
- The Graphics Editor provides maximum flexibility for creating custom graphic displays. Screen designers can import AutoCAD drawings, pictures in standard file formats, or use available tools to create simple or complex screens. The Editor includes a customizable palette that contains predesigned equipment objects including items such as pumps, pipelines, common network equipment, and so forth.

The Graphics Editor includes dynamic behaviors that appear during runtime operations. Dynamic behaviors include text substitutions, color, size, and symbol changes; flashing; conditional color, and realtime graph abilities.

- The Graphics Editor supports point-and-click techniques to link database points to dynamic objects. Any point and any attribute in the database can be connected to any object. This allows you to rapidly build custom screens for equipment monitoring, including system computers and networking equipment.



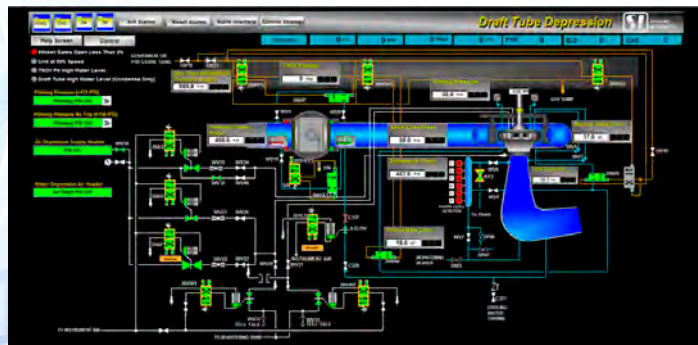
Data Acquisition

ONSITE uses I/O scanning software modules—or drivers—to acquire physical data. The drivers collect data from local or remote devices, convert raw data into the appropriate engineering units, and then place the converted data into the database using IEEE standard floating point format. The data collection interval is fully configurable for each individual I/O point in the database.

- Drivers can connect to most major PLC's including Allen-Bradley, Modicon, GE and Siemens. To support the many possible external devices, multiple, concurrent drivers can be defined and activated at any time. ONSITE supports over 15 common drivers as an integral part of the software. This allows your organization optimum flexibility for system expansion and upgrades, without having to purchase specific modules or pay for expensive software development.

Like most ONSITE functionality, configuring drivers is a matter of point-and-click selection. Users can create the appropriate software module and connect the equipment as soon as wiring or other communication links are established.

ONSITE supports all major I/O communication drivers including Modbus, Ethernet IP, DNP 3.0 and IEC 61850.



Alarms

ONSITE supports alarms for each database point, providing superior control for your operation. Your organization can also create custom alarms if necessary. Alarms may log to file, print, appear in the Alarms windows, in Process Graphics screens, and may generate voice messages or audible tones that are specific to the customer and can be set and disabled as necessary. Alarm presentation is fully configurable, based on user access levels.

Operators must acknowledge all alarms, and alarmed points must return to normal conditions before the system removes them from the alarm interfaces. Alarms are considered active if an alarm is not both acknowledged and cleared. The system may escalate any alarm if it continues to be unacknowledged or uncleared for a pre-defined period of time.

Reports

Freely define reports using the *ONSITE* Excelä Add-in, Microsoft Accessä, Crystal Reportsä, Oracle Report Generatorä, or any standard office application that is able to access an ODBC database. You may reference live or archived data, logged events, or enter static text; change row and column size; and otherwise manipulate the format.

ONSITE can calculate items based on the minimum, maximum, average values—or compute the sum of any report column or row. This ensures data in formats that best suit your needs. Reports may print on schedule or be manually requested at any time, viewed onscreen or in print format, or saved to disk and other storage mediums.

In addition to reporting functionality, a number of *ONSITE* applications can be set to act as reporting tools. These tools include historical and realtime trends and tabular displays, all of which are fully configurable to meet your requirements.

ONSITE'S Archiving

ONSITE's archiving modules save data in flat files or the Oracle database. You can collect values from any connected point including critical communications information, I/O values, and status data.

Your organization decides the type of data you want to see, how you want to see it, and when you want to collect it. The flexible parameters allow you to meet internal data requirements and those of outside, regulatory agencies.

The Event Logger

ONSITE's Event Logger records all changes to any *ONSITE* database, any alarm conditions, and any other user-defined events. Event data may be viewed on-screen or can be printed.

Logging is a distributed function, and may run on any system node. You may assign logging to one node or any combination of available nodes.

The Database

ONSITE allows you to view and modify *ONSITE* function blocks when necessary—assuming your access level is high enough. The function block may reside anywhere within the control database, and may be accessed at any time.

The Function Block Editor—one of *ONSITE's* configuration tools—allows you to access the control database text file for any system node. You may modify parameters while the control database is active without impacting operations. The system saves modified data at the originating node but is not activated until you restart the control database.

You can also preconfigure points and activate them later. This functionality allows you to design complete additions to your system and implement them when you are ready.

Configuration

ONSITE's modular construction allows you virtually unlimited flexibility for system configuration. Simply identify new computers and field equipment using the intuitive tools in *ONSITE*. Expansion has never been so easy.

Underlying system functions are transparent to end users who point and click their way through clearly identified system options.

The *ONSITE* Bulk Loader makes the task of loading the database even easier and requires a minimum of effort. Simply load data into a flat file or spreadsheet format then upload the information into the *ONSITE* system.

Designers can include any system data in graphic screens, according to organizational standards. Graphic objects may link to computers, network equipment, and field equipment in addition to I/O data.

I/O Types

The *ONSITE* analog input (AIN) blocks include High and Low range entries, data acquisition parameters for raw data filtering and linearization, historical data collection, and alarm details. Available linearizations include Linear, Square Root, Modified Root, and Polynomial. Filter methods include Moving Average, Rate Limit, Low Pass, and Median.

ONSITE's digital input (DIN) blocks support runtime and Start/Stop timers, history, and alarms. Digital block algorithms include Sequence of Events (SOE), Discrete Output (DOUT), Remote Pulse Count Input (RPCI), and Raise/Lower Control Output (RLOUT).

All I/O points include predefined alarms specific to the point type. You can enable any combination of alarms for a point, and can custom create alarms as well. This allows you total control over how your staff is notified of critical situations.

Calculation/Control Database

ONSITE includes computation and control algorithm function blocks that enhance the basic I/O functionality of the *ONSITE* software system. Each algorithm computes a specific function and places the results in its output parameter. All algorithms accept one or

more inputs and compute the desired output in conjunction with predefined variables. Signal connections can be made from the output of one block to the input of another.

An input accepts only one signal source but block outputs may connect to any number of inputs. Block parameters can serve as input for other blocks, connect to graphic screens, and be sent to field control devices.

Control Functions

Control function blocks link to other function blocks to create simple or complex processes.

- PID Controller
- Integral Controller
- Digital Gap Controller (DGAP)

Mathematical Functions

Absolute	Square Root
Add	Exponent
Subtract	Average
Multiply	Logarithm
Divide	Natural Logarithm
Power	

Logic Functions

NOT	XOR
AND	OR
Timer	Relational

Trigonometric Functions

Sine	Cosine
Arcsine	Arccosine
Tangent	Arctangent

Calculation Functions

Multiplexer	Filter
Demultiplexer	Lead-Lag
Signal Selector	Characterizer

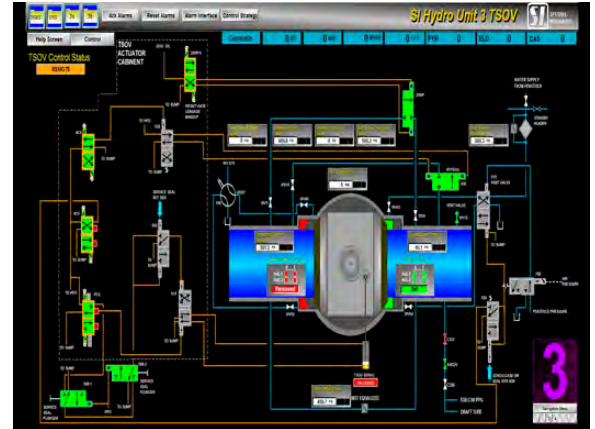
Block Modes

All algorithms have two operational modes—Automatic (AUTO) and Manual (MAN). In AUTO mode, the algorithm continuously calculates output based on the input values. The SCAN time parameter defines the frequency of the calculation. In MAN mode, *ON-SITE* updates the algorithm's inputs every SCAN time, without performing output computations.

Data Types

Floating point signal types are implemented using standard IEEE format. The dynamic range of a floating point is approximately $\pm 1.7 \times 10^{38}$ to 1×10^{-38} and can yield seven decimal digits of precision.

Logical variables are bi-valued quantities representing True/False, On/Off, Open/Shut, and so forth. Values of zero identify statements as False, and non-zero values identify statements as True.



123456789

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Based on Standards*

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Make faster, better business decisions by collecting and sharing critical production data across your enterprise.

iFIX Overview

As the level of competition increases in your market, so does the need to continually reduce operating costs and improve production processes wherever possible. Success depends greatly on your ability to access, understand and utilize the volumes of crucial automation information being generated throughout your operation every day.

Many of the largest and most successful manufacturers around the world rely on GE Fanuc's iFIX for the

comprehensive monitoring, control and distribution of their plant-wide data. With industry applications including pharmaceuticals, biotech, consumer packaged goods, food and beverage, oil and gas, utilities and more, iFIX is the complete HMI or SCADA solution for any manufacturing environment.

With the power of leading technologies and patented techniques, iFIX is the ultimate tool for making faster, more effective business and production decisions that can give your company a significant competitive advantage.

iFIX: Technical Benefits

Powerful Distributed, Client/Server Architecture

- **iFIX servers** collect, process and distribute real-time data
- **Choice of clients**, including iClient™ and iClientTS™, for Terminal Server and iWebServer™
- **Real-time** client/server architecture allows unparalleled scalability

Faster System Development and Deployment

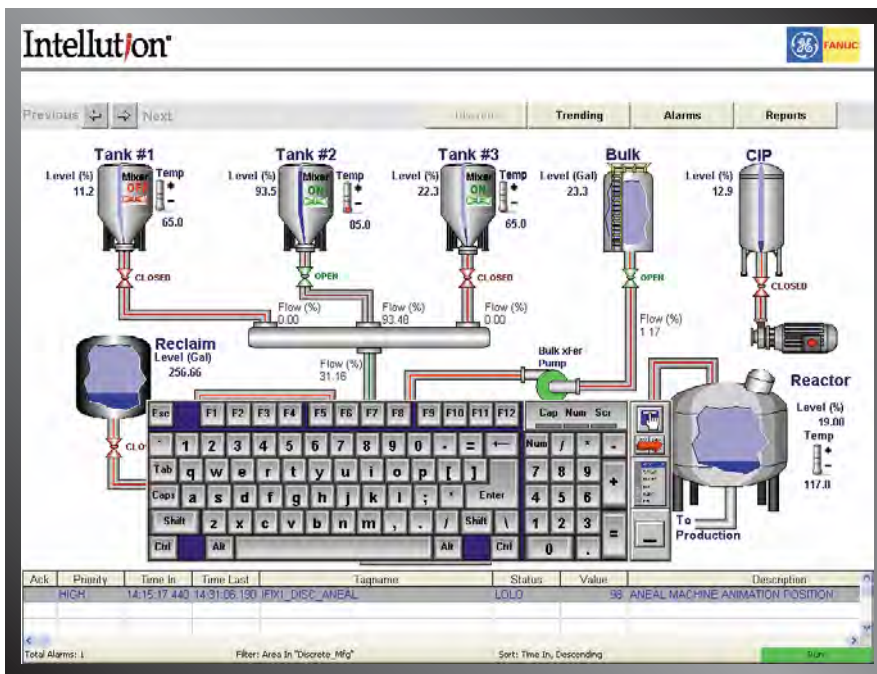
- **Build** your system intuitively in the Intellution WorkSpace – an easy-to-use, integrated development environment
- **Develop and deploy** applications quickly using powerful Wizards
- **Integrate** third-party functionality with GE Fanuc's unique Plug and Solve® technology
- **Develop and improve** your application online, without shutting down operations or rebooting
- **Key Macro Editor** provides powerful and diverse capabilities at the touch of a button
- **Animation Experts** drive internal and third party ActiveX controls without VBA programming
- **Tag Group Editor** saves development time
- **Event Scheduler** automates tasks running in the foreground or background

Application Integration

- **Leverage** the best container for third party applications available, enabling solutions tailored to your exact needs
- **Drop in ActiveX** controls bring them to life without programming
- **Ensure the reliability** of your application with our patent-pending Secure Containment™ technology
- **Combine** your plant floor systems with MES and ERP systems
- **Design a secure system** around iFIX security, electronic signature and record functionality

Extensive Functionality

- **Windows NT/2000/XP based**
- **SQL/ODBC API** for easy integration to relational databases
- **Process visualization** (HMI)
- **Supervisory control** (SCADA)
- **Individual user-based and node-based security**; configured and synchronized with Windows NT/2000/XP
- **Real-time historical trending**
- **Data collection** and data management
- **Integrated** report generation
- **Alarming** and alarm management
- **Distributed**, high performance networking
- **Graphical** development Wizards
- **Online** configuration
- **ActiveX** controls for database connectivity
- **ODBC** support
- **Time** and event scheduling
- **Historical** collection and display
- **Visual Basic** for Applications (VBA)
- **OLE** for Process Control (OPC) client and server support
- **Object-oriented** graphics
- **The Intellution WorkSpace** development environment
- **Support** for Microsoft SQL 2000 server database
- **Plug and Solve** extensible architecture



iFIX is the leading choice of manufacturing engineers, operators and system integrators because it delivers the best of both worlds: unmatched ease of use and unlimited flexibility.

iFIX: Business Benefits

Rapid ROI

iFIX delivers a rapid return on your investment because it enables you to:

- **Develop and deploy** powerful automation solutions faster and easier
- **Reduce your up-front engineering costs**
- **Achieve** faster time-to-market with new products
- **Increase productivity** and product quality
- **Protect** your investments in legacy hardware and software systems
- **Reduce your system maintenance** and expansion costs
- **Learn** the system faster by leveraging standard technologies

A Safe Investment for the Future

iFIX is an intelligent investment that is equally compatible with a wide range of established and emerging technologies. Because it is designed on open, industry-standard Microsoft technologies including COM/DCOM, ActiveX, VBA, Windows NT/2000/XP and OPC, iFIX is the most versatile solution that can protect your hardware and software investments, both now and in the future.

E-Signature/E-Record Capability

iFIX is now equipped with Electronic Signature and Electronic Record functionality. This offers a variety of tremendous benefits for the end-user:

- **Increased data integrity**
- **Greater operator accountability**
- **Higher efficiency**
- **Ideal functionality** to help meet FDA 21 CFR Part 11 requirements
- **Creates the foundation** of a paperless records system

Part of an Integrated Enterprise

With iFIX, you have the power to:

- **Integrate real-time data** from the plant floor with your business systems
- **Exchange real-time information** with users and applications throughout the enterprise
- **Seamlessly integrate** best-in-class software applications with the highest reliability
- **Make faster, more effective, more intelligent decisions**

Intelligent Production Management (IPM): Plant Intelligence and More

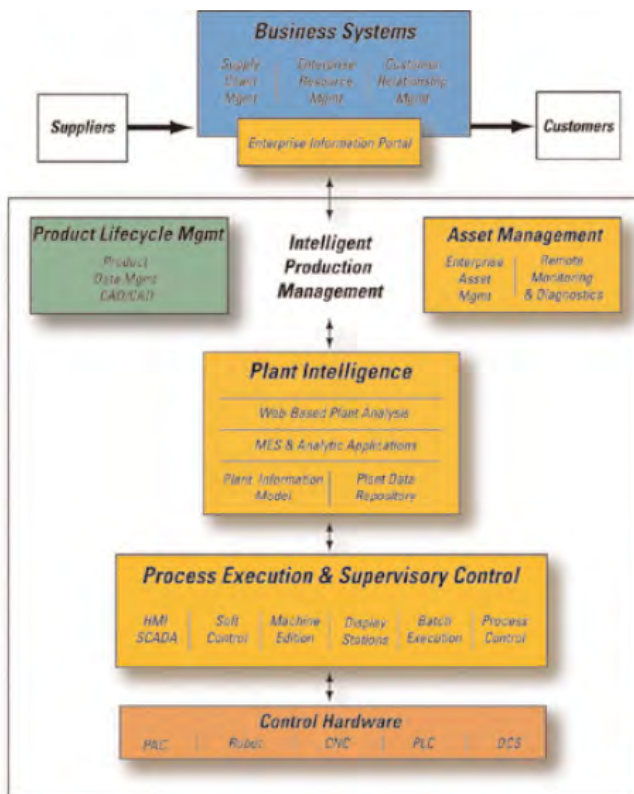
GE Fanuc Automation has combined two of the industry's most powerful and versatile product families to create an even more robust set of solutions. We have effectively bridged the gap between all key areas of the production management lifecycle to offer unparalleled levels of connectivity, analysis and control over your operation.

We call this digitized lifecycle Intelligent Production Management, and it defines what each of our solutions can bring to your production process.

Intelligent Production Management – support for every level of your operation:

- **Control Hardware** – Providing the physical assets that run your operation (CNC, PLC, PAC, DCS, etc.)
- **Process Execution & Supervisory Control** – Connecting control hardware and managing the process (HMI/SCADA, soft control, batch, process control)
- **Plant Intelligence** – Providing an intelligent window into your product production (Web-based plant analysis, MES, SPC, historian)
- **Asset Management** – Proactively maintaining the operation (remote monitoring & diagnostics, EAM)
- **Services** – Supporting your technology investment and helping you get the most from our domain expertise.

Intelligent Production Management



Intelligent Production Management integrates all key areas of the production management lifecycle, giving you greater connectivity, analysis and control over your operation.

iFIX: Comprehensive Monitoring and Control

GE Fanuc's iFIX is a robust HMI/SCADA solution, providing process visualization, data acquisition and supervisory control of your plant floor operations. iFIX gives you the power and security to precisely monitor and control every aspect of your manufacturing process, as well as your equipment and resources, resulting in faster response to production issues, less waste, improved quality, faster time-to-market with new products, and increased profitability.

Part of our Process Execution and Supervisory Control Solutions

iFIX is a key component of GE Fanuc's Process Execution and Supervisory Control products – a full suite of solutions that provide accurate, open and secure data acquisition and control of plant floor processes.

iFIX is an extremely well-suited application for process environments, with functionality to excel in water/wastewater, oil and gas, and regulated industries, particularly those under the FDA's 21 CFR Part 11 rule.

iFIX Features

Ease and Flexibility

With its extensive library of intuitive graphical tools, iFIX enables users to be "up and running" quickly and easily, building a powerful window into their manufacturing operations.

Whether you're implementing a single, stand-alone Human Machine Interface (HMI), or a highly complex, multi-node, multi-site Supervisory Control and Data Acquisition (SCADA) system, iFIX offers the functionality you need to quickly develop an application of any type and size. And because it's designed with an extremely flexible architecture, iFIX gives you the power to meet your current application needs, while easily expanding your system as your business requirements grow.

A Highly Extensible Architecture

Distributed Network Architecture

iFIX's fully distributed, client/server architecture provides maximum flexibility when designing a system. Deployment possibilities range from a single computer running iFIX in a stand-alone HMI application to a large, networked system with many distributed servers and clients.

HMI/SCADA Servers

The iFIX server connects to physical I/O points and maintains the Process Database. A variety of tag types are available, including analog and digital inputs and outputs, calculations, alarms, totalizers, timers, continuous and statistical control functions, SQL commands, and more. iFIX applications include real-time graphics, trending, reporting, batch, MES, and many others.

iClient

iClient is the standard GE Fanuc client. It serves as a traditional PC-based client in that it is installed on the hard disk and accesses data from a local or remote computer. All applications can be run on iClient, including real-time graphics, trending, alarming and reporting. Plus, users can perform development online from each client, including building graphics and adding tags to local or distributed servers.

iClientTS

iClientTS is a thin-client and web solution that makes use of Microsoft Terminal Server technology and provides the full capabilities of a standard iClient. From any iClientTS station, users have complete access to all networked iFIX SCADA Servers – making full use of iClient technology, ActiveX controls and VBA and third party content.

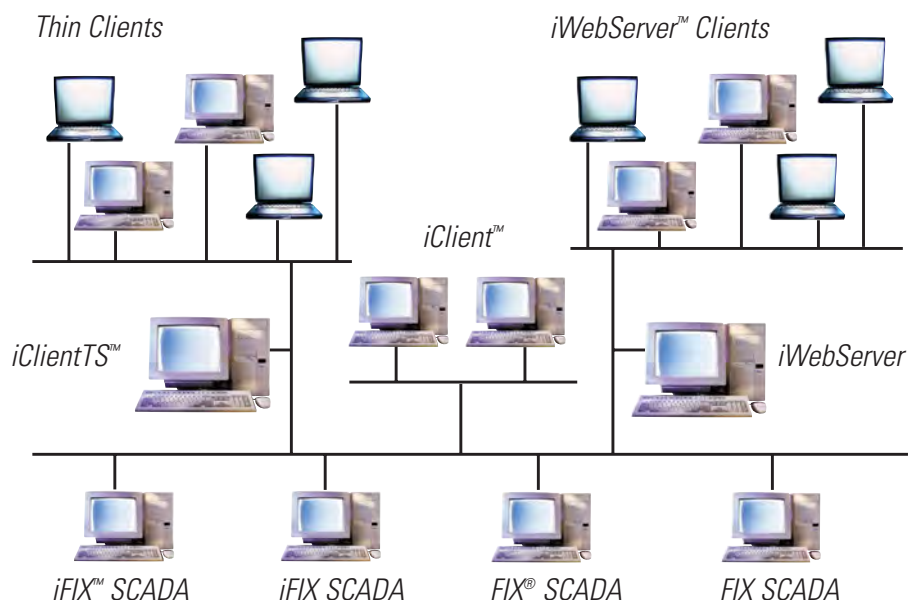
iWebServer

iWebServer is another iFIX thin client solution for distributing information to many users. With iWebServer, iFIX graphics are converted into HTML pages and published to a web server. Then, from a web browser, pages are animated with real-time data from SCADA Servers.

iFIX Architecture Advantage

The iFIX distributed, client/server architecture incorporates any combination of distributed servers (SCADA Servers) and distributed clients (iClient, iClientTS, and/or iWebServer). To users, iFIX appears as a single, high-performance integrated system.

iFIX System Architecture



iFIX allows tremendous network configuration flexibility, using a combination of SCADA Servers, or even existing FIX nodes and clients.

Building Your HMI/SCADA Application

System Tree

The main navigational tool for locating files in iFIX is the System Tree. This hierarchical view of an application enables users to easily manipulate iFIX documents and objects, and quickly launch iFIX and third-party applications. And because of its completely customizable design, applications, folders and files can be easily added or removed.

Development Toolbox

The iFIX Development Toolbox contains a complete set of state-of-the-art, customizable drawing tools, Experts and animation objects. You can position the most commonly used tools and buttons anywhere on your picture and resize them as desired, for fast and easy screen development.

Drawing Tools and Objects

For additional flexibility and customization in your screen development, the Toolbox also features an extensive array of drawing tools. From a full range of geometric shapes to features such as buttons, datalinks, charts, alarm summaries and more, the drawing tools let you quickly and easily create graphics, animation and control that precisely suit your needs.

Wizards and Experts

Built-in Wizards and Experts perform both simple and complex tasks, eliminating the need for programming. An extensive set of Toolbox Experts automatically generates powerful VBA (Visual Basic for Applications) scripts so developers can build applications quickly and efficiently.

Objects/Graphic Dynamos

Graphic Dynamos are reusable, animated objects or groups of objects that enable you to create graphics quickly and easily. Graphic Dynamo sets provide a number of pre-defined objects such as tanks and pumps, which can be dropped into the WorkSpace to save development time.

Grouping Objects

Grouping objects is a convenient way to organize and reuse them to accelerate picture development. Users can easily duplicate and manipulate groups of objects to expedite iFIX application building.

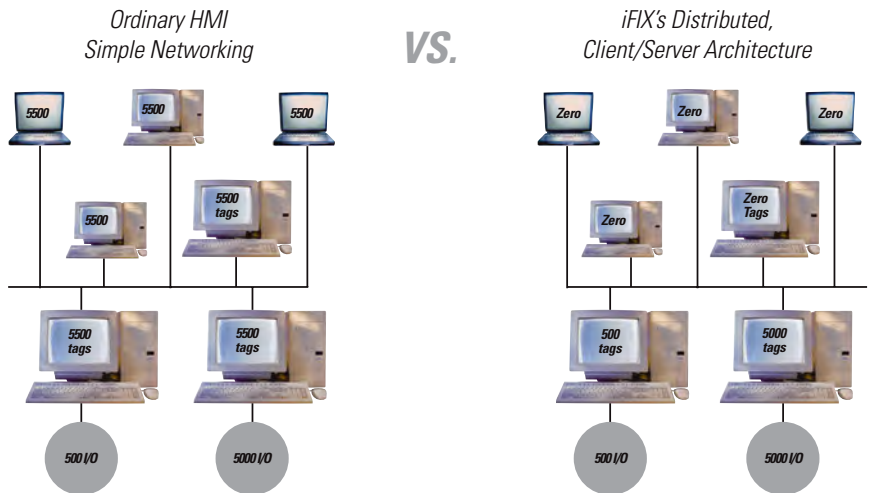
Object Drill Down

In an iFIX picture, users can modify the properties of objects within a group without separating them, and without losing scripts or animations applied to the group – all without programming.

Drag and Drop

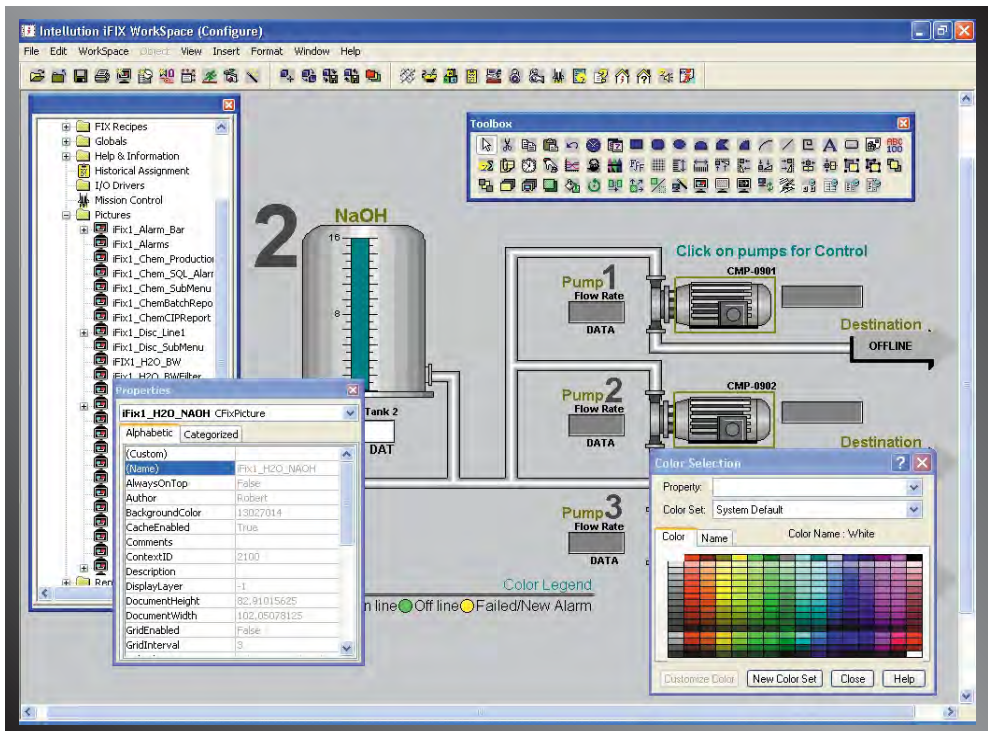
With simple drag and drop ease, graphics can be moved and copied into the WorkSpace, between programs, or among two or more programs.

System Architecture Comparison



Unlike ordinary HMI/SCADA software packages designed with simple networking, iFIX's distributed, client/server architecture allows you to expand your system by simply adding the new server to the network. Adding or changing database tags is easy: you simply make the change at its source, and the data is updated across the system. All data from every node is available to all users across the network. Adding servers and clients to the network is straightforward and predictable, requiring no changes to other nodes in the system.

Intellution WorkSpace



The Intellution WorkSpace is a powerful container that provides an easy-to-use development environment. It features a Windows Explorer-style System Tree for easy project navigation and management, as well as a toolbox that contains all drawing tools, wizards and experts.

ActiveX Support

The Intellution WorkSpace is a powerful, secure container for all ActiveX controls, which can be dropped into the WorkSpace for easy integration. In addition, ActiveX documents such as Word and Excel files can be dropped into the WorkSpace with automatic display of their own menus and toolbars.

VisiconX

VisiconX is a unique and powerful set of ActiveX controls for accessing and displaying data from relational databases. With simple point-and-click ease and zero programming, users have immediate access to SQL Server, Oracle, Sybase, Informix or DB2. VisiconX controls embed easily into the WorkSpace, significantly reducing development time.

Object-to-Object Connections

Since VBA technology is embedded into the iFIX architecture, applications can be developed without the need for custom code. For example, you can drop a meter ActiveX control into the WorkSpace, connect it to a tag with zero programming, and it is instantly animated.

Tag Groups

Tag groups save valuable development time by re-using portions of an application. For example, when opening or replacing a picture, the tag group file is read, and the symbols in the picture are reconnected with the corresponding substitutions defined in the tag group file.

Event Scheduler

The Event Scheduler acts as a transaction processor, allowing a user to perform tasks at specified times or intervals or after an event. Users can generate a report at the end of a shift or replace a display when a database point exceeds a specified value. For convenience and efficiency, events can be run in the foreground or background.

Key Macros

Key Macros are user-defined key combinations that execute commands during run mode. Key Macros can be associated with iFIX pictures, or with shapes in an iFIX picture, or can be system wide. As an added benefit, the Key Macro Editor offers an expert to create and manipulate VBA scripts.

Online Configuration

Patented technology enables iFIX to be customized online to maximize efficiency. Processes do not need to be stopped to make changes to the database, pictures, or other parts of the HMI application. And changes can be initiated without having to shut down and restart your system.

Historical Data

iFIX provides an automatic, comprehensive and long-term means of sampling, storing, and displaying process data. Historical trending enables users to analyze process trends and post-process data, as well as to archive process variables to meet government regulations.

The trending capability also allows for monitoring changes in product properties and analyzing equipment performance to save time and money.

Chart Object

The iFIX Chart Object lets you configure any number of historical and real-time pens in the same chart, and supports multiple time-range assignments for each pen. The Chart Object also includes complete iFIX object color and style properties for each pen, multiple X and Y axis configuration, and configuration and property adjustment in the Runtime environment.

Reporting

The iCore® architecture and Plug and Solve capabilities of iFIX provide multiple reporting options. For example, data can be exported using SQL and ODBC connections into relational databases for extensive reporting. Crystal Reports runtime DLLs are included.

Advanced Alarming

iFIX alarming enables users to create systems that report potential problems before they occur. Distributed alarm management provides unlimited user-named alarm areas, exception-based alarming, alarm priorities and filtering, alarm counters, and remote management of alarms through dial in/out management service. iFIX can also send non-critical operator messages that do not require a response.

Picture Caching

Picture caching can be enabled to maximize application performance. Cache size is completely configurable, and pictures can be preloaded upon startup. Flexibility is provided to enable/disable caching on a picture-by-picture basis. Picture performance is also maximized through patent pending refresh technology that is only available in iFIX.

iFIX Real-Time Display



The iFIX chart object allows the ability to display real-time process data, historical and archived data, and lab data from a file or database. Users can customize properties, from colors to scroll directions, in either configure or run-time environments.

Power and Connectivity

Since iFIX is an open, scalable system built on industry-standard technology, it is more easily developed, integrated, and expanded than systems designed on proprietary technology.

Global Technology

iFIX's global technology allows changes to be made in one node and propagated throughout an application, significantly reducing development time. Globals can be used with color threshold tables, variables, custom VBA subroutines, and more.

Plug and Solve Technology

GE Fanuc's Plug and Solve technology, a unique implementation of Microsoft's COM strategy, provides easy connectivity with third-party, COM-based applications. This allows applications to be enhanced through best-in-class third-party applications.

iCore Framework

iFIX is built on iCore, a framework that combines innovative GE Fanuc technologies with industry-standard Microsoft DNA-enabled technologies, including embedded VBA, OPC, ODBC/SQL, Backup and Restore, and Secure Containment.

OPC (OLE for Process Control)

iFIX can act as an OPC Server to any standard OPC Client. Conversely, iFIX can act as an OPC Client to any standard OPC Server. OPC in the iFIX WorkSpace allows graphic animation directly from any OPC Server.

ODBC/SQL

iFIX fully leverages the ODBC Application Programming Interface (API), adding the capability to collect and write real-time secure electronic records to one or more relational databases. Data can easily be moved between a relational database and the iFIX process database. Additionally, iFIX provides a unified automatic install for Microsoft's SQL Server 2000 to reduce application development time.

Backup and Restore

The backup and restore Wizard feature in iFIX allows users to pack up and go, helping them to manage their files. Once files have been selected for backup, the Wizard saves them to a compressed archive file in a defaulted or user-specified directory for use on any iFIX-ready machine.

Secure Containment

Our patent pending Secure Containment technology ensures that any improperly functioning third party application will be isolated, allowing systems to continue running without interruption. This helps prevent data loss and costly plant floor shutdowns, and avoids interruptions to your process control.

Building Custom Objects with VBA

iFIX custom objects enable display tailoring through VBA. When an object initiates an edit event, it can be customized using VBA scripts. Specifically, custom property pages can be modified, animations applied in real time, or animation code hidden into an empty user form. In addition, user forms can be placed into a global page so that every time the object is opened, the format for a particular property page is shared among several users.

Security

iFIX synchronizes its security with standard Windows security. iFIX security completely controls access to iFIX programs, operator displays, schedules, and recipes. Access to critical program functions can also be restricted (for example, reloading the process database, or write access to the process database).

Redundancy

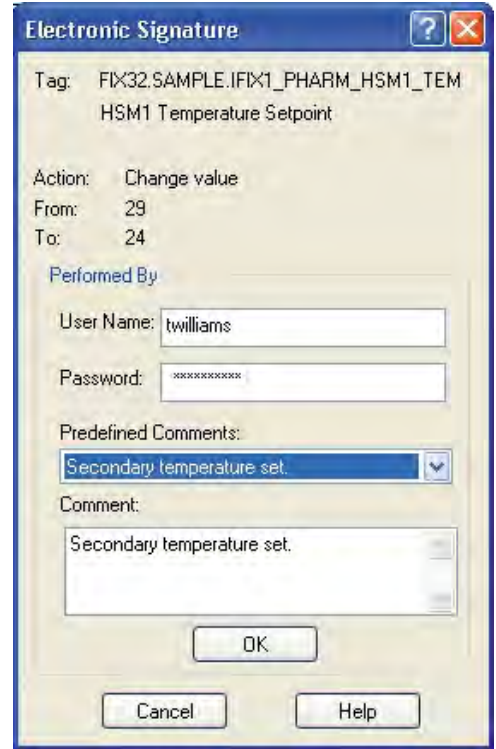
iFIX addresses seamless system uptime through a variety of system features. Using a combination of backup SCADA servers, LAN and driver redundancy, and alarm management, iFIX enables the development of extremely high reliability applications.

iFIX: A Robust HMI/SCADA Solution

The ability to monitor and control plant-wide processes from a single location, while at the same time collecting and sharing real-time business information throughout the enterprise, has become a significant competitive advantage in today's manufacturing and production environment. In searching for a way to maximize quality, increase productivity and reduce operating costs, the manufacturing world has turned to the heart of its operation – the plant floor. Companies around the globe who have done so successfully have turned to iFIX from GE Fanuc.

Whether it's used as a stand-alone HMI/SCADA application or leveraged with GE Fanuc's iHistorian™ Plant Intelligence solution, iFIX can help you turn data into information, and information into dramatically improved performance.

Capture Electronic Signatures

The image shows a screenshot of the 'Electronic Signature' dialog box. The title bar is blue with a question mark and a close button. The dialog has a light yellow background. It contains the following fields: 'Tag:' with the value 'FIX32.SAMPLE.IFIX1_PHARM_HSM1_TEM' and the text 'HSM1 Temperature Setpoint' below it; 'Action:' with the value 'Change value'; 'From:' with the value '29'; 'To:' with the value '24'; 'Performed By:' with a sub-section containing 'User Name:' (value 'twilliams') and 'Password:' (masked with asterisks); 'Predefined Comments:' with a dropdown menu showing 'Secondary temperature set.'; and a 'Comment:' text area with the same text 'Secondary temperature set.'. At the bottom are three buttons: 'OK', 'Cancel', and 'Help'.

Signing dialog boxes provide a description of the action the operator is taking. The signer has the option to enter a comment from a pre-defined list or enter their own comments. Actions can also be configured to capture a verification signature. Signing dialogs can be tied to secure electronic records that will report who, what, when and why those actions were taken.

iFIX System Requirements

IBM Pentium II 266MHz personal or industrial computer that runs Windows NT/2000/XP (Recommended Pentium 4, 1GHz)

RAM Memory size: 96 MB RAM

120 MB hard disk

CD-ROM drive

SVGA or higher color monitor with 24-bit graphics card

Pointing device

Parallel or USB port

Network adapter(s): NETBIOS-compatible or TCP/IP-compatible network interface adapter.

No network adapter is required for stand-alone applications.

iFIX Capabilities

- Monitor and control plant processes, equipment and resources
- Collect and share real-time and historical data with users on all levels of your business
- Respond faster to process conditions and market demands
- Maximize plant effectiveness, increase productivity, reduce cost and waste
- Benefit from a fully secure automation system that delivers 100% data integrity
- “Designed for 21 CFR Part 11” functionality for recording operator actions and building secure electronic records as defined by the FDA’S 21 CFR Part 11 Regulation

The GE Fanuc Family of Software Solutions Includes:

Asset Management

EAM

Remote Monitoring & Diagnostics

Process Execution & Supervisory Control

CIMPLICITY. HMI

DataViews.

FIX.

I/O Drivers

iBatch.

iClientTS.

iFIX.

Intelligence Solutions

iWorkInstruction.

Manager

OpenProcess.

Plant Intelligence

iHistorian.

iInfoAgent.

Proficiency for Manufacturing.

Tracker

VisualSPC.

Control Hardware

CNC & Machine Tools

Communications & Networking

Embedded Computers

Industrial Computers

Motion Control

PLC, Controllers & I/O

GE Fanuc Automation Information Centers

***USA and the Americas: 1-800-GE FANUC
or (434) 978-5100***

Europe, Middle East and Africa: (352) 727979-1

Asia Pacific: 86-21-322-4555

Additional Resources

For more information, please visit the GE Fanuc web site at:

www.gefanuc.com



iFIX 6.0 from GE Digital

Improve operational productivity by driving decision support with High Performance visualization



High Performance HMI/SCADA increases efficiency and reduces costs

With just a glance, operators should be able to recognize which information requires their attention and what action needs to be taken. They need to know quickly what problems have arisen and how they can be addressed efficiently.

You can enable smart operators with new fourth-generation HMI/SCADA. The new [iFIX 6.0 from GE Digital](#) leverages the latest technologies that help deliver faster time to insight and greater efficiency for your operations while speeding time-to-insight for system integrators.

iFIX 6.0 offers several core enhancements to decrease deployment time, while increasing operational efficiency in a highly secure-by-design method to improve equipment uptime and reduce cost and risk. These enhancements include alarm shelving, an OPC UA server, support for long tag names and descriptions, and more.

Outcomes

- Speed response with modern screens and ISA 18.2 alarm management
- Reduce troubleshooting time with higher situational awareness, using High Performance HMI layouts and context-driven navigation based on a model structure
- Enable action anywhere, anytime with native responsive web design
- Speed up deployment through long tag names and descriptions that capture any hierarchy from your PLC
- Minimize maintenance time and costs with zero deployment clients
- Provide real-time data feeds to your supply chain through secure-by-design OPC UA communications
- Enable superior design flexibility for consumption of third-party HTML5 content



01 Increase situational awareness with modern screens and advanced alarm management

iFIX 6.0 provides new support for the ISA 18.2 alarm shelving standard, increasing efficiency by allowing operators to avoid responding to unnecessary alarms. Operators can shelve alarms directly at run-time and create up to 20 shelving policies with different shelving times for different areas of your plant. Alarms automatically unshelve when the shelve duration time expires for true plant safety.

02 Find information easily with a context-rich HMI based on the model structure

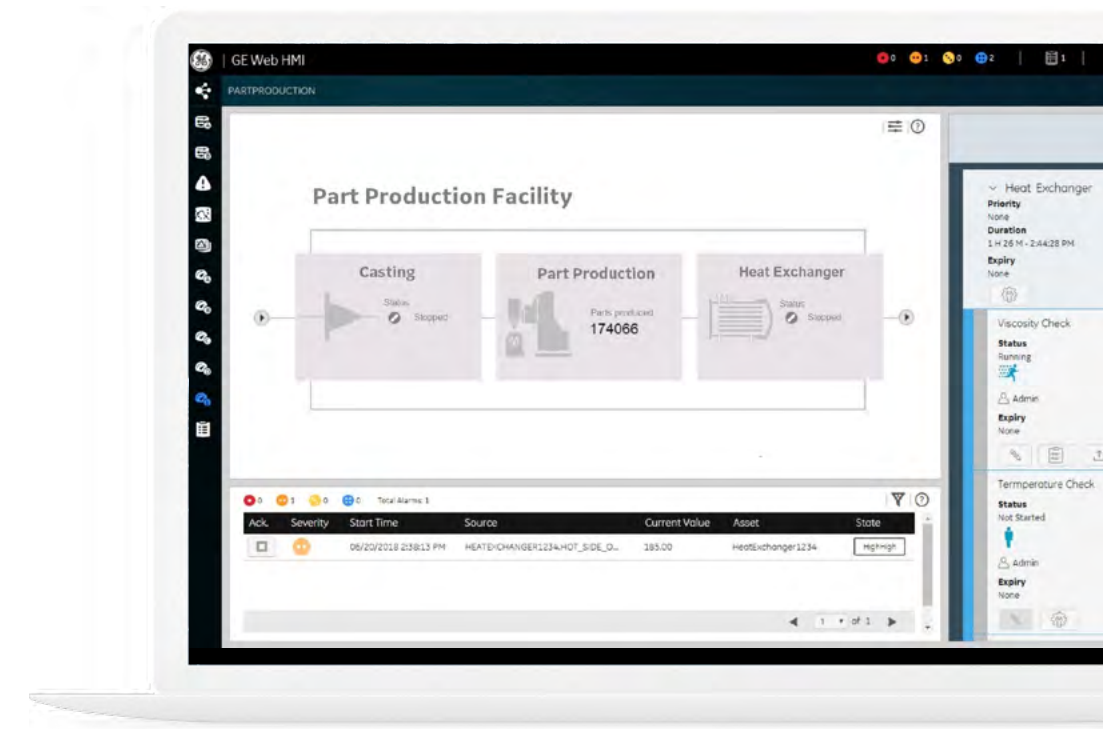
This context-rich HMI changes as the user moves through the system. Navigation is derived from the model structure built by the engineer. The context follows the asset definition and is defined only once for a class of assets. This prescribed experience provides the operator with the most relevant information—in context—and minimizes the effort to find it.

03 Reduce time to solution with High Performance HMI out of the box

To help engineers create the right user experience, iFIX 6.0 contains pre-defined objects and templates designed using High Performance HMI concepts. Effective layouts are also available out of the box. Designing your HMI has never been so easy, speeding time to solution and maintenance. iFIX 6.0 also allows assembly of graphic content using external HTML5 editors as well as automatic picture publishing for Web HMI.

04 Achieve visualization where you need it with native responsive web design

The HTML5 user interface produced using iFIX 6.0 offers native Web out of the box and supports responsive design concepts. The displays support multi-touch and can scale to adapt to various form factors.



Designed to the High Performance HMI guidelines, iFIX 6.0 improves operator decision making and speeds response.

05 Reduce risk with secure-by-design technology

iFIX leverages open and secure standards such as OPC UA, digital certificates, and Web tokens, which means you can deploy with confidence. Take advantage of GE Digital's iFIX Secure Deployment Guide for best practice recommendations.

"iFIX is the easiest way to hook to a variety of things ... We haven't found anything that iFIX couldn't overcome."

**John Franklin, Logic Systems Administrator,
Arizona Electric Power Cooperative**

iFIX 6.0 from GE Digital

Improve operational productivity by driving decision support with High Performance visualization



Features

- New in Version 6.0: ISA 18.2 alarm shelving, OPC UA server for secure-by-design client connections, long tag names and descriptions, domain caching, support for the latest Microsoft OS, and more
- Time lapse playback
- High performance Dynamos and other features at your fingertips for Efficient HMI
- Available options for high availability, alarm notification, and CFR 21 Part 11 support (eSig)
- Native Web HMI
- Structured asset model mapped to the SCADA database
- HTML5 object library for a more efficient HMI and HTML5 content generation from the workspace
- Base API to consume external HTML5 content
- Standard layouts and cards on topics such as trends, alarms, KPIs, and more
- Multi-touch alarm and trend viewer
- Local, remote over LAN, WAN, or Internet connections, including VPN
- Encrypted communication from your Web client using SSL / digital certificate, IT security friendly, and cloud ready

Hardware requirements

- A 2.0 GHz Intel Core2 Duo Processor or better computer. For better performance, GE Digital recommends a minimum 3 GHz computer with 4 GB memory or better is needed. Be aware that the computer must be at least dual core; a single core is not supported (with or without hyper-threading).
- A minimum of 2 GB RAM. For better performance, please consider using more.
- A minimum of 10 GB of free hard drive space for iFIX pictures, databases, alarm files, and other data files.

Software requirements

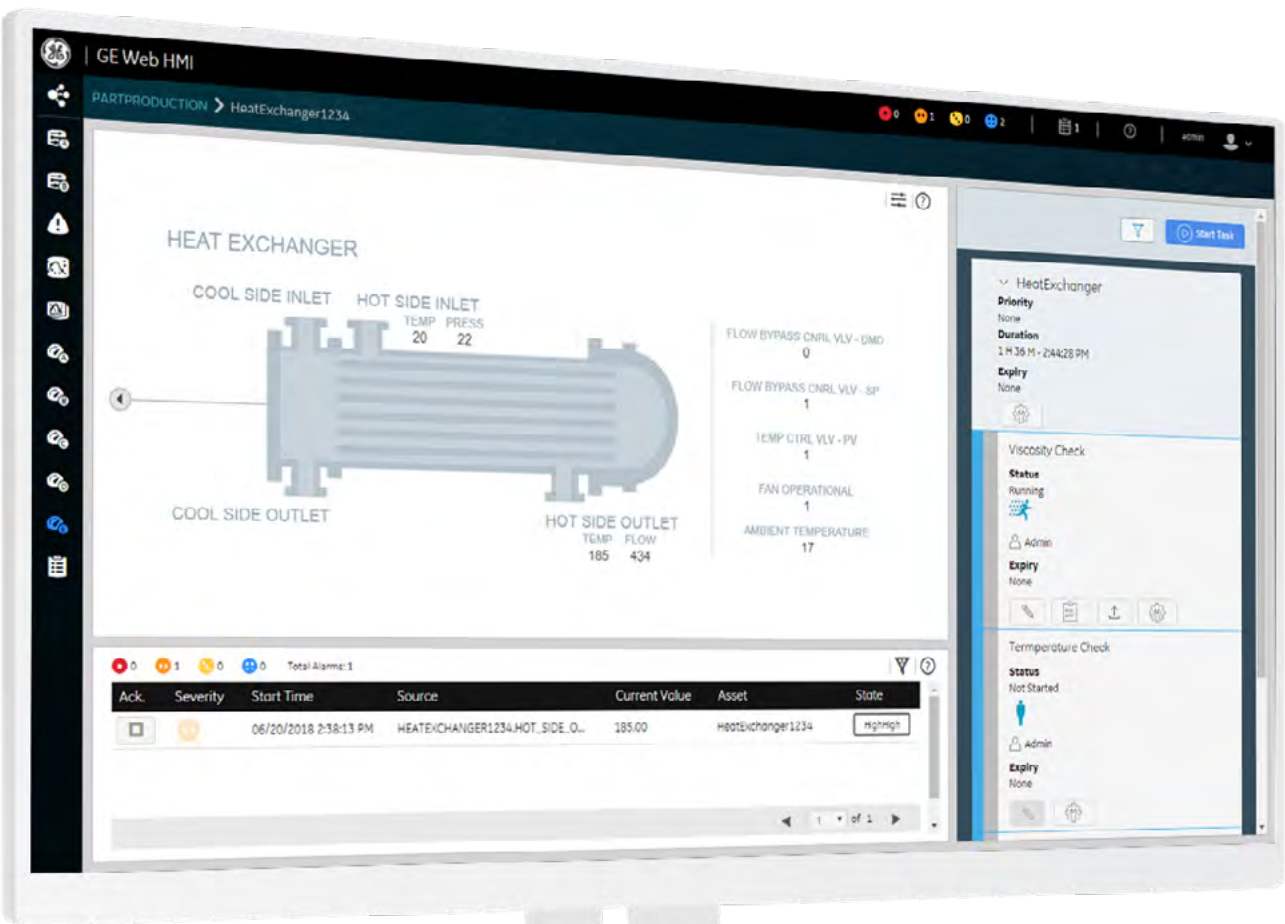
- Qualified HTML5 browsers
- One of the following operating systems:
 - Microsoft Windows 10
 - Microsoft Windows 8.1 (32-bit or 64-bit)
 - Microsoft Windows 7 Embedded Standard, Service Pack 1, for iFIX 6.0 Embedded licenses only. iFIX Embedded licenses will not run on Windows 10 IoT or other operating systems.
 - Microsoft Windows 7 (32-bit or 64-bit)
 - Microsoft Windows Server 2016
 - Microsoft Windows Server 2012 R2
- Network interface software for TCP/IP network communication and certain I/O drivers.
- An I/O driver for SCADA servers. GE Digital supplies I/O drivers for many programmable controllers.

Hardware and software requirements are representative and may vary by customer deployment. Please consult the product documentation for more details.

Today's SCADA is not just monitoring and visualization with alarms rolling in. iFIX 6.0 can optimize your operations for active decision support—enabling your team to achieve critical business outcomes.

LEARN MORE

Each window of the layout provides a different, interchangeable perspective, or view, on the displayed asset to deliver a personalized experience.



iFIX 6.0 from GE Digital



Improve operational productivity by driving decision support with High Performance visualization

Services

In the world of Industrial Internet of Things (IIoT), organizations are able to optimize productivity, reduce costs, and achieve Operational Excellence. While this is an exciting time for opportunity and growth, it can also bring on new challenges, questions, and uncertainty. No matter where you are on your IIoT journey, GE Digital has the right services offering for you.

[Advisory Services](#) We can help you plan and start your IIoT journey in a way that aligns to your specific business outcomes.

[Managed Services](#) We can help you maintain your critical machines from one of our remote locations around the world using model-based predictive-analytic technology.

[Implementation Services](#) Our experienced global Automation partners can implement a collaborative, multi-generational program that marries your existing investments to the right enhancements and technology.

[Education Services](#) We specialize in education services to ensure that you're leveraging our solutions to the fullest extent with our training and certificate programs.

[Acceleration Plans](#) Let us help by ensuring that your business continues to operate at its highest efficiency, all while mitigating risks to your investments.

[Cyber Security Services](#) Our solutions provide industrial-grade security for a wide range of OT network and application topologies.

Related products

GE Digital's [HMI and SCADA](#) suite helps you precisely monitor, control, and visualize every aspect of your operations, enabling operators to make the best decisions faster.



[Historian](#) →
Optimize asset and plant performance through time-series industrial data collection and aggregation.



[Batch Execution](#) →
With Batch Execution, gain the security, flexibility, and ease of use you need to reduce costs, increase quality, and boost profitability.



[Workflow](#) →
Guide operators with dynamic, interactive electronic work instructions and eSOPs for more consistent operations and optimized processes.

Continue your IIoT journey

Transforming your business requires innovative foundational solutions that lay the groundwork for optimized performance.



[Plant Applications](#) →
Maximize overall equipment effectiveness (oee), improve production scheduling, and ensure product quality by leveraging real-time production data



[Cyber Security for OT](#) →
Take the right actions to increase resilience, help ensure safety, and maintain availability across your operational technology (OT).

PREDIX

[Predix](#) →
Innovate and transform your business with the cloud-based operating system for the Industrial Internet, purpose-built for industry.

About GE

GE (NYSE: GE) is the world's Digital Industrial Company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE is organized around a global exchange of knowledge, the "GE Store," through which each business shares and accesses the same technology, markets, structure and intellect. Each invention further fuels innovation and application across our industrial sectors. With people, services, technology and scale, GE delivers better outcomes for customers by speaking the language of industry.

Contact

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www.ge.com/digital



SYSTEM PLATFORM POWERED BY WONDERWARE

Real-time Operations Control Platform
for Supervisory, HMI, SCADA and IIoT

System Platform is the world's only responsive, scalable platform for Supervisory, SCADA, HMI and IIoT applications that integrates the process with the Enterprise. System Platform provides a collaborative, standards-based foundation that unifies people, processes and assets across all facilities for continuous operational improvement and real-time decision support.



Summary

- Provides a complete industrial automation solution that includes support for hybrid, on-premise and cloud-enabled applications.
- Acts as an 'Industrial Operating System' that provides common application services, including configuration, deployment, communication, security, connectivity and collaboration.
- Interfaces with virtually any field device and manufacturing plant information system thanks to an open and scalable architecture.
- Enables users to build, test, deploy, maintain and scale industrial applications by sharing a standards-based application development environment.
- Empowers users with responsive cross-device visualisation, intelligent alarming, flexible analysis and powerful reporting tools.

Business Value

- Experience as much as 80% reduction in engineering effort and time to create applications due to ease of use, elimination of scripting and out of box content.
- Drive standardisation across all your plants and sites with the lowest cost of ownership.
- Identify and resolve abnormal situations 5 times before any availability is impacted.
- Increase your operator effectiveness by 40% or more reducing task completion time.
- Start small and scale seamlessly with plug-in modules for maximum reuse of your engineering investment.





What's New?

System Platform is even more versatile and powerful with the first ever responsive, Operations Management Interface (OMI). InTouch OMI visualisation engine provides rich responsive, modern user experiences across all platforms without requiring scripting or programming! Easy to use, responsive design features make, making multi-monitor configurations possible in less than 5 minutes. We've also improved and simplified system scalability. You can now run up to 10 times more client sessions on a terminal server with the entire application project running on single node.

The latest platform offers an even more open and collaborative environment than ever before. For ease of use and integration, System Platform now offers 3rd party software partners an Apps SDK development environment to build native 'plug and play' contextualised apps. Apps SDK enables 3rd

party developers to build WPF and web applications for InTouch OMI client and a means to convert existing .NET controls to WPF. Out-of-box context-driven 'plug n play' apps improve productivity and efficiency through information-enabled operations.

The new built-in Document Viewing App and Video Player App enable linking to external content such as documents, videos, images, web links for enhanced informational context to assets and UI navigation items.

The new Mapping App improvements enable:

- Dynamic asset tracking of moving equipment/ personnel capability
- Maps from Google Maps, Bing, OpenStreet and ESRI
- Layering of HTML5 based ArchestrA Graphics





Key Features of System Platform

Easy to Build.

Responsive HMI Development Has Come to Industrial Software.

System Platform offers includes InTouch OMI, the world's first 'responsive HMI framework,' a revolutionary new way to build re-usable HMI content.

- Helps you easily create the optimal user experience across multiple form factor display devices.
- Helps you to easily create, functional, best practice interfaces and graphics that look and work great on all your devices from big screen monitors to smart-phone displays.
- Configure once, deploy anywhere. Reusable and standardised HMI content translates to the lowest development and maintenance costs.

Applications Automatically Build Themselves Dynamically!

With all the new features in InTouch OMI and System Platform, you can build rich, powerful applications without the need for scripting. By using new model-driven smart navigation capabilities, multi-monitor configurations and screen profiles, you can use your project's specific plant model and content to automatically link graphics to objects.

- Automatic, model-driven navigation eliminates the need for you to build the navigation hierarchy by hand.
- Generate Supervisory structures and tags that automatically mirror your PLC control logic.
- Link and map HMI/SCADA tags to physical device IO automatically the namespace of your PLCs and other controllers.





Engineers Can Be Wizards.

New Object and Symbol Wizards revolutionise how you design, build and manage industrial applications.

- Object wizards create versatile templates that adapt based on a device's configuration during the commissioning stage. This drastically reduces the number of templates required to accommodate different configurations for the same device.
- Symbol Wizards help to standardise how you configure and orient symbols while minimising application assembly and maintenance effort. Symbol Wizards enable engineers to choose custom configuration options like graphical elements, scripts or custom properties, and automatically assemble them into a single composite symbol.

Access the Most Comprehensive Out-of-The-Box Content.

With an incredible range of included content, you can save time, reduce development costs, and reduce time to value compared to custom configurations.

- Reduce the time to value by decreasing the engineering development time with a complete automation library that provides 80% of your typical application.
- Select content that's most relevant to you from a pre-built Automation Library that includes: a process device object library, faceplates, trends and symbols. All library content is hardware vendor agnostic and operates seamlessly with any vendor. This enables DCS functionality for

any PLC, PAC and DCS without the cost or complexity of a DCS.

- A pre-built starter covers complete project needs based on ISA standards, so engineers have a working model that follows best practices for auto deployment setup.
- Automation library lets engineers get to work immediately and quickly assemble applications with proven strategies, rich functionality and known performance.

Build Together with Agile Cloud-based Development.

System Platform with InTouch OMI continues to be the most sophisticated and collaborative application development environment in the industry.

- The entire application design and testing environment can reside in the cloud, to enable teams of engineers to work on applications across proof-of-concept, development and FAT testing stages before deploying to the production system.
- The new visualisation configuration supports concurrent development by enabling multiple developers to work concurrently and remotely on the same application at the same time - without any lock-out issues.
- New device simulator, HMI live preview and WYSIWYG editors offer the ability to build, test and optimise any monitor configuration or HMI content to perform on every display screen, regardless of resolution—the first time, every time! You can even test multi-monitor configurations without physical access to the monitors themselves.





Easy to Use.

Empower Operators with Situational Awareness.

Equip your Operators with actionable information that helps them quickly identify and resolve abnormal situations before they can result in process delays.

- Operators can quickly navigate HMI displays with modern UI/UX design. This increases usability across devices and provides multi-touch and gesture controls such as panning & zooming, clutter & declutter of graphical layers and a larger view of the process.
- Uncover new insights and operator training opportunities by giving context to historical activity and access to operational process playback views. The new historical playback ability works on any graphic and on any monitor screen—no scripts or no configuration necessary. Just hit play.
- Making decisions based on geography is basic to human thinking. The new mapping app enables operators to become more productive, more aware, and more responsive of remote geographically distributed assets.
- Make it easier for all users with smarter UI navigation and display options that use your plant model or pre-defined criteria to bring rich context to your assets, alarms and time durations.
- Shifting between process-centric views and IT processes used to require multiple applications. Now, with contextualised apps built on a unified integrated platform, you can access non-traditional information sources (e.g. work orders) without shifting application contexts.
- Statistical summary process data (e.g. maximum, minimum, average, etc.) is automatically calculated in real-time without any coding.
- Increased system performance enables you to process 1 year of historical data in less than a second, giving you immediate access to client performance trends.

Graphical Tools for Techs!

New visual build functionalities improve accessibility for non-engineering users (P&ID techs, maintenance techs, HMI developers) by reducing the technical knowledge required for routine tasks like adding devices, replacing devices and editing their respective HMI screens.

- Defining process control objects independently compared to how they're presented during implementation, it paves the way for task-oriented workflows that are optimised for differing skill sets.
- The new graphical workflow auto-deploys object instances when creating new HMI displays.
- The new graphical toolbox enables rapid graphics assembly and editing using a searchable pick list, to streamline the HMI build process.

Intelligent Alarming Supports Operator Productivity.

Now it's easier for operators to focus on the most relevant process information on their screen at all times. System Platform reduces operator distractions and fatigue by identifying and allowing you to filter out nuisance and 'bad actor' alarms based on severity.

- Increase operator productivity with advanced alarm management capabilities like state-based alarming, alarm suppression, alarm shelving, alarm grouping and aggregation (active and historical) alarms.
- Operator alarm awareness has increased due to capability of having active alarm aggregation from the user interface navigation tree.



Easy to Own.

The Best of All Worlds: Hybrid, Cloud, On-Premise & IIoT

Supporting a mix of on-premise or cloud-based applications offers the most pragmatic and flexible shift to real-time control and actionable insights.

- Identify any discrepancy and root cause using advanced Historian capabilities such as automated anomaly detection.
- Access efficient reporting and analysis tools such as intuitive prebuilt charts and dashboarding or dash-boarding capabilities designed especially for non-technical business users.
- Empower Operations to control and monitor industrial and production sites anywhere, on any internet-connected device using responsive and mobile-optimised HMI displays.
- Improve decision support with cloud-based Historian that transforms information from across the enterprise into a single source of actionable information for operational, engineering and corporate business users.

Reduce the Administrative Burden on IT.

System Platform makes application delivery much easier and reduces IT administration burden due to a zero client installation approach. This greatly simplifies the lifecycle maintenance and updating of client applications (with newer revisions) across multiple PC machines.

Efficiently Integrate Your Process with Your Enterprise.

System Platform gives 3rd party software partners an Apps SDK development environment to build native contextualised apps.

- A collection of these apps can transform your applications from standalone products to reusable, shared enterprise services.

- These 'plug and play' apps enable the convergence of IT and OT by connecting and integrating real-time operational data with business systems. Furthermore, integrating IT and OT infrastructures makes it easier to maintain assets across the project lifecycle.

Eliminate System Downtime.

System Platform greatly mitigates the risk of application downtime.

- Make incremental system changes in response to staged object deployments within 1 scan cycle. In other words, make continuous object updates on the fly.
- Enable continuous proactive monitoring of your system's health, performance and availability.
- Equip IT personnel to be proactive responders by implementing automatic trigger alerts in response to upset conditions.
- Manage system patches from a central location by downloading and pushing updates directly to networked machines.

Ease Administrative Tasks with Streamlined Licensing.

System Platform enables you to efficiently monitor and administer software licenses to enforce compliance for all users. With centralised, web-based licensing activation, you can automatically discover and verify installed software at each plant facility, create detailed inventory reports of licenses, and establish compliance reports with ease. Basic license server monitoring capability through Sentinel is included with no additional licensing or cost.

Technology Compatibility Support

OS Compatibility

- Windows 10 Enterprise (x64, x86), Professional (x64, x86)
- Windows 8.1 Enterprise (x64, x86), Professional (x64, x86)
- Windows Server 2012 Data Center, Embedded
- Windows Server 2012 R2 Data Center, Embedded, Standard
- Windows Server 2016 Data Center, Standard

Database Compatibility

- SQL Server 2012 Standard Sp2 (x64, x86), Enterprise (x64, x86), Express-SSMSE
- SQL Server 2012 Standard SP2 (x64, x86), Enterprise (x64, x86), Express-SSMSE (x64, x86) SP1 and SP2

- SQL Server 2014 Standard (x64, x86), Enterprise (x64, x86), Express-SSMSE (x64, x86)
- SQL Server 2014 Standard (x64, x86), Enterprise (x64, x86), Express-SSMSE (x64, x86) SP1
- SQL Server 2016 Standard, Enterprise, Express

Virtualisation Compatibility

- Microsoft Hyper-V: based on the version of Windows
- VMware 6.0 virtualisation with High Availability and Disaster Recovery (HA/DR)
- VMWare vSphere 6.0
- VMware 5.0 Update 1 virtualisation with High Availability and Disaster Recovery (HA/DR)

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aveva.com

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6. Company Information - Systems Integrated

COMPANY INFORMATION

Systems Integrated's primary California offices:

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Orange, CA 92865
Tel: 714/998-0900 x 4562
Fax: 714/998-6059

Engineering Office

8080 Dagget Street
San Diego, CA 92111
Tel: 858/277-0700 x 4562
Fax: 858/277-1490

COMPANY BACKGROUND

Systems Integrated (SI) has been designing and implementing solutions for the automated control of infrastructure - water, power and transportation - for more than 40 years. We have always designed our control systems to be distributed, which required us to design the associated communication networks to be capable of transporting high volumes of data, reliably and securely. Systems Integrated uses a variety of SCADA control system

As the demands of communication networks continue to expand (i.e. more bandwidth; higher speeds and video), Systems Integrated's expertise of designing and successfully deploying large scale communication networks using wireless technology has become a premier aspect of our engineering services. Our ability to link together various technologies (i.e. fiber, copper, wireless radio, satellite, cellular, etc.) within a communication network, benefits clients that have amassed various technologies over years of operation, since we know how to leverage legacy equipment with new communications equipment. The communications networks that Systems Integrated designs are cyber secure designed to comply with various standards: North American Electric Reliability Corporation (NERC) CIP current standards; NIST 800-82 R2, and FIPS 140-2, etc. In the course of our work, Systems Integrated has provided more wireless communications networks for high speed control of traffic infrastructure than any other designer/supplier within the United States. SI has successfully delivered systems using a variety of contract structures: Task Order approach through a Master Agreement; Consultant/Specification model; Design/Build projects or Time & Material projects ranging in size from \$50,000 to over \$18 M. In order to perform the network construction aspects of the work, Systems Integrated is a licensed general and electrical contractor in multiple states including California. SI has worked on private and public works contracts, subject to prevailing wage regulations, and is registered in the CA Department of Industrial Relations (Registration # 1000050406). Systems Integrated also has the ability to provide electrical and mechanical stamped drawings.



Based in California, SI undertakes projects throughout North America and in selected international markets. SI has offices located throughout North America to support our operations and products. The company's headquarters are in Orange County, CA, centrally located in Southern California, at 2200 N. Glassell Street, Orange, 92865 which is a 7,000 sq. ft. facility. In addition

to corporate functions, this office is the primary design engineering location for SI's wireless and wired communications networks.

Our 8080 Dagget Street, San Diego, 92111 office is SI's primary system integration facility. Most integration hardware and software engineering is performed here, as well as CAD, documentation and training services. The office consists of two buildings representing 18,000 ft² of space with 10,000 ft² dedicated to UL 508 certified control panel fabrication and SCADA system manufacturing.



SI's standard software development and support office is in, Northampton, Massachusetts and is responsible for *ONSITE*®, *SITEVIEW*®, and *DataViews*®. This office handles all the design and updates for the standard software and provides worldwide software support to SI's 3,000+ customer base.

Systems Integrated has been certified as a Small Business Enterprise (SBE) by the State of California: Certification No. 1003582 and a Minority, Woman owned business by CalTrans: Certification No. 20573. SI is also federally certified as a WOSB by the Small Business Administration.

Due to the nature of our work with power utilities, Systems Integrated's employees have had to pass NERC background checks for clearance to access critical infrastructure. Systems Integrated also performs DOD work, which requires security clearance, and necessitates that all SI employees complete annual security training. The NIST Special Publication 800-82-R2 outlines the issues associated with industrial control systems security and SI engineers have taken various security training courses provided through the National Cybersecurity and Communications Integration Center (NCCIC) as well as various security training programs provided by DOD; Dept. of Homeland Security and Dept. of Interior.

Systems Integrated has been financially stable and profitable throughout its 40+ years of operation. SI has a record of never failing to complete a contract on time and within budget.

Systems Integrated has never had any safety violations during our 40+ years of operation. SI maintains a \$2 million dollar lines of working capital credit, with Bank of the West and \$1million with Bristol Capital. SI also maintains a \$20 million dollar surety line of credit with Atlantic Specialty Insurance Company, of the One Beacon Insurance Group for project bonds.

WIRELESS HIGH SPEED INFRASTRUCTURE

Systems Integrated's engineering team has decades of experience in planning, designing, and implementing communications infrastructure systems. We have the benefit of a reputation of being a leader in developing innovative solutions to meet the complex and ever-changing needs of our clients. Our expertise covers a wide range of areas from solar power communications systems, to high security, high speed communications. We are experienced with all facets of modern high speed IP type wireless communications using both licensed and unlicensed frequencies.

In the transportation industry, Systems Integrated is a major supplier of wireless communications infrastructure for high speed bus prioritization, traffic control systems, and wireless video

backhaul. We have successfully integrated fiber optic and wireless networks to provide Wide Area High Speed Networks (WAN) that are both scalable and maintainable.

SI has designed and implemented over 100 wireless systems, with the largest project deployed in the County of Los Angeles, CA. This system covers over 4,000 square miles and 88 cities, and provides 20 Mbps communications from anywhere to anywhere and multiple point-to-point licensed backhauls of 700 Mbps. The County's system is used as a private G4 communications system to transmit traffic flow information; controller status information; video data and system diagnostic data. This system has won several awards in the transportation arena including **Innovative Use of Technology** (Intelligent Transportation Society, 2014), and **Best Return on Investment Award for a Public Works Project** (County of Los Angeles, 2011). LA County's network has been continually expanded as more intersections are added to the system.

SI is experienced in the design of communication systems and have been certified with various radio manufacturers' products: Motorola, Cambium, Ceragon, Radwin, MDS, Proxim, Synetcom, ProSoft, Strix, Siklu, FreeWave, Teledesign, KeyWest, Wave Mobile, and Metricom. Systems Integrated collaborated with Wave Mobile Solutions to develop a **DSRC (Dedicated Short Range Communications) radio, which** is used for highly secure, high-speed wireless communication between vehicles and City infrastructure and is a component of the future connected vehicles technologies. The DSRC radios will communicate with vehicles internal controls and advise the state of the oncoming road (traffic; pedestrians, etc.) and provide preemption and priority rights to City vehicles.

Systems Integrated also developed a **Network Management Software (NMS) package** specifically for network systems. This software product was designed to provide both the current state of the various wireless links, as well as providing historical information regarding the overall reliability of the network (both wired and wireless). It supports both point-to-point and point-to-multipoint configurations, as well as, supporting data collection from Cisco and other vendor's Ethernet switches. This product provides a graphical presentation of the location of the sites; the link status; throughput speed; Received Signal Strength Indication (RSSI); Signal to Noise Ratio (SNR); which frequency band is currently carrying the information (if the radio is set up to auto switch); number of bytes transmitted; number of bytes received; number of retries, and number of message failures.

SI has produced plans and specifications for many wired and wireless high-speed IP based communication systems and can provide additional support to our customers with remote network monitoring, system monitoring and 7 x 24 emergency support (both hardware and software). SI's Orange County and San Diego offices maintain an inventory of spare parts for SI designed radio systems for easy access to our customers.

SCADA SYSTEMS

Systems Integrated provides a wide variety of technology services, systems and automation products to utility, government, engineering firms, distributors and commercial customers. SI designs and develops turnkey control systems based on the latest, proven technology relevant to our customer base. Our typical automation system utilizes Windows or Linux based servers and workstations, with network and communications spanning copper, fiber and wireless products connecting to most major video, PLC, RTU and IED manufacturer's devices in remote or plant-based installations.

Understanding a problem, with its inherent factors and desired result, is SI's starting point on each project. SI works closely with the customer's team to gain a detailed knowledge of their operational environment, as well as to understand their desired objective for the new SCADA system. SI performs site visits; studies the current system with the operators and engineers; performs simulation testing and any other necessary activity to affect the successful outcome of the system.

Designing a solution that works requires creativity and experience. SI engineers have years of experience developing systems that will achieve sustained benefits for our customer. We evaluate hardware, software and communications for the system taking into consideration long-term supportability; reliable and proven technology; security; expandability, and user-friendly operation. SI designs are standards based, ensuring that our customers can expand/upgrade their systems, and we always seek commercial off the shelf (COTS) products to reduce end-user costs and maintenance. Systems Integrated's control systems are designed to grow with our customer's requirements and evolve with changing technologies providing a life expectancy of at least twenty years.

Most of our projects require us to transition the active control system to the new system and ensure that there is no or minimal down time. Systems Integrated understands this requirement and have developed thoughtful approaches for bridging the old and new SCADA systems to accomplish this requirement and reduce the risk of impacting production. Systems Integrated's engineers also have the rare combination of hands-on ability and field installation competence. It is from this practical experience, that we have developed some unique tools to reduce connection errors during the field installation work that simplifies and quickens deployment. Careful planning of the field installation reduces errors and time, which allows SI to construct the system in an exponential manner.

Systems Integrated's *ONSITE* utilizes SCADA software that is structured to simplify screen development and I/O tagging so that screens can be rapidly and accurately produced, and users can create an unlimited number of layers available beneath the surface providing immediate access to all levels of their operation. Systems Integrated is certified for a variety of SCADA software, including: iFIX, InduSoft, *ONSITE*, Wonderware and Ignition.

Our panel shop adheres to quality industry standards and is UL508A certified, mounts all the equipment in a manner that allows easy access for maintenance, and designs specialized cabinets, such as for cyber security. SI strives to deliver a system that can be operated by the skill levels of our customer's staff; expand as needed to include dozens of facilities when fully deployed and can be upgraded over the normal lifespan of the system when new software versions and hardware models become available and are relevant to the continued operation of the system.

Systems Integrated has decades of experience designing and implementing SCADA and Distributed Control Systems and fully understands the critical nature of industrial operations. Systems Integrated has developed methodologies that reduces potential risk and protects our customer's operations, which affords us, our customers and our insurance partners, the confidence to shoulder the contractual responsibilities associated with projects in this industry.

ENGINEERING SERVICES

Systems Integrated's engineering services provides Professional Engineers to support the design and deployment of SCADA and communications systems. On staff are electrical, mechanical, civil

and controls systems Professional Engineers, RF engineers, and electronic design engineers. The primary function of the engineering services is to create specifications and drawings required for construction and provide construction management to support customers with project management and act as an owner's representation.

STANDARD PRODUCTS

Systems Integrated has more than a dozen hardware patents and millions of lines of copyrighted software. Our hardware products are integrated into various projects such as the control of power plants, control of water treatment plants, and control of subways and highways. SI's standard software products are used worldwide to support everything from the control of space launches at Cape Canaveral, to control of nuclear power plants, and command and control interfaces supporting several military applications. SI's standard software is also used to control the manufacturing processes of jet engines to Toyotas.

SOFTWARE PRODUCTS

Systems Integrated *ONSITE*® SCADA software is a fully integrated suite of products that delivers the most powerful system for hydroelectric and pump storage water systems, to water and wastewater control today. *ONSITE* is a fully distributed SCADA solution designed to be scalable from a single *ONSITE* workstation node, to a fully distributed system with hundreds of nodes and hundreds of thousands I/O points with the visualization at all levels being the same. From the control room to remote field locations, *ONSITE* provides users with a fully distributed control system and the associated visualization using the same software everywhere, even when the communication network fails. All users – whether in the control room to remote field locations (including mobile users) - have access to the same displays. *ONSITE* web server delivers a fully functional *ONSITE* client for mobile users including laptop computers, tablets and smartphones. This approach eliminates the need to maintain multiple visualization products (such as local standalone HMIs communicating with a PLC, to the control room operator screens). *ONSITE* packs all the visualization requirements for system wide control into a single open architecture product, making it unique in the industry.

To support *ONSITE*®, SI's DataViews® is used as the HMI. SI's DataViews creates powerful graphical displays for visualizing critical information used to control and monitor real-time processes. The high performance, scalability and platform independence of the DataViews development toolkit for the visualization of data are the key reasons for its use as the front-end for control systems. DataViews is used by customers worldwide and is the only graphical presentation software that works on Linux, UNIX, and Windows; operates on more than 30 operating systems and is used in applications as complex as air traffic control to nuclear power plants.

DataViews provides some unique, significant features, such as, the ability of developed screens to automatically scale independent of the monitor ratio and/or monitor resolution. And DataViews allow screens to be built using a primary drawing and sub-drawings - there is no limit to the depth of sub-drawings. However, only *ONSITE* allows the tag substitution at both the screen and sub-drawing level and allows the sub-drawing to create the final tag name. These features substantially simplify the initial screen development and future modifications as changes are made to the system.

DV-Centro® is a software package that is used to control manufacturing processes. It is used to provide a methodology of automatically developing HMI screens used within the manufacturing environment.

HARDWARE PRODUCTS

STANDARD HARDWARE PRODUCTS

Systems Integrated manufactures a **Programmable Automation Controller (PAC)** that expands the capabilities of hardware by merging features of more traditional PLC, DCS, and RTU systems, plus adding some capabilities from PCs. Unlike other manufacturers, SI's SITEVIEW® PAC is provided complete. Out of the box, all the software and hardware is provided to support all of the configuration and programming requirements. There is no additional software that must be purchased to develop ladder logic programs, develop HMI screens, create or look at the local database, or to connect the SITEVIEW PAC to a network. Each SITEVIEW PAC is provided with complete functionality including the ability to connect directly to the PAC with a keyboard, mouse and monitor. While it is completely self-contained, it can also be remotely managed and programmed. It is designed with built-in redundancy at all levels from the I/O to the SITEVIEW processor. The SI PAC is one of the only fully integrated systems that supports all of the IEC 61131-3 standards; that is fully integrated to allow the tag name to be generated at the SCADA system or the PAC, and has the ability to be scalable from a few hundred points to hundreds of thousands of points.

CUSTOM HARDWARE PRODUCTS

Systems Integrated always seeks off-the-shelf equipment, but given our customers unique situations, there are times that we need to design special hardware and/or software as an interface to link existing legacy equipment to the new equipment. Such work involves designing and manufacturing circuit boards, configuring and packaging entire systems to meet certain customer requirements, configuring off-the-shelf software and developing software (usually written in C/C++ or Assembly code) to create a complete solution. Systems Integrated has amassed a large repository of unique hardware products - PoE Board; Field Termination Interface Board, and Field Data Collection Processor, which is a small sample of our catalog. This work is always performed using industry standards to ensure its integration into the system and SI warrants all its manufactured items with a part replacement for any failed piece for the life of the SI system.



AGENDA SUMMARY REPORT

SUBJECT: Consider Introduction by Title Only of the Ordinance Amending City Code Provisions Regulating Development of Accessory Dwelling Units.

DEPARTMENT: City Attorney

PREPARED BY: Darcy Vaughn, Assistant City Attorney

PRESENTER: Darcy Vaughn, Assistant City Attorney

ATTACHMENTS:

1. ADU Ordinance Amendment REDLINE
2. ADU Ordinance Amendment CLEAN

Summary: The City Council will hold a public hearing to discuss and consider introducing the Ordinance Amending City Code Provisions Regulating Development of Accessory Dwelling Units by title only.

Background: In 2018, the California State legislature enacted AB 68, AB 88, SB 13, AB 671, and AB 587 (“ADU Statutes”), which are intended to encourage development of Accessory Dwelling Units (“ADUs”) and impose new requirements on local regulation of ADUs. These provisions are codified in California Government Code §§ 65852.2 (for ADUs) and 65852.22 (for Junior Accessory Dwelling Units (“JADUs”)). While the City updated the City Code provisions regulating ADUs (“ADU Ordinance”) in order to incorporate the then-current State regulations in 2017, the ADU Statutes include even further requirements that should again be incorporated into the City Code. Because the new State laws were effective January 1, 2020, the City ADU Ordinance is currently in conflict with State law and is, as such, void until amended to comply with the ADU Statutes. Because the only minimal State default standards for ADUs apply while the City’s ADU Ordinance is void, it is in the City’s interest to adopt an amended ADU Ordinance (“Amended ADU Ordinance”) so that the City can continue to regulate ADU development in a manner that considers local needs and limitations, to the extent that the Statutes allow.

It is also in the interest of the City to adopt an Amended ADU Ordinance as soon as possible to assist Planning staff in the development of building plans for public use through funding from the City’s SB 2 Planning Grant. The changes required by the ADU Statutes undoubtedly affect features of the building plans, and Planning has issued an RFP for design professionals to develop these plans, which include plans for ADUs. As such, an Amended ADU Ordinance that includes updated standards for ADU development would provide essential guidance in the development of ADU building plans during this process.

Prior to this public hearing, the Planning Commission discussed the Amended ADU Ordinance at their May 27, 2020 meeting. Following discussion, the Planning Commission voiced consensus that (1) regulating ADUs at the State level, through legislation, creates a cookie cutter approach to housing development that is not ideal for each community, (2) regulating ADUs at the State level, through legislation, results in regulations that may not be best suited for rural communities, and (3) these State regulations could result in negative impacts to the residential character of the City of Ukiah. The Planning Commission moved and voted unanimously to forward the Amended ADU Ordinance to the City Council without a recommendation.

Discussion: The Amended ADU Ordinance, a redlined version of which is attached here as Attachment 1 and a clean version as Attachment 2, amends a number of sections of the City Code to incorporate certain default

standards imposed by the ADU Statutes for local agency ordinances regulating ADUs, to incorporate the revised basis for water and sewer connection fees and capacity charges, and to include provisions defining and regulating JADUs.

Note that, while the ADU Statutes do require cities and counties to amend ADU ordinances that are currently more restrictive than allowable under the new State standards, the City may still impose certain standards and restrictions on development of ADUs. For example, the City may still impose floor area and height limitations for ADUs, provided that these limitations are not more restrictive than the development standards set in the ADU Statutes. The City may still restrict development of ADUs in zoning districts if, due to local climatic, geologic and topographic conditions (e.g. inadequate roadways to provide adequate ingress and egress for emergency access and evacuation in the in the event of a fire or other emergency) the City determines that additional dwelling units in these areas would present negatively impact on traffic flow and public safety.

The primary changes required by the new State laws, and the recommended changes to the City's Ordinance, are as follows:

<u>State Requirements Inconsistent with City Code</u>	<u>Changes to City Code Provisions</u>
Cities must allow ADUs in any residential or mixed-use zone.	The City currently allows ADUs by right in the R-1, R-2, R-3, C-N, C-1, and C-2 zones. The Amended ADU Ordinance includes language clarifying that ADUs and JADUs are allowed in any zoning district that allows residential uses by right or with a use permit.
Cities must allow certain types of ADUs by right: • Within a new or proposed single-family home: one ADU and one JADU per lot if exterior access is available and side and rear setbacks are sufficient for fire and safety. • On a lot with a new or proposed single-family-home: one detached, new construction ADU that does not encroach into four-foot side and rear yard setbacks. A city may impose total floor area of 800 square feet; height limitation of 16 feet. • Within an existing multifamily dwelling: multiple ADUs within portions of existing multifamily dwelling structures that are not used as livable space including storage rooms, boiler rooms, passageways, attics, basements, garages if each unit complies with state building standards. A city must allow at least one and as many ADUs as is equal to 25% of the existing units in a multifamily dwelling. • On a lot with an existing multifamily dwelling: Not more than two ADUs that are detached from the dwelling and subject to a height limit of 16 feet and four-foot rear and side setbacks.	• The existing ADU Ordinance does not apply to ADUs associated with proposed single family homes or existing multifamily dwellings. The Amended ADU Ordinance requires ministerial approval of applications for ADUs associated with proposed single family homes. In addition, the Ordinance requires ministerial approval for up to two detached ADUs on a lot with an existing multifamily dwelling. The Ordinance also allows for ADUs within an existing multifamily dwelling, with the number of units capped at 25% of the existing units in a multifamily dwelling or one ADU, whichever is greater. • The Amended ADU Ordinance allows for ADUs with up to 1200 square feet in floor area and up to 18 feet in height.
If an applicant converts an attached garage, storage area, or other accessory structure to an ADU, and on-site parking is removed to allow for the conversion, a city may not require the applicant to replace the on-site parking. Cities shall require only one off street space for each bedroom or ADU, whichever is less. Cities cannot require off	The City currently requires only one off street space per ADU. This provision was changed to one off street space per ADU or bedroom, whichever is less. A provision has been added indicating that an applicant is not required to replace on-site parking when conversion of an accessory structure involves removal of on-site

street parking for a JADU.	parking. A provision has been added indicating that no off street parking is required for a JADU.
Cities are bound by the following development standards: • The maximum rear and side yard setback for an ADU that is not converted from an existing structure is 4 feet (reduced from 5 feet in the previous State ADU law). • A city may not impose a minimum lot size. • Maximum size may not be less than 850 square feet or 1,000 square feet for an ADU larger than one bedroom. • Combined, a city's standards governing lot coverage, floor area ratio, open space and other standards may not preclude at least an 800 square foot ADU that is at least 16 feet high.	• The current ADU Ordinance mandates side and rear setbacks of five (5) feet for single story ADUs, and side and rear setbacks of ten (10) feet for a two-story unit. All these setbacks have been changed to four (4) feet. • A minimum lot size requirement in the City Code has been removed. • The percentage of lot size limitation has been removed. Maximum floor area standards for ADUs remain up to 1200 square feet. • The current ADU Ordinance limits the floor area of an attached ADU to fifty percent of the existing floor area of the primary residence. Because this would prohibit an 800 square foot attached ADU for any residence smaller than 1600 square feet, this provision has been removed. The City currently imposes a maximum height of 18 feet, which is in compliance with the ADU Statutes.
A city must act on an application for an ADU on a lot with an existing single-family or multi-family structure within 60 days of receiving a completed application.	The current ADU Ordinance requires the City to act on a building permit application for an ADU in 120 days. This has been changed to 60 days.
A city may not require owner occupancy for either the primary dwelling or the ADU (this prohibition expires January 1, 2025). Cities must require owner occupancy for JADUs, in either the primary residence or the JADU.	The owner occupancy requirement in the City Code has been changed to apply only to JADUs.
Cities must include provisions allowing and regulating JADUs in their ADU ordinance. A JADU is a unit that is no more than 500 square feet and contained entirely within an existing or proposed single-family structure, and that is accessible through a separate entrance from the main entrance to the proposed or existing single-family residence. A JADU must have an efficiency kitchen with a cooking facility but a city cannot limit the nature of the electrical, gas, or propane gas connections. A city may not require a sink within the cooking facility. A city must act on an application for a JADU within 60 days of receiving a completed application.	The Amended ADU Ordinance defines a JADU and includes all the requirements and limitations imposed by the ADU Statutes.
Connection fees and capacity charges are based upon the "proportionate burden of the proposed ADU on the water or sewer system, based upon either its square feet (formerly "size") or the number of its drainage fixture unit (DFU) values, as defined by the UPC (formerly "number of plumbing fixtures").	The Amended ADU Ordinance includes this revision to the basis for assessing connection fees and capacity charges for water and sewer.

Recommended Action: Introduce the Ordinance Amending City Code Provisions Regulating Development of Accessory Dwelling Units by title only.

BUDGET AMENDMENT REQUIRED: N

CURRENT BUDGET AMOUNT: N/A

PROPOSED BUDGET AMOUNT: N/A

FINANCING SOURCE: N/A

PREVIOUS CONTRACT/PURCHASE ORDER NO.: N/A

COORDINATED WITH: Planning

Approved: 
Sage Sangiacomo, City Manager

ORDINANCE NO.

ORDINANCE OF THE CITY COUNCIL OF THE CITY OF UKIAH ADDING AND AMENDING VARIOUS SECTIONS OF THE UKIAH CITY CODE TO COMPLY WITH CALIFORNIA GOVERNMENT CODE SECTION 65852.2 REGULATING ACCESSORY DWELLING UNITS

The City Council of the City of Ukiah hereby ordains as follows.

SECTION 1

Findings and Declarations. The City Council finds and declares as follows:

A. In October 2019, the Governor of California signed Senate Bill 13, Assembly Bill 68, Assembly Bill 881, Assembly Bill 670 and Assembly Bill 587 (“ADU Statutes”), which relate to the creation of new Accessory Dwelling Units (“ADU”) and were intended to address California’s ongoing housing affordability crisis by reducing local regulatory barriers to constructing new ADUs.

B. The ADU Statutes, as codified in State of California Government Code Sections 65852.2 and 65852.22, established new standards for regulating ADUs to be effective January 1, 2020;

C. Because the City’s existing standards for ADUs are inconsistent with the new standards enacted by the ADU Statutes, the current City Code provisions regarding ADUs are voided until amended to be consistent with the ADU Statutes.

D. Because the City’s standards for ADUs are currently voided, any application for an ADU consistent with State law will be deemed approved and the default State law standards do not consider the City’s particular needs and limitations. As such, it is in the interest of the City to amend the City Code to bring its standards for ADUs into compliance with the State standards and to include any permissible standards that consider local needs and limitations.

SECTION 2

Section 3702.5 of Division 4, Chapter 2, Article 3 of the Ukiah City Code is amended to read as follows:

§3702.5 SEWER REQUIRED

Any structure located within the City in which plumbing is to be installed and to which a public sewer is available shall, at the expense of the owner of the property, connect the plumbing of such structure directly to the proper public sewer in accordance with the provisions of this ordinance. A public sewer shall be deemed to be available if a public sewer is located within two hundred feet (200') of the property line of the property involved.

However, no new connection between an Accessory Dwelling Unit (as defined in Section 9278 of this Code) and the proper public sewer will be required for an Accessory Dwelling Unit contained within the existing space of an existing or proposed primary

residence or accessory structure, unless the Accessory Dwelling Unit was constructed with a new single-family home. ~~and located in the R-1 zone.~~

SECTION 3

Division 4, Chapter 2, Article 12 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by “* * *”):

§3731A SEWER CONNECTION CHARGES

The following charges are hereby established for the connection of the plumbing of any building or structure which discharges to the sanitary sewer system of the city and said charges are separate from any other charges presently levied or which may be levied in the future:

A. Residential Schedule:

Ten thousand nine hundred eleven dollars (\$10,911.00) for equivalent sewer service unit (ESSU) per dwelling unit connected to the wastewater system based on the number of bedrooms according to the following schedule:

	Connection Fee	ESSU
1. One bedroom	\$ 9,820.00	0.9
2. Two bedroom	10,911.00	1.0
3. Three bedroom	12,002.00	1.1
4. For each additional bedroom	1,091.00	0.1

* * *

D. Connection Fees for Accessory Dwelling Units

1. Accessory ~~Dwelling~~ Units shall not be considered new residential uses for the purposes of calculating ~~local agency~~ City connection fees or capacity charges for utilities, including water and sewer service. The Residential Schedule for calculation of sewer system connection fees set forth in Subdivision A of this Section shall not apply to Accessory Dwelling Units.

2. As provided in Section 3702.5, the City will not require a new connection between an Accessory Dwelling Unit (as defined in Section 9278 of this Code) and the sanitary sewer system for an Accessory Dwelling Unit contained within the existing space of an existing primary residence or accessory structure ~~and located in the R-1 zone.~~ Notwithstanding Section 3734A, the City shall not impose a connection fee or capacity charge for this type of Accessory Dwelling Unit, unless the Accessory Dwelling Unit was constructed with a new single-family home.

3. For Accessory Dwelling Units that are not contained within the existing space of an existing primary residence or accessory structure ~~or not located in the R-1 zone~~, the City may charge a connection fee or capacity charge that is proportionate to the burden of the proposed Accessory Dwelling Unit, based upon either its square feet or the number of its drainage fixture unit (DFU) values, as defined in the Uniform Plumbing Code adopted and published by the International Association of Plumbing and Mechanical Officials, upon the water or sewer system. ~~size or the number of fixture unit values as set forth in the current edition of the California Plumbing Code ("fixture units"), upon the sewer system.~~ This fee or charge shall not exceed the reasonable cost of providing this service.

4. The connection fee for an Accessory Dwelling Unit shall be calculated based on the number of fixture units in the developed ADU, as determined by the City Engineer.

5. In the event that the property on which a primary dwelling and an Accessory Dwelling Unit are located is subdivided to create a new lot on which the Accessory Dwelling Unit is located, and the Accessory Dwelling Unit was constructed on or after January 1, 2017, the property owner must pay to the City the difference between the sewer connection fee initially calculated for the Accessory Dwelling Unit pursuant to subdivision D4 of this Section and the connection fee that would have been calculated pursuant to subdivision A if the dwelling unit were the primary dwelling unit on a lot.

SECTION 4

Section 3861 of Division 4, Chapter 4 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by “* * *)”:

§3861 WATER CONNECTION FEES

A. Payment of Fees

The storage and transmission and production and treatment facilities' fees are based on the size of the service. Said fees shall be due and payable prior to use and occupancy of the new facility requiring the service. No certificate of occupancy shall be issued and permanent water service shall not be provided until payment is received.

B. Connection Fees for Accessory Dwelling Units

1. Accessory dwelling units shall not be considered new residential uses for the purposes of calculating connection fees or capacity charges.

2. No new water connection shall be required, and no fee charged, for an Accessory Dwelling Unit (as defined in Section 9278 of this Code) contained within the existing space of an existing primary residence or accessory structure, unless the Accessory Dwelling Unit was constructed with a new single-family home. ~~and located in the R-1 zone.~~

3. Accessory Dwelling Units that are not contained within the existing space of an existing primary residence or accessory structure ~~or not located in the R-1 zone~~ are subject to connection fees for water service as provided in Section 3861.

SECTION 5

Article 3 of Division 9, Chapter 2 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by “* * *”):

§9016 ALLOWED USES

The following uses are allowed in single family residential (R-1) districts:

* * *

Accessory Dwelling Units (ADU) or Junior Accessory Dwelling Units (JADU) on lots developed with a primary single-family or multifamily residence or for which a primary residence is proposed subject to the following standards/criteria:

A. The requirements of this subsection are applicable to all existing ~~Accessory Dwelling Units~~ADUs and JADUs as well as those proposed after the effective date hereof, except for legal nonconforming units, or as is otherwise specifically provided herein. Existing ~~Accessory Dwelling Units~~ADUs or JADUs as of the date hereof inconsistent with the provisions listed herein, shall be considered legal nonconforming, provided that they were legal at the time of their creation.

B. Pursuant to California Government Code 65852.2(a)(1)(C) and 65852.22(d) and (e), ~~accessory dwelling units~~ADUs and JADUs shall be deemed not to exceed the allowable density for the residential lot upon which an ~~Accessory Dwelling Unit~~ADU or JADU is located, and ~~Accessory Dwelling Units~~ADUs and JADUs are deemed a residential use that is consistent with the existing general plan and zoning designation for the residential lot on which an ~~Accessory Dwelling Unit~~ADU or JADU is located.

C. These regulations do not allow the division of property upon which an Accessory Dwelling Unit is located unless all requirements of the applicable zoning district, and any other requirements of this Code are met.

D. The Accessory Dwelling Unit or JADU may be used for rental purposes. The minimum term of a lease for an Accessory Dwelling Unit or JADU shall be thirty (30) days.

E. The ADU or JADU may be rented separate from the primary residence, but may not be sold or otherwise conveyed separate from the primary residence.

F. For development of an ADU or JADU, the applicant shall record a deed restriction, which shall run with the land. A copy showing recordation with the Mendocino County Recorder, shall be filed with the City, and shall include both of the following:

(1) A prohibition on the sale of the ADU or JADU separate from the sale of the primary residence, including a statement that the deed restriction may be enforced against future purchasers.

(2) For a JADU only, a restriction on the size and attributes of the JADU that conforms with this Section.

EG. Accessory Dwelling Units may be attached to existing single-family or multifamily residences or detached as separate structures. Accessory Dwelling Units shall incorporate the same or substantially similar architectural features, height, building materials and colors as the main dwelling unit or compatible dwellings located on adjacent properties. Architecture not similar to the architecture of the principal dwelling or buildings on adjacent properties shall be subject to the use permit process.

H. Junior Accessory Dwelling Units are installed within a legally established bedroom within the existing walls of a fully permitted single-family dwelling or proposed single-family dwelling. In the case of a legal, non-conforming single-family dwelling unit, the applicant must demonstrate adequate septic capacity for the bedroom count, if the dwelling uses a septic system, and utilize an existing, fully permitted bathroom. A separate entrance to the Junior Accessory Dwelling Unit shall be provided. A Junior Accessory Dwelling Unit may include a full bathroom, or the occupant(s) may use a full bathroom inside the remainder of the single-family dwelling. A Junior Accessory Dwelling Unit shall contain an efficiency kitchen, which shall include a cooking facility for preparation and sanitation of food with appliances (e.g., microwave, toaster oven, hot plate) and a food preparation counter and storage cabinets that are of reasonable size in relation to the size of the JADU. The efficiency kitchen must be removed when the JADU use ceases.

~~F.~~ The minimum lot size upon which an Accessory Dwelling Unit may be placed is five thousand (5,000) square feet for an interior lot, and seven thousand (7,000) square feet for a corner lot.

~~GJ.~~ The maximum size of an Accessory Dwelling Unit shall be ~~ten percent (10%) of the lot size with a maximum size of~~ one thousand two hundred (1200) square feet. ~~The increased floor area of an Accessory Dwelling Unit that is attached to the primary residence shall not exceed 50 percent of the existing living area.~~ The maximum size of a Junior Accessory Dwelling Unit shall not exceed five hundred (500) square feet in floor area. If the bathroom is shared with the remainder of the single-family dwelling, it shall not be included in the square footage calculation.

HJ. Parking

(1) Parking requirements for the ~~Accessory Dwelling Unit~~ADU shall be one off street space (independently accessible or tandem) for each bedroom or ADU, whichever is less, in addition to the two (2) independently accessible parking spaces required for the existing single-family or multifamily residence. If the primary residence was legally constructed at a time when on-site parking was not required, then only the parking space(s) for the ~~Accessory Dwelling Unit~~ADU shall be required. No off street parking space shall be required for a JADU.

(2) Off-street parking shall be permitted in setback areas in compliance with the definition of "Off-street Parking" found in Section 9278B of this Code or through tandem parking

(3) Parking standards will not be imposed for an ~~Accessory Dwelling Unit~~ADU in any of the following instances:

(1a) The ~~Accessory Dwelling Unit~~ADU is located within one-half mile of public transit.

- (2b) The ~~Accessory Dwelling Unit~~ADU is located within an architecturally and historically significant historic district.
- (3c) The ~~Accessory Dwelling Unit~~ADU is part of the existing primary residence or an existing accessory structure.
- (4d) When on-street parking permits are required but not offered to the occupant of the ~~Accessory Dwelling Unit~~ADU.
- (5e) When there is a car share vehicle located within one block of the ~~Accessory Dwelling Unit~~ADU.

(4) If a garage, carport, or covered parking structure is demolished in conjunction with the construction of an ADU or converted to an ADU, the City shall not require that those offstreet parking spaces be replaced.

~~KI.~~ The An Accessory Dwelling UnitADU must meet all applicable building and fire codes, and shall have electric, water and sewer or septic service ~~provided through the city~~ with the type of meter arrangement at the property owner's option. Water, sewer, and electrical services shall be available prior to the issuance of a building permit for an ~~Accessory Dwelling Unit~~ADU. No new water or sewer connection fees may be required for ~~Accessory Dwelling Unit~~ADUs that are contained within the existing space of a single-family or multifamily residence or accessory structure as provided in Sections 3731A and 3861.B, unless the ADU is constructed with a new single-family home. ~~Accessory Dwelling Unit~~ADUs shall not be required to provide fire sprinklers if they are not required for the primary residence.

L. A Junior Accessory Dwelling Unit shall not be considered a separate or new dwelling unit for purposes of applying building codes, fire codes, collection of impact fees, or the provision of water, sewer, and power, including connection fees that might otherwise be associated with the provision of those services. Junior Accessory Dwelling Units shall not be required to provide fire sprinklers if they are not required for the primary residence.

~~JM.~~ The ~~Accessory Dwelling Unit~~DU or JADU shall comply with all applicable requirements of this ~~code~~Code.

~~KN.~~ The maximum height for ~~Accessory Dwelling Unit~~ADUs shall be eighteen feet (18'), except for attached ~~accessory dwelling unit~~ADUs, which shall have a maximum height of thirty feet (30'), pursuant to Section 9018 of this Chapter. Taller units may be approved through the use permit process.

~~LO.~~ The following yard setback requirements shall apply to ~~Accessory Dwelling Unit~~ADUs in the R-1 (single-family residential) zoning district:

1. Front Yard: The same as the existing ~~single-family~~primary residence, but no closer than five feet (5').
2. Side Yard or Rear Yard, Single-Story or Two-Story: ~~Side yard for single-story unit: Five feet (5'). Four feet (4')~~
- ~~3. Side Yard, Two-Story: Side yard for two-story unit: Ten feet (10').~~
- ~~4. Rear Yard, Single-Story: Rear yard for single-story unit: Five feet (5').~~

~~5. Rear Yard, Two-Story: Rear yard for two-story unit: Ten feet (10').~~

~~If the subject lot abuts a differently zoned lot, then the side and rear yard setbacks shall be the same as for the adjoining lot.~~

~~3. No setback shall be required for an existing living area, garage, or accessory structure or a structure constructed in the same location and to the same dimensions as an existing structure that is converted to an ADU or to a portion of an ADU. Existing structures proposed for conversion to an Accessory Dwelling Unit must comply with the above yard setback requirements, except that no setback will be required for an existing garage that is converted to an accessory dwelling unit. A setback of no more than five feet from the side and rear lot lines shall be required for an accessory dwelling unit that is constructed above a garage.~~

~~MQ.~~ The proposed ~~Accessory Dwelling Unit~~ADUs shall have a separate front door, which, in the event of an attached unit, shall not be located along the front of the existing single-family or multifamily residence unless it is not obviously visible from the street in front of the residence.

~~NR.~~ ~~One-For a JADU, either the primary single-family residence or the JADU of the units on the lot~~ shall be occupied by the property owner. Owner-occupancy shall not be required if the owner is a governmental agency, land trust, or housing organization.

~~QS.~~ Any balcony, window or door of an ~~Accessory Dwelling Unit~~ADU shall utilize techniques to lessen the privacy impacts onto adjacent properties. These techniques may include use of obscured glazing, window placement above eye level, or locating balconies, windows and doors toward the existing on site primary residence. In addition, trees shall be planted and maintained in a viable condition by the property owner, where appropriate, to preserve the privacy of neighboring property owners.

This requirement will not apply to an ~~Accessory Dwelling Unit~~ADU that is contained within the existing space of a single-family or multifamily residence or accessory structure.

~~PT.~~ Driveways accessing ~~Accessory Dwelling Unit~~ADUs shall be set back a minimum of five feet (5') from any structure on an adjoining lot that has a bedroom adjacent to the proposed driveway.

~~UQ.~~ The minimum width of a driveway serving an ~~Accessory Dwelling Unit~~ADU shall be twelve feet (12'), unless the City Fire Marshal determines that adequate fire protection can be provided to the ~~Accessory Dwelling Unit~~ADU even though the driveway has a width less than twelve feet (12').

~~RV.~~ Unless otherwise indicated, relief from the above criteria and standards may be pursued through the use permit process pursuant to ~~article~~Article 20 of this chapter.

~~SW.~~ Applications for a building permit for an ~~Accessory Dwelling Unit~~DU or a JADU shall be considered ministerially without discretionary review or a hearing within ~~120-60~~ days after receiving the application if there is an existing primary dwelling on the lot. If the permit application to create an ADU or a JADU is submitted with a permit application to create a new single-family dwelling on the lot, the City may delay acting on the permit

application for the ADU or JADU until the City acts on the permit application to create the new single-family dwelling, but the application to create the ADU or JADU shall be considered without discretionary review.

~~TX.~~ Applications for a building permit within any zoning district where residential uses are allowed by right for an Accessory Dwelling Unit that is contained within the existing space of an existing primary residence or accessory structure and located in the R-1 zone shall be approved ministerially to develop any of the following: if the unit is the sole Accessory Dwelling Unit on the lot, has independent exterior access from the existing residence, and has side and rear setbacks that are sufficient for fire safety. No additional parking or other development standards as set forth in subdivisions (F) through (H), (K) through (M), and (O) through (R) of this Section shall be applied except for building code requirements. This subdivision shall not apply to Accessory Dwelling Units that are not located within the R-1 zone.

(1) One ADU or JADU per lot with a proposed or existing single-family dwelling if all of the following apply:

(a) The ADU or JADU is within the proposed space of a single-family dwelling or existing space of a single-family dwelling or accessory structure and may include an expansion of not more than 150 square feet beyond the same physical dimensions as the existing accessory structure. An expansion beyond the physical dimensions of the existing accessory structure shall be limited to accommodating ingress and egress.

(b) The space has exterior access from the proposed or existing single-family dwelling.

(c) The side and rear setbacks are sufficient for fire and safety.

(d) The JADU complies with the requirements of this Section.

(2) One detached, new construction, ADU that does not exceed four-foot side and rear yard setbacks for a lot with a proposed or existing single-family dwelling. The ADU may be combined with a JADU described in subparagraph X.1 above.

(3) Multiple ADUs within the portions of existing multifamily dwelling structures that are not used as livable space, including, but not limited to, storage rooms, boiler rooms, passageways, attics, basements, or garages, if each unit complies with state building standards for dwellings. The number of ADUs permitted within an existing multifamily dwelling structure shall be capped at twenty five percent (25%) of the existing units in the multifamily dwelling, or one ADU, whichever is greater.

(4) Not more than two (2) ADUs that are located on a lot that has an existing multifamily dwelling, but are detached from that multifamily dwelling and are subject to four (4) foot rear yard and side setbacks.

(Y) For the development of ADUs and JADUs described in subdivision (X), no additional parking or other development standards as set forth in subdivisions (I) through (J), (N) through (Q), and (S) through (V) of this Section shall be applied except for Building Code requirements.

(Z) The City shall not require, as a condition for ministerial approval of a permit application for the creation of an ADU or JADU, the correction of nonconforming zoning conditions. For purposes of this Section, "Nonconforming zoning condition" means a physical improvement on a property that does not conform with current zoning standards.

* * *

§9021 REQUIRED PARKING

A. The minimum parking area required in single-family residential (R-1) districts is two (2) on site independently accessible spaces for each dwelling unit. Accessory Dwelling Units (ADU) require one additional onsite independently accessible parking space per ADU or per bedroom, whichever is less, except as provided in Section 9016 of this Chapter. The parking requirements for all other allowed or permitted uses shall be subject to the provisions of section 9198 of this chapter.

SECTION 6

Article 4 of Division 9, Chapter 2 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by " * * "):

§9031 ALLOWED USES

The following uses are allowed in medium density residential (R-2) districts:

Accessory buildings and accessory uses.

Accessory Dwelling Units and Junior Accessory Dwelling Units, as defined in Section 9278 of this Code and regulated in Section 9016 of this Code.

* * *

~~Second dwelling units as allowed in the R-1 districts in section 9016 of this chapter~~

* * *

SECTION 7

Article 5 of Division 9, Chapter 2 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by " * * "):

§9046 ALLOWED USES

The following uses are allowed in high density residential (R-3) districts:

Accessory buildings and accessory uses. This shall not be construed as permitting any business use or occupation other than those specifically listed herein.

Accessory Dwelling Units and Junior Accessory Dwelling Units, as defined in Section 9278 of this Code and regulated in Section 9016 of this Code.

* * *

~~Second dwelling units as allowed in the R-1 districts in section 9016 of this chapter~~

* * *

SECTION 8

Article 6 of Division 9, Chapter 2 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by “* * *”):

§9061 ALLOWED USES

The following uses are allowed in neighborhood commercial zoning districts:

Accessory uses to any of the uses allowed in this district.

Accessory Dwelling Units and Junior Accessory Dwelling Units, as defined in Section 9278 of this Code and regulated in Section 9016 of this Code.

* * *

~~Second dwelling units as allowed in the R-1 districts in section 9016 of this chapter.~~

* * *

SECTION 9

Article 7 of Division 9, Chapter 2 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by “* * *”):

§9081 ALLOWED USES

The following uses are allowed in the Community Commercial (C-1) Zoning District:

Accessory uses to any of the uses allowed in this District.

Accessory Dwelling Units and Junior Accessory Dwelling Units, as defined in Section 9278 of this Code and regulated in Section 9016 of this Code.

* * *

~~Second dwelling units as allowed in the R-1 districts in section 9016 of this chapter.~~

* * *

SECTION 10

Article 8 of Division 9, Chapter 2 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by “* * *”):

§9096 ALLOWED USES

The following uses are allowed in the heavy commercial (C-2) zoning district:

Accessory uses to any allowed or permitted uses.

Accessory Dwelling Units and Junior Accessory Dwelling Units, as defined in Section 9278 of this Code and regulated in Section 9016 of this Code.

* * *

~~Second dwelling units as allowed in the R-1 districts in section 9016 of this chapter.~~

* * *

SECTION 11

Section 9278 in Division 9, Chapter 2, Article 21 of the Ukiah City Code (unchanged text is omitted and is shown by “* * *”):

* * *

DWELLING UNIT: A residential building or portion thereof providing complete, independent living facilities for one family including permanent provisions of living, sleeping, eating, cooking, and sanitation.

DWELLING UNIT, ACCESSORY:

An attached or a detached residential dwelling unit, located on a lot in any zoning district where residential uses are allowed by-right or with the securing of a use permit~~the R-1, R-2, and R-3 Zoning Districts~~ that has been developed with an existing or proposed primary single-family or multifamily residence, which provides complete independent living facilities for one or more persons. It can be wholly contained within the footprint of the proposed existing primary, ~~single-family residence dwelling, including attached garages, storage areas or similar uses~~ or an ~~existing~~-accessory structure, or detached from the proposed or existing primary dwelling and located on the same lot as the proposed or existing primary dwelling. It shall include permanent provisions for living, sleeping, eating, cooking, and sanitation on the same lot as the ~~single-family~~primary dwelling is situated. An Accessory Dwelling Unit also includes the following:

- (A) An efficiency unit, as defined in Section 17958.1 of Health and Safety Code.
- (B) A manufactured home, as defined in Section 18007 of the Health and Safety Code.

DWELLING UNIT, JUNIOR ACCESSORY:

An attached residential dwelling unit, located on a lot in the R-1, R-2, and R-3 Zoning Districts, not exceeding 500 sq. ft. in size and contained within a legally established bedroom within the existing walls of an existing or proposed single-family dwelling. A Junior Accessory Dwelling Unit (JADU) shall include an efficiency kitchen, which shall include a cooking facility with appliances and a food preparation counter and storage cabinets that are of reasonable size in relation to the size of the JADU. The JADU may include separate sanitation facilities or share sanitation facilities with the existing structure. A Junior Accessory Dwelling Unit shall have a separate entrance, and interior access to the remainder of the primary dwelling.

* * *

SECTION 12

1. SEVERABILITY.

If any section, subsection, subdivision, paragraph, sentence, clause or phrase of this Ordinance, or its application to any person or circumstance, is for any reason held to be invalid or unenforceable, such invalidity or unenforceability shall not affect the validity or enforceability of the remaining sections, subsections, subdivisions, paragraphs, sentences, clauses or phrases of this Ordinance, or its application to any other person or circumstance. The City Council of the City of Ukiah hereby declares that it would have adopted each section, subsection, subdivision, paragraph, sentence, clause or phrase hereof, irrespective of the fact that any one or more other sections, subsections, subdivisions, paragraphs, sentences, clauses or phrases hereof be declared invalid or unenforceable.

2. EFFECTIVE DATE.

This Ordinance shall be published as required by law in a newspaper of general circulation in the City of Ukiah, and shall become effective thirty (30) days after its adoption.

Introduced by title only on _____, 2020 by the following roll call vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

Adopted on _____, 2020, by the following roll call vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

Douglas F. Crane, Mayor

ATTEST:

Kristine Lawler, City Clerk

ORDINANCE NO.

ORDINANCE OF THE CITY COUNCIL OF THE CITY OF UKIAH ADDING AND AMENDING VARIOUS SECTIONS OF THE UKIAH CITY CODE TO COMPLY WITH CALIFORNIA GOVERNMENT CODE SECTION 65852.2 REGULATING ACCESSORY DWELLING UNITS

The City Council of the City of Ukiah hereby ordains as follows.

SECTION 1

Findings and Declarations. The City Council finds and declares as follows:

A. In October 2019, the Governor of California signed Senate Bill 13, Assembly Bill 68, Assembly Bill 881, Assembly Bill 670 and Assembly Bill 587 ("ADU Statutes"), which relate to the creation of new Accessory Dwelling Units ("ADU") and were intended to address California's ongoing housing affordability crisis by reducing local regulatory barriers to constructing new ADUs.

B. The ADU Statutes, as codified in State of California Government Code Sections 65852.2 and 65852.22, established new standards for regulating ADUs to be effective January 1, 2020;

C. Because the City's existing standards for ADUs are inconsistent with the new standards enacted by the ADU Statutes, the current City Code provisions regarding ADUs are voided until amended to be consistent with the ADU Statutes.

D. Because the City's standards for ADUs are currently voided, any application for an ADU consistent with State law will be deemed approved and the default State law standards do not consider the City's particular needs and limitations. As such, it is in the interest of the City to amend the City Code to bring its standards for ADUs into compliance with the State standards and to include any permissible standards that consider local needs and limitations.

SECTION 2

Section 3702.5 of Division 4, Chapter 2, Article 3 of the Ukiah City Code is amended to read as follows:

§3702.5 SEWER REQUIRED

Any structure located within the City in which plumbing is to be installed and to which a public sewer is available shall, at the expense of the owner of the property, connect the plumbing of such structure directly to the proper public sewer in accordance with the provisions of this ordinance. A public sewer shall be deemed to be available if a public sewer is located within two hundred feet (200') of the property line of the property involved.

However, no new connection between an Accessory Dwelling Unit (as defined in Section 9278 of this Code) and the proper public sewer will be required for an Accessory Dwelling Unit contained within the existing space of an existing or proposed primary

residence or accessory structure, unless the Accessory Dwelling Unit was constructed with a new single-family home. .

SECTION 3

Division 4, Chapter 2, Article 12 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by “* * *):

§3731A SEWER CONNECTION CHARGES

The following charges are hereby established for the connection of the plumbing of any building or structure which discharges to the sanitary sewer system of the city and said charges are separate from any other charges presently levied or which may be levied in the future:

A. Residential Schedule:

Ten thousand nine hundred eleven dollars (\$10,911.00) for equivalent sewer service unit (ESSU) per dwelling unit connected to the wastewater system based on the number of bedrooms according to the following schedule:

	Connection Fee	ESSU
1. One bedroom	\$ 9,820.00	0.9
2. Two bedroom	10,911.00	1.0
3. Three bedroom	12,002.00	1.1
4. For each additional bedroom	1,091.00	0.1

* * *

D. Connection Fees for Accessory Dwelling Units

1. Accessory Dwelling Units shall not be considered new residential uses for the purposes of calculating City connection fees or capacity charges for utilities, including water and sewer service. The Residential Schedule for calculation of sewer system connection fees set forth in Subdivision A of this Section shall not apply to Accessory Dwelling Units.

2. As provided in Section 3702.5, the City will not require a new connection between an Accessory Dwelling Unit (as defined in Section 9278 of this Code) and the sanitary sewer system for an Accessory Dwelling Unit contained within the existing space of an existing primary residence or accessory structure. Notwithstanding Section 3734A, the City shall not impose a connection fee or capacity charge for this type of Accessory Dwelling Unit, unless the Accessory Dwelling Unit was constructed with a new single-family home.

3. For Accessory Dwelling Units that are not contained within the existing space of an existing primary residence or accessory structure, the City may charge a connection fee or capacity charge that is proportionate to the burden of the proposed Accessory Dwelling Unit, based upon either its square feet or the number of its drainage fixture unit (DFU) values, as defined in the Uniform Plumbing Code adopted and published by the International Association of Plumbing and Mechanical Officials, upon the water or sewer system. This fee or charge shall not exceed the reasonable cost of providing this service.

4. The connection fee for an Accessory Dwelling Unit shall be calculated based on the number of fixture units in the developed ADU, as determined by the City Engineer.

5. In the event that the property on which a primary dwelling and an Accessory Dwelling Unit are located is subdivided to create a new lot on which the Accessory Dwelling Unit is located, and the Accessory Dwelling Unit was constructed on or after January 1, 2017, the property owner must pay to the City the difference between the sewer connection fee initially calculated for the Accessory Dwelling Unit pursuant to subdivision D4 of this Section and the connection fee that would have been calculated pursuant to subdivision A if the dwelling unit were the primary dwelling unit on a lot.

SECTION 4

Section 3861 of Division 4, Chapter 4 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by “* * *):

§3861 WATER CONNECTION FEES

A. Payment of Fees

The storage and transmission and production and treatment facilities' fees are based on the size of the service. Said fees shall be due and payable prior to use and occupancy of the new facility requiring the service. No certificate of occupancy shall be issued and permanent water service shall not be provided until payment is received.

B. Connection Fees for Accessory Dwelling Units

1. Accessory dwelling units shall not be considered new residential uses for the purposes of calculating connection fees or capacity charges.

2. No new water connection shall be required, and no fee charged, for an Accessory Dwelling Unit (as defined in Section 9278 of this Code) contained within the existing space of an existing primary residence or accessory structure, unless the Accessory Dwelling Unit was constructed with a new single-family home..

3. Accessory Dwelling Units that are not contained within the existing space of an existing primary residence or accessory structure are subject to connection fees for water service as provided in Section 3861.

SECTION 5

Article 3 of Division 9, Chapter 2 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by “* * *”):

§9016 ALLOWED USES

The following uses are allowed in single family residential (R-1) districts:

* * *

Accessory Dwelling Units (ADU) or Junior Accessory Dwelling Units (JADU) on lots developed with a primary single-family or multifamily residence or for which a primary residence is proposed subject to the following standards/criteria:

A. The requirements of this subsection are applicable to all existing ADUs and JADUs as well as those proposed after the effective date hereof, except for legal nonconforming units, or as is otherwise specifically provided herein. Existing ADUs or JADUs as of the date hereof inconsistent with the provisions listed herein, shall be considered legal nonconforming, provided that they were legal at the time of their creation.

B. Pursuant to California Government Code 65852.2(a)(1)(C) and 65852.22(d) and (e), ADUs and JADUs shall be deemed not to exceed the allowable density for the residential lot upon which an ADU or JADU is located, and ADUs and JADUs are deemed a residential use that is consistent with the existing general plan and zoning designation for the residential lot on which an ADU or JADU is located.

C. These regulations do not allow the division of property upon which an Accessory Dwelling Unit is located unless all requirements of the applicable zoning district, and any other requirements of this Code are met.

D. The Accessory Dwelling Unit or JADU may be used for rental purposes. The minimum term of a lease for an Accessory Dwelling Unit or JADU shall be thirty (30) days.

E. The ADU or JADU may be rented separate from the primary residence, but may not be sold or otherwise conveyed separate from the primary residence.

F. For development of an ADU or JADU, the applicant shall record a deed restriction, which shall run with the land. A copy showing recordation with the Mendocino County Recorder shall be filed with the City, and shall include both of the following:

(1) A prohibition on the sale of the ADU or JADU separate from the sale of the primary residence, including a statement that the deed restriction may be enforced against future purchasers.

(2) For a JADU only, a restriction on the size and attributes of the JADU that conforms with this Section.

G. Accessory Dwelling Units may be attached to existing single-family or multifamily residences or detached as separate structures. Accessory Dwelling Units shall incorporate the same or substantially similar architectural features, height, building materials and colors as the main dwelling unit or compatible dwellings located on

adjacent properties. Architecture not similar to the architecture of the principal dwelling or buildings on adjacent properties shall be subject to the use permit process.

H. Junior Accessory Dwelling Units are installed within a legally established bedroom within the existing walls of a fully permitted single-family dwelling or proposed single-family dwelling. In the case of a legal, non-conforming single-family dwelling unit, the applicant must demonstrate adequate septic capacity for the bedroom count, if the dwelling uses a septic system, and utilize an existing, fully permitted bathroom. A separate entrance to the Junior Accessory Dwelling Unit shall be provided. A Junior Accessory Dwelling Unit may include a full bathroom, or the occupant(s) may use a full bathroom inside the remainder of the single-family dwelling. A Junior Accessory Dwelling Unit shall contain an efficiency kitchen, which shall include a cooking facility for preparation and sanitation of food with appliances (e.g., microwave, toaster oven, hot plate) and a food preparation counter and storage cabinets that are of reasonable size in relation to the size of the JADU. The efficiency kitchen must be removed when the JADU use ceases.

I. The maximum size of an Accessory Dwelling Unit shall be one thousand two hundred (1200) square feet.. The maximum size of a Junior Accessory Dwelling Unit shall not exceed five hundred (500) square feet in floor area. If the bathroom is shared with the remainder of the single-family dwelling, it shall not be included in the square footage calculation.

J. Parking

(1) Parking requirements for the ADU shall be one off street space (independently accessible or tandem) for each bedroom or ADU, whichever is less, in addition to the two (2) independently accessible parking spaces required for the existing single-family or multifamily residence. If the primary residence was legally constructed at a time when on-site parking was not required, then only the parking space(s) for the ADU shall be required. No off street parking space shall be required for a JADU.

(2) Off-street parking shall be permitted in setback areas in compliance with the definition of "Off-street Parking" found in Section 9278B of this Code or through tandem parking

(3) Parking standards will not be imposed for an ADU in any of the following instances:

- (a) The ADU is located within one-half mile of public transit.
- (b) The ADU is located within an architecturally and historically significant historic district.
- (c) The ADU is part of the existing primary residence or an existing accessory structure.
- (d) When on-street parking permits are required but not offered to the occupant of the ADU.
- (e) When there is a car share vehicle located within one block of the ADU.

(4) If a garage, carport, or covered parking structure is demolished in conjunction with the construction of an ADU or converted to an ADU, the City shall not require that those offstreet parking spaces be replaced.

K. An ADU must meet all applicable building and fire codes, and shall have electric, water and sewer or septic service with the type of meter arrangement at the property owner's option. Water, sewer, and electrical services shall be available prior to the issuance of a building permit for an ADU. No new water or sewer connection fees may be required for ADUs that are contained within the existing space of a single-family or multifamily residence or accessory structure as provided in Sections 3731A and 3861.B, unless the ADU is constructed with a new single-family home. ADUs shall not be required to provide fire sprinklers if they are not required for the primary residence.

L. A Junior Accessory Dwelling Unit shall not be considered a separate or new dwelling unit for purposes of applying building codes, fire codes, collection of impact fees, or the provision of water, sewer, and power, including connection fees that might otherwise be associated with the provision of those services. Junior Accessory Dwelling Units shall not be required to provide fire sprinklers if they are not required for the primary residence.

M. The ADU or JADU shall comply with all applicable requirements of this Code.

N. The maximum height for ADUs shall be eighteen feet (18'), except for attached ADUs, which shall have a maximum height of thirty feet (30'), pursuant to Section 9018 of this Chapter. Taller units may be approved through the use permit process.

O. The following yard setback requirements shall apply to ADUs:

1. Front Yard: The same as the existing primary residence, but no closer than five feet (5').

2. Side Yard or Rear Yard, Single-Story or Two-Story: Four feet (4')

3. No setback shall be required for an existing living area, garage, or accessory structure or a structure constructed in the same location and to the same dimensions as an existing structure that is converted to an ADU or to a portion of an ADU.

Q. The proposed ADUs shall have a separate front door, which, in the event of an attached unit, shall not be located along the front of the existing single-family or multifamily residence unless it is not obviously visible from the street in front of the residence.

R. For a JADU, either the primary single-family residence or the JADU shall be occupied by the property owner. Owner-occupancy shall not be required if the owner is a governmental agency, land trust, or housing organization.

S. Any balcony, window or door of an ADU shall utilize techniques to lessen the privacy impacts onto adjacent properties. These techniques may include use of obscured glazing, window placement above eye level, or locating balconies, windows and doors toward the existing on site primary residence. In addition, trees shall be planted and maintained in a viable condition by the property owner, where appropriate, to preserve the privacy of neighboring property owners.

This requirement will not apply to an ADU that is contained within the existing space of a single-family or multifamily residence or accessory structure.

T. Driveways accessing ADUs shall be set back a minimum of five feet (5') from any structure on an adjoining lot that has a bedroom adjacent to the proposed driveway.

U. The minimum width of a driveway serving an ADU shall be twelve feet (12'), unless the City Fire Marshal determines that adequate fire protection can be provided to the ADU even though the driveway has a width less than twelve feet (12').

V. Unless otherwise indicated, relief from the above criteria and standards may be pursued through the use permit process pursuant to Article 20 of this chapter.

W. Applications for a building permit for an ADU or a JADU shall be considered ministerially without discretionary review or a hearing within 60 days after receiving the application if there is an existing primary dwelling on the lot. If the permit application to create an ADU or a JADU is submitted with a permit application to create a new single-family dwelling on the lot, the City may delay acting on the permit application for the ADU or JADU until the City acts on the permit application to create the new single-family dwelling, but the application to create the ADU or JADU shall be considered without discretionary review.

X. Applications for a building permit within any zoning district where residential uses are allowed by right shall be approved ministerially to develop any of the following:

1. One ADU or JADU per lot with a proposed or existing single-family dwelling if all of the following apply:

(a) The ADU or JADU is within the proposed space of a single-family dwelling or existing space of a single-family dwelling or accessory structure and may include an expansion of not more than 150 square feet beyond the same physical dimensions as the existing accessory structure. An expansion beyond the physical dimensions of the existing accessory structure shall be limited to accommodating ingress and egress.

(b) The space has exterior access from the proposed or existing single-family dwelling.

(c) The side and rear setbacks are sufficient for fire and safety.

(d) The JADU complies with the requirements of this Section.

2. One detached, new construction, ADU that does not exceed four-foot side and rear yard setbacks for a lot with a proposed or existing single-family dwelling. The ADU may be combined with a JADU described in subparagraph X.1 above.

3. Multiple ADUs within the portions of existing multifamily dwelling structures that are not used as livable space, including, but not limited to, storage rooms, boiler rooms, passageways, attics, basements, or garages, if each unit complies with state building standards for dwellings. The number of ADUs permitted within an existing multifamily dwelling structure shall be capped at twenty five percent (25%) of the existing units in the multifamily dwelling, or one ADU, whichever is greater.

(4) Not more than two (2) ADUs that are located on a lot that has an existing multifamily dwelling, but are detached from that multifamily dwelling and are subject to four (4) foot rear yard and side setbacks.

(Y) For the development of ADUs and JADUs described in subdivision (X), no additional parking or other development standards as set forth in subdivisions (I) through (J), (N) through (Q), and (S) through (V) of this Section shall be applied except for Building Code requirements.

(Z) The City shall not require, as a condition for ministerial approval of a permit application for the creation of an ADU or JADU, the correction of nonconforming zoning conditions. For purposes of this Section, "Nonconforming zoning condition" means a physical improvement on a property that does not conform with current zoning standards.

* * *

§9021 REQUIRED PARKING

A. The minimum parking area required in single-family residential (R-1) districts is two (2) on site independently accessible spaces for each dwelling unit. Accessory Dwelling Units (ADU) require one additional onsite independently accessible parking space per ADU or per bedroom, whichever is less, except as provided in Section 9016 of this Chapter. The parking requirements for all other allowed or permitted uses shall be subject to the provisions of section 9198 of this chapter.

SECTION 6

Article 4 of Division 9, Chapter 2 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by " *"):**

§9031 ALLOWED USES

The following uses are allowed in medium density residential (R-2) districts:

Accessory buildings and accessory uses.

Accessory Dwelling Units and Junior Accessory Dwelling Units, as defined in Section 9278 of this Code and regulated in Section 9016 of this Code.

* * *

* * *

SECTION 7

Article 5 of Division 9, Chapter 2 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by " *"):**

§9046 ALLOWED USES

The following uses are allowed in high density residential (R-3) districts:

Accessory buildings and accessory uses. This shall not be construed as permitting any business use or occupation other than those specifically listed herein.

Accessory Dwelling Units and Junior Accessory Dwelling Units, as defined in Section 9278 of this Code and regulated in Section 9016 of this Code.

* * *

* * *

SECTION 8

Article 6 of Division 9, Chapter 2 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by “* * *)”:

§9061 ALLOWED USES

The following uses are allowed in neighborhood commercial zoning districts:

Accessory uses to any of the uses allowed in this district.

Accessory Dwelling Units and Junior Accessory Dwelling Units, as defined in Section 9278 of this Code and regulated in Section 9016 of this Code.

* * *

* * *

SECTION 9

Article 7 of Division 9, Chapter 2 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by “* * *)”:

§9081 ALLOWED USES

The following uses are allowed in the Community Commercial (C-1) Zoning District:

Accessory uses to any of the uses allowed in this District.

Accessory Dwelling Units and Junior Accessory Dwelling Units, as defined in Section 9278 of this Code and regulated in Section 9016 of this Code.

* * *

* * *

SECTION 10

Article 8 of Division 9, Chapter 2 of the Ukiah City Code is hereby amended to read as follows (unchanged text is omitted and is shown by “* * *)”:

§9096 ALLOWED USES

The following uses are allowed in the heavy commercial (C-2) zoning district:

Accessory uses to any allowed or permitted uses.

Accessory Dwelling Units and Junior Accessory Dwelling Units, as defined in Section 9278 of this Code and regulated in Section 9016 of this Code.

* * *
* * *

SECTION 11

Section 9278 in Division 9, Chapter 2, Article 21 of the Ukiah City Code (unchanged text is omitted and is shown by “* * *”):

* * *

DWELLING UNIT: A residential building or portion thereof providing complete, independent living facilities for one family including permanent provisions of living, sleeping, eating, cooking, and sanitation.

DWELLING UNIT, ACCESSORY:

An attached or a detached residential dwelling unit, located on a lot in any zoning district where residential uses are allowed by-right or with the securing of a use permit that has been developed with an existing or proposed primary single-family or multifamily residence, which provides complete independent living facilities for one or more persons. It can be wholly contained within the footprint of the proposed existing primary dwelling, including attached garages, storage areas or similar uses or an accessory structure, or detached from the proposed or existing primary dwelling and located on the same lot as the proposed or existing primary dwelling.. It shall include permanent provisions for living, sleeping, eating, cooking, and sanitation on the same lot as the primary dwelling is situated. An Accessory Dwelling Unit also includes the following:

- (A) An efficiency unit, as defined in Section 17958.1 of Health and Safety Code.
- (B) A manufactured home, as defined in Section 18007 of the Health and Safety Code.

DWELLING UNIT, JUNIOR ACCESSORY:

An attached residential dwelling unit, located on a lot in the R-1, R-2, and R-3 Zoning Districts, not exceeding 500 sq. ft. in size and contained within a legally established bedroom within the existing walls of an existing or proposed single-family dwelling. A Junior Accessory Dwelling Unit (JADU) shall include an efficiency kitchen, which shall include a cooking facility with appliances and a food preparation counter and storage cabinets that are of reasonable size in relation to the size of the JADU. The JADU may include separate sanitation facilities or share sanitation facilities with the existing structure. A Junior Accessory Dwelling Unit shall have a separate entrance, and interior access to the remainder of the primary dwelling.

* * *

SECTION 12

1. SEVERABILITY.

If any section, subsection, subdivision, paragraph, sentence, clause or phrase of this Ordinance, or its application to any person or circumstance, is for any reason held to be invalid or unenforceable, such invalidity or unenforceability shall not affect the validity or enforceability of the remaining sections, subsections, subdivisions, paragraphs, sentences, clauses or phrases of this Ordinance, or its application to any other person or circumstance. The City Council of the City of Ukiah hereby declares that it would have adopted each section, subsection, subdivision, paragraph, sentence, clause or phrase hereof, irrespective of the fact that any one or more other sections, subsections, subdivisions, paragraphs, sentences, clauses or phrases hereof be declared invalid or unenforceable.

2. EFFECTIVE DATE.

This Ordinance shall be published as required by law in a newspaper of general circulation in the City of Ukiah, and shall become effective thirty (30) days after its adoption.

Introduced by title only on _____, 2020 by the following roll call vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

Adopted on _____, 2020, by the following roll call vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

Douglas F. Crane, Mayor

ATTEST:

Kristine Lawler, City Clerk



AGENDA SUMMARY REPORT

SUBJECT: Receive Status Report and Consider Any Action or Direction Related to the Novel Coronavirus (COVID-19) Emergency Including Operational Preparedness and Response; Continuity of City Operations and Services; Community and Business Impacts; and Any Other Related Matters.

DEPARTMENT: City Manager /
Admin

PREPARED BY: Tami Bartolomei, Community Services
Administrator

PRESENTER: Tami Bartolomei, Office of Emergency
Management Coordinator

ATTACHMENTS:

None

Summary: The City Council will receive a status report and consider any action or direction related to the Novel Coronavirus (COVID-19) Emergency including operational preparedness and response; continuity of City operations and services; community and business impacts; and any other related matters.

Background: On March 4, 2020, California Governor Gavin Newsom declared a State of Emergency in California in response to the COVID-19 pandemic.

The County of Mendocino declared a State of Emergency related to the COVID-19 on March 4, 2020.

On March 17, 2020, the City Manager acting as the Director of Emergency Services declared the existence of a local emergency.

On March 18, 2020, City Council approved a Resolution ratifying the proclamation declaring the existence of a local emergency.

Since the onset of the emergency, the City of Ukiah has worked to respond to the public health and safety needs of the community in cooperation with the County of Mendocino and other partners. The local response for public health is lead regionally by the County of Mendocino and the County's Public Health Officer. In addition, the City of Ukiah has worked to maintain the continuity of public services including public safety, water, sewer, electric, airport, public works, and other essential activities.

Discussion: As the coronavirus "COVID-19" continues to evolve, the City of Ukiah continues to monitor the situation and respond to emerging needs of the community. The City is in continued contact with local and state agencies, as well as community partners, hospitals, schools, and neighboring cities to ensure we have the most updated information pertaining to COVID-19 and are coordinating efforts.

Reports and/or information from the City of Ukiah's Emergency Operation Center (EOC) will include:

- * Emergency Operation Center (EOC) Status
- * COVID-19 Case Updates
- * Public Information Officer

- * Medical Services
- * School/Education
- * Public Safety (Police/Fire/EMS)
- * Shelter in Place Monitoring and Compliance
- * Community Service Groups
- * Homeless Response
- * Business Impacts/Services
- * Public Infrastructure/Construction Status
- * City Finance
- * Recovery Efforts and Planning
- * Other Related matters

Staff will provide a status report to City Council and will seek direction or action on operational preparedness and response; continuity of City operations and services; community and business impacts; and any other related matters.

Go to the City's website (www.cityofukiah.com) for direct access to information related to the Novel Coronavirus (COVID-19) emergency including local updates, City Services, Community/Resident Information, and Business Resources.

Recommended Action: Receive status report and consider any action or direction related to the Novel Coronavirus (COVID-19) Emergency including operational preparedness and response; continuity of City operations and services; community and business impacts; and any other related matters.

BUDGET AMENDMENT REQUIRED: N/A

CURRENT BUDGET AMOUNT: N/A

PROPOSED BUDGET AMOUNT: N/A

FINANCING SOURCE: N/A

PREVIOUS CONTRACT/PURCHASE ORDER NO.: N/A

COORDINATED WITH: Sage Sangiacomo, City Manager

Approved: 
Sage Sangiacomo, City Manager



AGENDA SUMMARY REPORT

SUBJECT: Discussion with Possible Direction to Staff Regarding Amendments to the City's HOME Tenant Based Rental Assistance Program Guidelines to Provide Rental and Utility Payment Assistance to Lower Income Households Impacted by the COVID-19 Pandemic.

DEPARTMENT: Community
Development

PREPARED BY: Craig Schlatter, Community Development
Director

PRESENTER: Craig Schlatter, Community Development
Director.

ATTACHMENTS:

1. 16-HOME-11376 Standard Agreement
2. City of Ukiah 16-HOME-11376 Amendment Request 6-8-20
3. Ukiah HOME COVID TBRA Program Guidelines 7-9-20

Summary: Council will discuss and possibly provide direction to Staff regarding amendments to the City's HOME Tenant Based Rental Assistance Program guidelines to provide rental and utility payment assistance to lower income households impacted by the COVID-19 pandemic.

Background: The City of Ukiah was awarded funding for a Tenant Based Rental Assistance (TBRA) program and First Time Homebuyer (FTHB) program from the California Department of Housing and Community Development (HCD) Home Investment Partnerships Program (HOME), a federal program, on July 13, 2017, through standard agreement #16-HOME-11376 (Attachment 1). \$243,750 of the awarded funding was for the TBRA program, \$243,750 was for the FTHB program, and \$12,500 was for Administration. The City cleared general conditions for the funding award and was approved by HCD to begin implementing both programs on January 16, 2019.

On April 6, 2020, Staff received notification from HCD that the U.S. Department of Housing and Urban Development (HUD) would be granting waivers to administrative requirements within the HOME TBRA program for relief related to the COVID-19 pandemic. The HUD waivers are only in place six months, from July 1, 2020 to December 31, 2020. Because the City's 16-HOME-11376 contract has an expenditure deadline of July 31, 2020, and to take advantage of the HUD waivers that will allow the City the ability to assist a greater number of lower income households during the COVID-19 pandemic, the City Manager submitted a request to HCD on June 8, 2020 (Attachment 2) to extend the 16-HOME-11376 contract expenditure deadline one year, to July 31, 2021. With assistance from Assemblymember Wood's office, the City received approval of this extension from HCD on June 27, 2020.

For Staff to move forward with implementation of the COVID TBRA program, the City first needs to complete amendments to the existing TBRA program guidelines to reflect the program changes and HUD waivers. Staff will then submit the revised guidelines to HCD for final approval. Given that Staff utilized an example from another jurisdiction, and that this example was provided by HCD, HCD's approval is expected to occur relatively quickly. Staff anticipates launching the COVID TBRA program by August 1, 2020.

Discussion: The amended guidelines (Attachment 3) expand the City's TBRA program in at least two major

ways: 1) addition of a rental assistance component; and 2) provision of financial assistance for lower income households impacted by the COVID-19 pandemic, retroactive to the date the federal emergency was first declared, March 13, 2020.

Combined, these two changes will allow the City to provide financial assistance in the form of grants to lower income households (households with incomes less than 60% Area Median Income) impacted by COVID-19. The assistance can be in the form of a monthly or lump-sum payment for rental assistance, security deposit assistance, or to assist utility customers who may be having difficulty paying their monthly utility bill.

Although Council approval is not required by HCD HOME for revision of the guidelines, given the anticipated need for the COVID TBRA program in the community, Staff is requesting Council discuss and possibly provide direction to Staff regarding its design and/or implementation.

Recommended Action: Discuss and possibly provide direction to Staff regarding amendments to the City's HOME Tenant Based Rental Assistance Program Guidelines to provide rental and utility payment assistance to lower income households impacted by the COVID-19 pandemic.

BUDGET AMENDMENT REQUIRED: No

CURRENT BUDGET AMOUNT: \$243,750

PROPOSED BUDGET AMOUNT: \$243,750

FINANCING SOURCE: HCD HOME

PREVIOUS CONTRACT/PURCHASE ORDER NO.: N/A

COORDINATED WITH: N/A

Approved: 
Sage Sangiacomo, City Manager

**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF FINANCIAL ASSISTANCE**

2020 W. El Camino Avenue, Suite 650, 95833
P. O. Box 952054
Sacramento, CA 94252-2054
(916) 263-2771 / FAX (916) 263-2763
www.hcd.ca.gov



DEC 08 2017

Mr. Sage Sangiacomo
City Manager
City of Ukiah
300 Seminary Avenue
Ukiah, CA 95482

Dear Mr. Sangiacomo:

Re: City of Ukiah - 16-HOME-11376

Congratulations on your Home Investment Partnerships Program (HOME) Award. Attached is an electronic copy of the HOME Standard Agreement with Exhibits A through E:

A. Standard Agreement (STD 213 and Exhibits A through E)

STD 213 - Cover page

Exhibit A - Authority, Purpose and Scope of Work

Exhibit B - Set-Up and Payment Provisions

Exhibit C - State of California General Terms and Conditions - GTC 04/2017

Exhibit C is now incorporated by reference; please see the STD 213 for additional information.

Exhibit D - HOME Terms and Conditions

Exhibit E - Special Terms and Conditions

B. For expeditious handling of the contract, please complete the following:

1. Review the entire Agreement thoroughly and, if necessary, discuss the requirements with your legal and financial advisors.
2. Print five copies of the first page of the Standard Agreement, STD 213 (do not print a copy of the exhibits for HCD).
3. The person authorized by the Resolution must provide an **original signature, printed name, title and date** on the lower left-hand section entitled "Contractor" on each copy of the STD 213.

4. **DO NOT SEND PHOTO COPIES OF SIGNATURES. ALL FIVE MUST BE ORIGINAL SIGNATURES WITH WET INK.**
5. If the authorized designee as reflected in the resolution, the grant amount or your grantee status has changed, you are required to provide the HOME Program with a new resolution consistent with the terms of the grant award and adopted by your Board.
6. Return five signed copies of the STD 213, and if applicable the certified resolution within 30 days from the date of this letter to the following address:

**Department of Housing and Community Development
Business & Contract Services Branch
Contracts Office
2020 W. El Camino Avenue, Suite 330
Sacramento, CA 95833**
7. Maintain a complete electronic version of the STD 213 and Exhibits A through E for your pending file. **(Note: The contract is not effective until it is signed by the Grantee's designated official and the Department).**

The Department reserves the right to cancel any pending Standard Agreement in its entirety if not returned within the required 30-day period.

Please accept my best wishes for a successful program. Please contact MeLisa Adams at (916) 263-1656 or melisa.adams@hcd.ca.gov if you have any questions regarding the Standard Agreement or the provisions therein.

Sincerely,


Sabrina Sassman, Section Chief
NOFA Awards Section

cc: Business & Contract Services Branch
Contract Representative

STATE OF CALIFORNIA
STANDARD AGREEMENT
STD 213 (Rev 06/03)

AGREEMENT NUMBER

16-HOME-11376

REGISTRATION NUMBER

1. This Agreement is entered into between the State Agency and the Contractor named below:

STATE AGENCY'S NAME

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

CONTRACTOR'S NAME

City of Ukiah

2. The term of this
Agreement is:

Upon HCD Approval through 07/31/2035

3. The maximum amount of this
Agreement is:

\$500,000.00

4. The parties agree to comply with the terms and conditions of the following exhibits which are by this reference made a part of the Agreement.

Exhibit A - Authority, Purpose and Scope of Work	3
Exhibit B - Set-up and Payment Provisions	3
Exhibit C - State of California General Terms and Conditions*	GTC - 04/2017
Exhibit D - HOME Program Terms and Conditions	22
Exhibit E - Special Terms and Conditions	1
Exhibit F - Additional Provisions	0
TOTAL NUMBER OF PAGES ATTACHED	29 pages

Items shown with an Asterisk (*), are hereby incorporated by reference and made part of this agreement as if attached hereto. The GTC 04/2017 documents can be viewed at <http://www.dgs.ca.gov/ols/Resources/StandardContractLanguage.aspx>.

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

CONTRACTOR

CONTRACTOR'S NAME (if other than an individual, state whether a corporation,
partnership, etc)

City of Ukiah

BY (Authorized Signature)

DATE SIGNED (Do not type)

PRINTED NAME AND TITLE OF PERSON SIGNING

Sage Sangiacomo, City Manager

ADDRESS

300 Seminary Avenue, Ukiah, CA 95482

STATE OF CALIFORNIA

AGENCY NAME

Department of Housing and Community Development

BY (Authorized Signature)

DATE SIGNED (Do not type)

PRINTED NAME AND TITLE OF PERSON SIGNING

Synthia Rhinehart, Contracts Manager, Business & Contract Services Branch

ADDRESS

2020 W. El Camino Ave., Sacramento, CA 95833

**California Department of
General Service
Use Only**

☒ Exempt per: **SCM 4.04.A.3 (DGS
Memo dated 6/12/81)**

EXHIBIT A

AUTHORITY, PURPOSE AND SCOPE OF WORK

1. Authority & Purpose

This Standard Agreement (hereinafter "Agreement") will provide official notification of the conditional reservation of funds under the State of California's administration of the Home Investment Partnerships Program (hereinafter "HOME") by the Department of Housing and Community Development (hereinafter the "Department") pursuant to the provisions of the Cranston-Gonzalez National Affordable Housing Act (42 USC 12741 et seq.), the HOME Investment Partnerships Program (Title 24 Code of Federal Regulations Part 92), California Health and Safety Code Section 50896, and Title 25, Division 1, Chapter 7, Subchapter 17 of the California Code of Regulations, Sections 8200 through 8220 (the "State Regulations"), all as amended and in effect from time to time. The HOME Program is listed in the Catalog of Federal Domestic Assistance (CFDA) as 14.239 - HOME Investment Partnerships Program. In accepting this conditional reservation of funds, the Contractor (sometimes referred to herein as the "HOME Recipient") agrees to comply with the terms and conditions of this Agreement, the Notice of Funding Availability (NOFA) under which the HOME Recipient applied, the representations contained in the HOME Recipient's application for this funding allocation (the "Application"), and the requirements of the authorities cited above.

2. Scope of Work

A. HOME Recipient shall perform the Scope of Work (hereinafter "Work") as described in the Application, which is on file at the Department, Division of Financial Assistance, 2020 West El Camino Ave., Suite 650, Sacramento, California, and which is incorporated herein by reference. All written materials or alterations submitted as addenda to the original Application and which are approved in writing by a Contract Management Section Manager or higher Departmental official, as appropriate, are hereby incorporated as part of the Application. The Department reserves the right to require the HOME Recipient to modify any or all parts of the application in order to comply with HOME Investment Partnerships Program federal and/or State Regulations or requirements. The Department reserves the right to review and approve all Work to be performed by the HOME Recipient in relation to this Agreement. Any proposed revision to the Work must be submitted in writing for review and approval by the Department. Any approval shall not be presumed unless such approval is made by the Department in writing.

B. The Work shall consist of:

<u>Project Location</u>	<u>Type of Activity</u>	HOME Activity	HOME
		<u>Funds</u>	<u>Units</u>
City of Ukiah	(13) First-Time Homebuyer Program	\$243,750	2
	(05S) Tenant-Based Rental Assistance Program	\$243,750	15
	(21A) State Recipient Administration	\$12,500	

HOME State Recipient Program
NOFA Date: 12/06/2016
Approval Date: 11/21/2017
Prep. Date: 11/21/2017

EXHIBIT A

3. Term of Agreement and Deadlines

- A. All Program funds shall be expended by: July 31, 2020
- B. All Drawdown Requests shall be submitted by: September 30, 2020.
- C. This Agreement shall expire on: July 31, 2035.

No payments shall be made for drawdown requests received after August 31, 2020. Any funds not drawn down by August 31, 2020, shall be disencumbered.

Pursuant to 24 CFR 92.254, any homeownership units funded by HOME that do not have a ratified sales contract with an eligible homebuyer for the housing within nine (9) months of the date of completion of construction or rehabilitation, shall be rented to an eligible tenant pursuant to the requirements of 24 CFR 92.252.

4. Contract Amount

For the purposes of performing the Work, the Department agrees to provide the amount shown on Page 1, No. 3 of this Agreement (STD 213). In no instance shall the Department be liable for any costs for Work in excess of this amount, nor for any unauthorized or ineligible costs. The HOME Recipient agrees to administer this allocation in accordance with the provisions of 24 CFR 92 and Section 8200 through, and including, Section 8220 of Title 25 of the California Code of Regulations. The Agreement amount shall be expended as follows:

(13) First-Time Homebuyer Program	\$243,750
(05S) Tenant-Based Rental Assistance Program	\$243,750
(21A) State Recipient Administration	\$12,500

5. Activity Delivery Costs

HOME Recipients shall report the amount of Activity funds used for Activity Delivery Costs on the HOME Set-Up and Completion Reports. The HOME Recipient must request Activity Delivery Costs (ADC) in proportion to the amount of Activity funds being drawn down. The maximum amount of ADC that may be drawn for each specific activity is:

- A. Up to 24% of the HOME loan/grant amount for Owner-Occupied Rehabilitation (OOR).
- B. Up to 6.5% of the HOME loan/grant amount for First-Time Homebuyer (FTHB) activities including rehabilitation;
- C. Up to 6.5% of the HOME Construction loan amount for First-Time Homebuyer activities involving in-fill construction; and,
- D. Up to 5% of the total household assistance amount to reimburse the cost of unit inspections and eligibility determinations for Tenant-Based Rental Assistance.

EXHIBIT A

These amounts may be modified by a Department HOME Program Management Memorandum. The total amount of ADC drawn down during the entire contract term must be for actual costs incurred according to 2 CFR Part 200 and have documentation in each project file. The requirements of 2 CFR Part 200 apply to all non-Federal Entities.

6. Other Funding Sources

- A. Other Funding Sources - The HOME Recipient shall report on the value of other contributions included as leverage to the project activity with each Project Set-Up and Completion Report (this is one report). The Project Set-Up and Completion Report is the report, which conveys the information needed to establish a project-specific account in the Federal Integrated Disbursement and Information System (IDIS). It is also the report that is used to convey any changes to the project-specific account, or report the final project-specific information in IDIS established by U.S. Department of Housing and Urban Development (HUD).
- B. Match - All matching contributions for a specific activity required by 24 CFR 92.218-222 are waived. However, the HOME Recipient shall report all match eligible funding in the Project Set-Up Report and Project Completion Report.
- C. Subsidy Limits - The amount of HOME funds the HOME Recipient may contribute to HOME-assisted housing on a per-unit basis may not exceed the per-unit dollar limits established by HUD, as referenced in 24 CFR 92.250.

7. HOME Program Contract Coordinator

The HOME Recipient's contact for this Agreement may vary; therefore, you will be contacted directly by your assigned representative. Unless otherwise informed, any notice, report, or other communication required by this Agreement shall be sent by first class mail to the Contract Management HOME Program Manager at the following address:

Name: Ken Holder, HOME Program Manager
Phone: (916) 263-1501
Fax: (916) 263-2763
Email: HOME@hcd.ca.gov
Address: Department of Housing and Community Development
Division of Financial Assistance
P.O. Box 952054
Sacramento, CA 94252-2054

EXHIBIT B

SET-UP AND PAYMENT PROVISIONS

1. Definitions

- A. "Activity Delivery Costs" means "related soft costs" as this term is defined in the HOME Final Rule 24 CFR 92.206(5)(d). The Activity Delivery Costs are included in the "HOME Activity Funds". The HOME Recipient may expend up to the indicated Activity Delivery Cost as identified in Exhibit A, 5. HOME funds for Activity Delivery Costs and Home Activity Funds shall be drawn down at the same time. If the activity is not completed, and a Project Completion Report for the full amount drawn down is not filed, all HOME funds, including ADC must be repaid to the Department.
- B. "Project Set-Up" refers to the forms and process required to reserve HOME funds in IDIS for a specific HOME assisted project.
- C. "Project Disbursement" refers to the forms and process required to request the drawdown of HOME funds from IDIS for a project's previously reserved HOME funds.
- D. "Project Completion Report" refers to the form and process required to report a project "complete". The Project Completion Report must be submitted to HCD within 60 days of the final draw request. If the activity is not complete, and a Project Completion Report for the full amount drawn down is not filed, all HOME funds for the particular project must be repaid to the Department.
- E. "Administration" refers to eligible administrative and planning costs as provided in 24 CFR 92.207.

2. General Set-Up Requirements

The HOME Recipient shall submit the following for the Department's approval, prior to project set-up in IDIS:

- A. The "General Set-Up Conditions Checklist" on a form provided by the Department and any required supporting documentation, including a program budget, and Affirmative Fair Market Analyses with marketing plan.
- B. For FTHB Activities, the Contractor shall submit a revised FTHB Feasibility Worksheet (Exhibit B7 of the Program application) as part of their General Set-up Conditions to confirm program feasibility.
- C. Any other documents, certifications, or evidence deemed necessary by the Department prior to Project Set-Up prior to Project Set-Up.

EXHIBIT B

3. **Individual Project Set-Up Requirements**

The HOME Recipient shall submit the following documentation to the Department:

- A. HUD-required Project Set-Up Report; and,
- B. Any other documents, certifications, or evidence deemed necessary by the State prior project set-up.

4. **Project Disbursement Requirements**

The HOME Recipient shall submit the following documentation to the Department prior to the disbursement of funds:

- A. HUD-required Project Drawdown Request Form;
- B. Std. 204, Payee Data Record form (if necessary);
- C. Designated Payee letter (if necessary);
- D. Evidence of sufficient and eligible HOME match, if necessary for funding;
- E. Any other documents, certifications, or evidence deemed necessary by the Department prior to disbursement of project funds; and,
- F. For the final drawdown, a revised Project Completion Report, if any funding sources and/or amounts have changed since the most recently submitted Project Set-Up Report.

5. **Project Completion Requirements**

The HOME Recipient shall submit the following documentation to the Department for project completion:

- A. HUD-required final Project Set-Up and Completion Report; and,
- B. Any other documents, certifications, or evidence deemed necessary by the Department prior to project completion.

6. **General Conditions of Disbursement**

- A. The HOME Recipient shall spend Program Income in the local account, before requesting funds from the Department and shall not request disbursement (drawdown request) of HOME funds under this Agreement until the funds are needed for the reimbursement of eligible costs. The amount of each request shall be limited to the amount needed for reimbursement of actual expenses for Work that has been completed. Work completed means FTHB escrow has closed, TBRA rent subsidies were paid, and/or OOR construction/rehabilitation costs are paid for Work completed, and inspected.

EXHIBIT B

- B. No later than 60 days after any final project drawdown request, the HOME Recipient shall provide a Project Completion Report to the Department. In the event that a Project Completion Report is not received by the Department within the 60-day period, the Department shall suspend further Project Set-Ups for the Contractor until the Project Completion Report is received by the Department and is accepted in IDIS.
- C. In the event the Department determines funds were used for ineligible expenses, further Project Set-Ups and all disbursements may be withheld until the issue of the ineligible expenses is resolved to the satisfaction of the Department.

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HOME TERMS AND CONDITIONS

1. Effective Date and Commencement of Work

This Agreement is effective upon approval by the Department. This approval date is indicated by the date stamped by the Department in the lower right hand corner of page one of this Agreement, STD 213. The HOME Recipient agrees that the Work shall not commence, nor any costs to be paid with HOME funds be incurred or obligated by any party prior to execution of this Agreement by the Department, completion of all required environmental clearances, and compliance with the applicable conditions of this Agreement. Notwithstanding the aforementioned statement, there are two circumstances when costs may be incurred prior to the execution of this Agreement. First, administrative expenses for eligible NEPA compliance work may be incurred prior to the execution of this Agreement. Second, with Contract Management Section Manager or Section Chief approval, other costs may also be incurred prior to the execution of this Agreement. Such costs may consist of procurement of administrative subcontractors, development of program guidelines, architectural, engineering and other professional services required to prepare plans, drawings, specifications, or work write-ups that are incurred not more than 24 months prior to the project being set up in IDIS. The HOME Recipient agrees that the Work shall be completed by the Expenditure date specified in Exhibit A, Section 3, A. This Agreement shall expire on the date set forth in Exhibit A, Section 3, C.

2. Sufficiency of Funds

- A. This Agreement is valid and enforceable only if sufficient funds are made available to the Department by the United States Government for the purposes of the HOME Program. In addition, this Agreement is subject to any additional restrictions, limitations, or conditions enacted by the Congress or State Legislature, promulgated in State or federal regulations or any State or federal statute, as now in effect and as may be amended from time to time which may affect the provisions, terms, or funding of this Agreement in any manner, including 2 CFR Part 200.
- B. The parties to this Agreement mutually agree that if the Congress does not appropriate sufficient funds for the HOME Program, the Department, at its sole discretion, either may amend the contract to reflect any reduction in funds, or it may unilaterally cancel the contract with 14 days written notice to the HOME Recipient.

3. Disencumbrance of Funds and Termination

- A. The Department at its discretion, may require a partial disencumbrance of funds awarded when the HOME Recipient has difficulty expending funds during the contract period, and it appears they will be unable to expend them prior to the expenditure deadline (See Exhibit A, Section 3, A).
- B. The Department may terminate this Agreement at any time for cause by giving 14 days written notice to the HOME Recipient. Cause shall consist of any violation of the HOME requirements; any terms and/or special conditions of this Agreement; upon the request of HUD; unreasonably low rate of expenditure; or, upon a reduction in or elimination of the Department's expenditure authority.

EXHIBIT D

- C. Unless otherwise approved by the Department, upon termination or cancellation of this Agreement, the HOME Recipient shall complete all Work in progress and terminate any other activities that were to be paid for with HOME funds. Any unexpended funds received by the HOME Recipient shall be returned to the Department within 14 days of the Notice of Termination or Notice of Cancellation.

4. Litigation

The HOME Recipient shall notify the Department immediately of any claim or action undertaken by or against it, which affects or may affect this Agreement or the Department, and shall take such action with respect to the claim or action as is consistent with the terms of this Agreement and the interests of the Department.

5. Waivers

No waiver of any breach of this Agreement shall be held to be a waiver of any prior or subsequent breach. The failure of the Department to enforce at any time the provisions of this Agreement, or to require at any time performance by the HOME Recipient of these provisions, shall in no way be construed to be a waiver of such provisions nor to affect the validity of this Agreement or the right of the Department to enforce these provisions.

6. HOME Recipient's Application for Funds

- A. HOME Recipient has submitted to the Department an Application for funding under the HOME Program. The Department is entering into this Agreement on the basis of, and in substantial reliance upon, HOME Recipient's facts, information, assertions and representations contained in that Application, and in any subsequent modifications or additions thereto approved by the Department. The Application and any approved modifications and additions thereto are hereby incorporated into this Agreement.
- B. HOME Recipient warrants that all information, facts, assertions and representations contained in the Application and approved modifications and additions thereto are true, correct, and complete to the best of HOME Recipient's knowledge. In the event that any part of the Application and any approved modification and addition thereto is untrue, incorrect, incomplete, or misleading in such a manner that would substantially affect the Department's approval, disbursement, or monitoring of the funding and the HOME loans and grants or activities governed by this Agreement, then the Department may declare a breach hereof and take such action or pursue such remedies as are provided for breach hereof.

7. Federal and State Laws and Regulations

The HOME Recipient agrees to comply with all federal laws and regulations applicable to the HOME Program, including any federal Office of Management and Budget (OMB) Circular and all applicable HUD rules and regulations (including, without limitation, the HOME Grant-Based Accounting Interim Rule dated December 2, 2016 and any final rule related thereto.)

EXHIBIT D

8. Uniform Administrative Requirements

The HOME Recipient shall comply with the Federal Uniform Administrative Requirements set forth in 24 CFR 92.505 as may be updated by the federal government. This means compliance with OMB Circular A-87 "Cost Principles for State, Local, and Indian Tribal Governments" and the following sections of 24 CFR 85 "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments" 85.6, 85.12, 85.20, 85.22, 85.26, 85.32, through 85.34, 85.36, 85.44, 85.51, and 85.52. Generally speaking, these sections permit the HOME Recipient to use its own procurement procedures if they meet federal standards Pursuant to 24 CFR 85.36(b)(3), no employee, officer or agent (including subcontractors who perform specific administrative tasks and/or administer the local HOME Program) may also be the developer and/or owner of a HOME-assisted program or project, unless approved in writing by HUD in advance of the project commencement.

9. Project Requirements

The HOME Recipient shall comply with 24 CFR 92, Subpart F as applicable, in accordance with the type of project assisted.

A. Maximum Per Unit Subsidy Amount and Subsidy Layering

In accordance with 24 CFR 92.250 and Section 8207 of the State HOME Regulations, the HOME Recipient shall demonstrate to the Department, in a format identified by the Department, that the amount of HOME funds invested on a per-unit basis shall not exceed the current HOME per-unit subsidy limits as established by HUD that apply to the area where the housing is located, and that the HOME funds in combination with other financing and assistance, is not more than is necessary to provide housing to low-income households. The HOME Recipient shall provide a formal certification concerning the governmental assistance provided or to be provided to a project. If no such governmental assistance is to be provided at the time of the application or in the future, the HOME Recipient shall certify to that fact. The HOME Recipient shall also certify that should other governmental assistance be sought in the future, the Department shall be promptly notified. Activities assisted under this Agreement are subject to the underwriting and subsidy-layering requirements established by the Department for each activity pursuant to the requirements of 24 CFR 92.250 and 92.254.

For homeowner activities, the home sale price shall be determined through an appraisal and any applicable underwriting standards meeting the specifications approved by the Department in the CHDO program guidelines. The sales price shall also be subject to the Maximum Purchase Price Limits approved by the Department pursuant to 24 CFR 92.254.

For all First-Time Homebuyer activities, the HOME Recipient shall submit the Closing Disclosure (settlement statement from the escrow company) at the same time the Individual Project Set-Up Report is submitted to the Department.

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B. Maximum Purchase Price/After Rehabilitation Value Limits

Homebuyer acquisition and/or rehabilitation activities shall meet the Maximum Purchase Price/After-Rehabilitation Limits published or otherwise approved by the Department pursuant to the requirements set forth in 24 CFR 92.254.

C. Property Standards

The HOME Recipient shall ensure that all housing units meet the property standards in 24 CFR 92.251. All rental housing shall be maintained in compliance with 24 CFR 92.251 for the duration of the affordability period.

The HOME Recipient shall ensure that upon project completion, housing rehabilitated with HOME funds meets applicable local rehabilitation standards or another rehabilitation standard meeting the requirements of 24 CFR 92.251. The HOME Recipient shall ensure that the written scope of work must be in sufficient detail to establish the basis for a uniform inspection of the assisted housing to determine compliance with the requirements of this section. The HOME Recipient shall review and approve all written cost estimates after determining that costs are reasonable. The HOME Recipient shall conduct an initial property inspection to identify deficiencies that must be addressed, as well as progress and final inspections to determine that work was done in accordance with work write-ups.

The HOME Recipient shall ensure that existing housing that will be acquired for homeownership must be decent, safe, sanitary and in good repair. At a minimum, this housing must meet all applicable State and local housing quality standards and code requirements, and contain no deficiencies set forth by HUD based on applicable Uniform Physical Condition Standards at 24 CFR 5.705. The HOME Recipient shall inspect the housing and document this compliance based upon an inspection that is conducted no earlier than 90 days before the commitment of HOME assistance. If the housing does not meet these standards, the housing must be rehabilitated to meet these standards or it cannot be acquired with HOME funds.

All housing occupied by tenants receiving HOME tenant-based rental assistance must meet the standards established in 24 CFR 982.401 or the successor requirements as established by HUD.

Construction of all manufactured housing including manufactured housing that replaces an existing substandard unit under the definition of 'reconstruction' at 24 CFR 92.2 must meet the Manufactured Home Construction and Safety Standards codified at 24 CFR part 3280. These standards preempt State and local codes, which are not identical to the federal standards for the new construction of manufactured housing.

The HOME Recipient shall ensure that manufactured housing assisted with HOME funds complies with applicable State and local laws or codes. In the absence of such laws or codes, the installation must comply with the manufacturer's written instructions for installation of manufactured housing units. All new manufactured housing and all manufactured housing that replaces an existing substandard unit under the definition of "reconstruction" must be on a permanent foundation that meets the requirements for foundation systems as set forth in 24 CFR 203.43f(c)(i). All new manufactured housing and all manufactured housing that replaces an existing substandard unit under the

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definition of "reconstruction" must, at the time of project completion, be connected to permanent utility hook-ups and be located on land that is owned by the manufactured housing unit owner or land for which the manufactured housing owner has a lease for a period at least equal to the applicable period of affordability. In HOME-funded rehabilitation of existing manufactured housing the foundation and anchoring must meet all applicable State and local codes, ordinances, and requirements or in the absence of local or state codes, the Model Manufactured Home Installation Standards at 24 CFR part 3285. Manufactured housing that is rehabilitated using HOME funds must meet HOME property standards requirements of this section, as applicable. The HOME Recipient shall document this compliance in accordance with inspection procedures established pursuant to 24 CFR 92.251, as applicable.

D. Affordability

The HOME Recipient shall ensure all assisted housing meets the minimum affordability period requirements as specified in 24 CFR 92.252 and Section 8208 of the State HOME Regulations for rental housing or 24 CFR 92.254 for homeownership, as applicable as shown below. For rental housing activities, the federal and state affordability periods run concurrently. HOME funds for activities that do not meet these affordability requirements are subject to recapture by the Department.

1) Rental Rehabilitation Activities:

Federal Minimum Period of Affordability (In Years)	20
State Minimum Period of Affordability (In Years)	55

2) Rental Rehabilitation Activities:

Amount of HOME Assistance Per Unit	Rental Rehab With or Without Acquisition	Rental Rehab Without Acquisition	Rental Rehab With Acquisition
	Federal Minimum Period of Affordability (In Years)	State Minimum Period of Affordability (In Years)	State Minimum Period of Affordability (In Years)
More than \$40,000	15	20	55
\$15,000 to \$40,000	10	15	55
Less than \$15,000	5	10	55

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3) Homeowner Activities:

Amount of HOME Assistance Per Unit	Federal Minimum Period of Affordability (In Years)	State Minimum Period of Affordability (In Years)
More than \$40,000	15	15
\$15,000 to \$40,000	10	10
Less than \$15,000	5	5

E. Income Determination

Households assisted under this Agreement must meet the income determination requirements of 24 CFR 92.203, including but not limited to the requirement to examine at least two months' source documentation evidencing annual income (e.g. wage statement, interest statement, unemployment compensation statement) when determining household income. In meeting these requirements, the income determination rules under 24 CFR Part 5 shall be used, including the Part 5 definition of income.

F. Fees and Other Project-Related Soft Costs

Pursuant to 24 CFR 92.214, fees such as loan servicing fees, origination fees, or other fees related to the cost of administering HOME funds cannot be charged to low-income beneficiaries except as expressly authorized by the Department pursuant to the requirements of this section. Pursuant to 24 CFR 92.206, other staff and overhead costs directly related to carrying out the project, such as work specifications preparation, loan processing, inspections, lead-based paint evaluations (visual assessments, inspections, and risk assessments), and other services related to assisting potential owners, tenants, and homebuyers cannot be charged to individual households. These costs may be charged to the project as Activity Delivery Costs for projects assisted with HOME funds or they may be charged as administrative and planning costs under 24 CFR 92.207, not to exceed the applicable limits specified in Exhibit A. Project-related soft costs incurred in assisting households who do not become HOME beneficiaries are eligible administrative and planning costs under 92.207.

G. Written Agreements

The HOME recipient shall enter into a written agreement that complies with the provisions of 24 CFR 92.504 with any other entity or individual to which it disburses HOME funds. This Agreement must be executed prior to providing the HOME funds.

H. Providing Additional HOME Funds to a Project

Housing may be re-assisted by the HOME Program in accordance with any of the following: upon expiration of applicable federal affordability period, or as permitted under 24 CFR 92.214 (a)(6), or under 24 CFR 92.502. Housing may also be re-assisted as permitted by federal waiver.

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I. Repayment of Funds

If the HOME Recipient either: (i) does not complete its project by July 31, 2020, or (ii) before that date fails to expend any funds the Department disburses to it pursuant the requirements applicable to the award of HOME funds granted herein, then the HOME Recipient shall: repay all such disbursed HOME funds to the Department, (ii) forfeit and have no further rights or claim to any other remaining herein-granted HOME award funds, and (iii) consent to and facilitate as necessary the Department's use of all the foregoing referenced funds for any purpose, including as may be necessary to satisfy any Department obligation regarding repayment of those funds to the State's HOME Investment Trust Fund in accordance with 24 CFR 92.503(b). For example, if a HOME Recipient receives a HOME grant of \$5,000,000 but is only disbursed and expends \$4,500,000 by the expenditure deadline referenced in the Standard Agreement, but has timely and completely finished the project in a manner that satisfies all applicable requirements for the granted award funds then only the remaining unused funds be returned to the Department.

Under other circumstances, if the housing does not meet the affordability requirement for the specified time period, the HOME Recipient shall repay all HOME funds to the local HOME account or the Department, as directed by the Department. Repayment of funds does not relieve the HOME Recipient of the legal obligation to seek judicial enforcement of the security documents, or such other actions, as may be required to meet the affordability requirements.

J. Tenant-Based Rental Assistance

All households receiving Tenant-Based Rental Assistance (TBRA) must have a written lease with the owner of the rental housing for which the TBRA assistance is being provided that meets the lease requirements of 24 CFR 92.253.

Pursuant to 24 CFR 92.209, the rent standard for TBRA programs shall be the applicable local rent standard established under 24 CFR Part 982 for the Section 8 Housing Choice Voucher Program, unless annual written approval has been provided by the Department to use a rent standard based on local market conditions.

The HOME Recipient shall establish the utility allowance either by using the HUD Utility Schedule Model or otherwise determine the utility allowance for the project based on the types of utilities used at the project.

Pursuant to the requirements of 24 CFR 92.209, preferences in TBRA programs may be established for special needs populations and persons with disabilities. These preferences shall be subject to prior written approval by the Department.

HOME Recipients may require recipients of TBRA to participate in a self-sufficiency program as a condition of selection for assistance or renewal of assistance; however, once assistance has been granted or renewed, the failure to continue participating in self-sufficiency services cannot be used as a basis for terminating assistance. Households receiving TBRA as relocation assistance cannot be required to participate in a self-sufficiency program as a condition of receiving assistance.

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10. Equal Opportunity Requirements and Responsibilities

A. Executive Order 11063 (1962)

This Order prohibits discrimination in the sale, leasing, rental, or other disposition of properties and facilities owned or operated by the federal government or provided with federal funds.

B. Executive Order 12892 (1994), as amended

This Order requires federal agencies to affirmatively further fair housing in their programs and activities.

C. The Architectural Barriers Act of 1968, as amended (42 USC 4151 et seq.)

This Act requires that buildings and facilities designed, constructed, altered, or leased with certain federal funds after September 1969 must be accessible to and useable by handicapped persons.

D. Executive Order 12898, Environmental Justice (1994)

This Order requires that each federal agency conduct its program, policies, and activities that substantially affect human health or the environment in a manner that does not exclude persons based on race, color, or national origin.

E. Affirmative Marketing

The HOME Recipient shall adopt and follow affirmative marketing procedures that provide information, through the implementation of an outreach-marketing program, to attract all eligible persons in the area to the HOME housing without regard to race, color, national origin, sex, religion, familial status, or disability. This affirmative marketing includes, but is not limited to, a minority outreach program to ensure the inclusion, to the maximum extent possible, of minorities and women, and entities owned by minorities and women, as required by 24 CFR 92.351. These affirmative marketing procedures shall be approved by the Department in accordance with the requirements of 24 CFR 92.351.

F. Section 504 of the Rehabilitation Act of 1973 and the "504 Coordinator"

The HOME Recipient agrees to implement the Rehabilitation Act of 1973, as amended, and its regulations, 24 CFR 8. For HOME Recipient's with 15 or more permanent, full-or part-time employees, this includes but is not limited to, the designation of a specific person charged with local enforcement of this Act, as the "504 Coordinator".

G. The Civil Rights and Age Discrimination Acts Assurances

During the performance of this Agreement, the HOME Recipient assures that no otherwise qualified person shall be excluded from participation or employment, denied program benefits, or be subjected to discrimination based on race, color, national origin, sex, age, handicap, familial status, religion, or belief, under any program or activity funded by this contract, as required by Title VI of the Civil Rights Act of 1964, the Fair Housing Act (42

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USC 3601-20) and all implementing regulations, and the Age Discrimination Act of 1975 and all implementing regulations.

H. The Training, Employment, and Contracting Opportunities for Business and Lower Income Persons Assurance of Compliance (Section 3)

- 1) The Work to be performed under this Agreement is on a project, or projects, assisted under a program providing direct federal financial assistance from HUD and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, (12 U.S.C. 1701u). Section 3 requires that to the greatest extent feasible, opportunities for training and employment be given to lower income residents of the project area and contracts for Work in connection with the project be awarded to businesses, which are located in, or owned in substantial part by persons residing in the area of the HOME project.
- 2) The parties to this agreement shall comply with the provisions of said Section 3 and the regulations issued pursuant thereto by the Secretary of HUD set forth in 24 CFR 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of this agreement. The parties to this Agreement certify and agree that they are under no contractual or other disability, which would prevent them from complying with these requirements.
- 3) The HOME Recipient shall send to each labor organization or representative of workers with which it has a collective bargaining agreement or other contract or understanding, if any, a notice informing the said labor organization or worker's representative of the HOME Recipient's commitments under the Section 3 clause and shall post copies of the notice in conspicuous places available to said employees and applicants for employment or training.
- 4) The HOME Recipient shall include these Section 3 clauses in every contract and subcontract for Work in connection with the project and shall, at the direction of the Department, take appropriate action pursuant to the contract upon a finding that the HOME Recipient or any contractor or subcontractor is in violation of regulations issued by the Secretary of HUD, 24 CFR 135, and shall not let any contract unless the HOME Recipient or contractor or subcontractor has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.
- 5) Compliance with the provisions of Section 3, the regulations set forth in 24 CFR 135, and all applicable rules and orders of the Department issued thereunder prior to the execution of the Agreement shall be a condition of the federal financial assistance provided to the HOME project, binding upon the HOME Recipient, its successors, and assigns. Failure to fulfill these requirements shall subject the HOME Recipient, its contractors and subcontractors, its successors, and assigns to those sanctions specified by the Agreement through which federal assistance is provided, and to such sanctions as are specified by 24 CFR 135.

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- I. Assurance of Compliance with Requirements Placed on Construction Contracts of \$10,000 or more. All solicitations for bids and all construction contracts and subcontracts of \$10,000 or more issued by the HOME Recipient are required to include the following:
 - 1) The Notice of Requirement for Affirmative Action to ensure Equal Employment Opportunity (Executive Order 11246) The HOME Recipient furthermore agrees to insert the appropriate Goals and Timetables issued by the U.S. Department of Labor in such contracts and subcontracts as required by Executive Order 11246;
 - 2) The Standard Equal Opportunity Clause (41 CFR 60 - 1.4); and,
 - 3) The Standard Equal Employment Opportunity Construction Contract Specifications (41 CFR) 60 - 4.3).

11. Environmental Review

The HOME Recipient shall comply with the National Environmental Policy Act (NEPA) contained in 42 USC 4321-4347 and the implementing regulations at 24 CFR 50 and 58. No actions by any party (including the HOME Recipient, the developer, owner, or sponsor) shall be undertaken for any activity that would have an adverse environmental impact or limit the choice of reasonable alternatives under 24 CFR 58.22 until HUD or the Department has issued an environmental clearance. Prior to the commitment of funds, the HOME Recipient shall submit to the Department the required NEPA documents for approval, unless the Department has waived this requirement in writing.

First-Time Homebuyer Acquisition with Rehabilitation (FTHB)

If the HOME Recipient is working under an existing FTHB Authority to use Grant Funds, the HOME Recipient must submit a project specific Appendix A and supporting documentation to the Department for review, prior to committing funds to the project; otherwise, a Statutory worksheet with supporting documentation is necessary.

Owner-Occupied Rehabilitation (OOR)

If the HOME Recipient is working under an existing OOR Authority to use Grant Funds, the HOME Recipient must submit a project specific Appendix A and supporting documentation to the Department for review, prior to committing funds to the project; otherwise, a Statutory Worksheet with supporting documentation is necessary.

12. Displacement, Relocation, and Acquisition

The HOME Recipient shall comply with the federal displacement, relocation, and real property acquisition rules governing the HOME Program, which are contained in the Uniform Relocation Act, with implementing regulations at 49 CFR 24; and Section 104 (d) of the Housing and Community Development Act of 1974, as amended, with implementing regulation at 24 CFR 92, and applicable State HOME Regulations.

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13. Labor Standards/Prevailing Wage

A. Federal Requirements

- 1) The HOME Recipient agrees to comply with the requirements of the United States Department of Labor and the Secretary of Labor in accordance with the Davis-Bacon and related Acts as amended, the provisions of Contract Work Hours and Safety Standards Act (40 USC 3701 et seq. (with implementing regulations at 29 CFR 5 and 29 CFR 1926) and all other applicable federal, state and local laws and regulations pertaining to labor standards insofar as those acts apply to the performance of this Agreement. The HOME Recipient agrees to comply with the Copeland Anti-Kick Back Act (18 USC 874 et seq. and 40 USC 276(c) with implementing regulations at 29 CFR 3). The HOME Recipient shall maintain documentation that demonstrates compliance with hour and wage requirements of this part. Such documentation shall be made available to the Department for review upon request.
- 2) All contracts for new construction or rehabilitation projects with twelve (12) or more HOME-assisted units shall comply with HUD requirements pertaining to such contracts and the applicable requirements of the U. S. Department of Labor regulations at 29 CFR 1, 3, 5, and 7, which govern the payment of wages and the ratio of apprentices and trainees to journey workers. If, however, there are wage rates imposed by State or local law that are higher than those required under such regulations, nothing herein is intended to relieve the HOME Recipient or any contractor/subcontractor of their obligation, if any, to require payment of the higher wage. The HOME Recipient shall cause or require to be inserted in full, in all such contracts subject to said regulations, provisions meeting the requirements of this paragraph, HUD's Federal Labor Standards Provisions form HUD-4010 (07/2003), or its revised replacement that meet the requirements of this paragraph. All said contracts shall also comply with the provisions of 24 CFR 92.354.

B. Department Requirements

- 1) When funds provided through this Agreement are used for construction work, or in support of construction work, the HOME Recipient shall ensure that the requirements of Chapter 1 (commencing with Section 1720) of Part 7 of the State of California Labor Code (State Labor Code) (pertaining to the payment of prevailing wages and administered by the California Department of Industrial Relations) are met.
- 2) For the purposes of this requirement "construction work" includes, but is not limited to, rehabilitation, alteration, demolition, installation or repair done under contract and paid for, in whole or in part with HOME funds. All construction work shall be done through the use of a written contract (the "construction contract") with a properly licensed building contractor incorporating these requirements. When the construction contract is between the HOME Recipient and a licensed contractor, the third party shall serve as the "awarding body." The construction contract and any amendments thereto shall be subject to the prior written approval of the Department. Prior to any disbursement of funds, including but not limited to, release of any final retention payment, the Department may require a certification

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from the awarding body that prevailing wages have been or will be paid as required by Section 1720 of the State Labor Code.

14. Lead-Based Paint Hazards

Assistance provided under this Agreement is subject to the Lead-Based Paint Poisoning Prevention Act and subsequent amendments; and to HUD Lead-Based Paint Regulations found at 24 CFR 35, et al.

15. Conflict of Interest

In the procurement of property and services, the HOME Recipient shall comply with the conflict of interest provisions in 24 CFR 85.36 for the procurement of property and with 24 CFR 84.42 for the procurement of services. In all cases not governed by these two sections, the HOME Recipient shall comply with 24 CFR 92.356. Section 24 CFR 92.356 prohibits, in part, that any employee, agent, consultant, officer or elected or appointed official, "who exercise or have exercised any functions or responsibilities with respect to activities assisted with HOME funds or who are in a position to participate in a decision making process or gain inside information with regard to these activities, may obtain a financial interest or benefit from a HOME-assisted activity, or have an interest in any contract, subcontract or agreement with respect thereto, or the proceeds thereunder, either for themselves or those with whom they have business or immediate family ties, during their tenure or for one year thereafter."

16. Interest of Certain Federal Officials

No member of or delegate to the Congress of the United States, and no resident commissioner, shall be admitted to any share or part of this Agreement or to any benefit to arise from the same.

17. Certification Regarding Lobbying (Byrd Amendment)

- A. The HOME Recipient shall require that the language of this certification be included in the award documents for all subawards (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.
- B. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and no more than \$100,000 for such failure.
- C. "The undersigned certifies, to the best of his or her knowledge and belief, that:
 - 1) No federal appropriated funds have been paid or shall be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal

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contract, grant, loan, or cooperative agreement.

- 2) If any funds other than federally appropriated funds have been paid or shall be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard For-LLL, Disclosure Form to Report Lobbying, in accordance with its instructions."

18. Bonus or Commission Prohibition

The assistance provided under this Agreement shall not be used in the payment of any bonus or commission for the purpose of obtaining Department approval of the application for such assistance, or Department approval of the applications for additional assistance, or any other approval or concurrence of the Department required under this Agreement, Title II of the Cranston-Gonzalez National Affordable Housing Act of 1990, or State regulations with respect thereto; provided, however, that reasonable fees for bona fide technical, consultant, managerial or other such services, other than actual solicitation, are not hereby prohibited if otherwise eligible as program costs.

19. Contractors and Subcontractors - State Requirements

- A. The HOME Recipient shall not enter into any agreement, written or oral, with any construction contractor without determination of the construction contractor's eligibility. A construction contractor or subcontractor is not eligible to receive HOME funds if not licensed and in good standing with the State of California.
- B. The Department reserves the right to review and approve any contracts or agreements executed by the HOME Recipient related to any HOME-assisted projects.
- C. The contract between the HOME Recipient and any construction contractor shall require the construction contractor and its subcontractors, if any, to:
 - 1) Perform the Work in accordance with federal, State and local housing and building codes as applicable;
 - 2) Provide security to assure completion of the project by furnishing the borrower and construction lenders with Performance and Payment Bonds, or other security approved in advance in writing by the Department;
 - 3) Comply with the applicable Labor Standards/Prevailing Wage Provisions of Paragraph 12 of this Exhibit;
 - 4) Comply with the applicable Equal Opportunity Requirements described in Paragraph 9 of this Exhibit;

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- 5) Maintain at least the minimum State-required Workers' Compensation Insurance for those employees who shall perform the Work or any part of it; and,
- 6) Maintain, if so required by law, unemployment insurance, disability insurance and liability insurance in an amount to be determined by the Department, which is reasonable to compensate any person, firm, or corporation who may be injured or damaged by the contractor or any subcontractor in performing the Work or any part of it.

20. Contractors and Subcontractors - Federal Non-Debarment Certification

- A. Preamble: As a condition of receipt of federal funds under this Agreement, the HOME Recipient and all of its contractors and their subcontractors are required to provide the certification set forth below in Paragraph E, and include this certification in their contracts.
- B. This certification is required by the federal government and contains terms defined in Executive Order 12549, a copy of which is available from the Department. Generally speaking, for purposes of this Agreement: (1) "prospective lower tier participant" refers to the HOME Recipient and any other party or person that shall receive funds from this Agreement, such as general contractors and their subcontractors; (2) "lower tier transaction" refers to contracts let by the HOME Recipient or HOME Recipient's contractors utilizing funds provided through this Agreement; and (3) "this proposal" refers to the HOME Recipient's HOME application and any bid or application from a prospective lower tier participant.
- C. By signing this Agreement, the HOME Recipient is providing the certification set forth below. The HOME Recipient shall provide immediate written notice to the Department if at any time the HOME Recipient learns that its certification was erroneous when submitted or has become erroneous.
- D. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions:
 - 1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency.
 - 2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.
- E. By signing this Agreement the HOME Recipient agrees that it shall not knowingly enter into any lower tier transaction with a person or entity that is proposed for debarment under 48 CFR 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in such transaction.
- F. By signing this Agreement, the HOME Recipient agrees that it shall include the above certification in all lower tier transactions to which it is a part; and it shall require that each of its contractors include the certification in their subcontracts.

EXHIBIT D

21. Faith-Based Activities

The HOME Recipient shall comply with the requirements of 24 CFR 92.257, which provide, in part, that "Organizations that are directly funded under the HOME Program may not engage in inherently religious activities, such as worship, religious instruction, or proselytization, as part of the assistance funded under this part." HOME funds and activities must be separate in time and location from explicitly religious activities.

22. Insurance

- A. The HOME Recipient shall have and maintain in full force and effect during the term of this contract:
 - 1) Comprehensive general liability insurance in the amount of not less than one million dollars (\$1,000,000);
 - 2) Worker's compensation insurance; and,
 - 3) Other forms of insurance, at such levels, as may be determined by the HOME Recipient and the Department to be necessary for specific components of the Work listed in Exhibit A.
- B. The HOME Recipient agrees to furnish satisfactory evidence of the above listed insurance coverage to the Department upon request. Insurance coverage shall not be canceled or changed unless written notice is sent to the State thirty days prior to the effective date of the action. The Department reserves the right to waive or modify these insurance coverage requirements upon demonstration of cause satisfactory to the Department, and contingent upon the HOME Recipient providing evidence of an alternative to conventional insurance sufficient to provide equivalent protection.

23. Records

- A. The HOME Recipient shall maintain the program, project, financial, program administration, and federal requirement records specified in 24 CFR 92.508 for inspection by the Department.
- B. All records specified in 24 CFR 92.508 shall be retained for the time periods specified in Section 28 below. These records shall include, but are not limited to the following: (i) a full description of each project assisted with HOME funds, including the location (address of each unit), form of HOME assistance, and the units or tenants assisted with HOME funds; (ii) the source and application of funds for each project, including supporting documentation in accordance with 24 CFR 85.20; and records to document the eligibility and permissibility of the project costs; (iii) records demonstrating that each project meets the minimum per-unit subsidy amount of 92.205(c), the maximum per-unit subsidy amount of 92.250(a), and the subsidy layering and underwriting evaluation adopted in accordance with 92.250(b); (iv) records (e.g., inspection reports) demonstrating that each project meets the property standards of 92.251 at project completion; (v) records demonstrating that each tenant-based rental assistance project meets the written tenant selection policies and criteria of 92.209 (c), including any targeting requirements, the rent reasonableness requirements of 92.209 (f), the maximum subsidy provisions of 24 CFR

EXHIBIT D

92.209(h), property inspection reports and calculation of the HOME subsidy and (vi.) records (written agreements) demonstrating compliance with the written agreement requirements in 92.504.

- C. If so directed by the Department upon termination of this Agreement, the HOME Recipient shall cause all records, accounts, documentation and all other materials relevant to the Work to be delivered to the Department as depository.

24. Reporting

- A. Commencing with the effective date of this Agreement and continuing through the acceptance of the Project Completion Report in IDIS and no later than thirty days after the end of each calendar quarter, the HOME Recipient shall submit a quarterly performance report to the Department on forms provided by the Department.
- B. For "Rental Project" and "First-Time Homebuyer Project" activities, commencing with the effective date of this Agreement and continuing through the acceptance of the Project Completion Report in IDIS and no later than the tenth business day of the following month, the HOME Recipient shall submit a "State HOME Project Monthly Status Report " to the Department on forms provided by the Department.
- C. Upon project completion, and annually thereafter during the required period of affordability, the HOME Recipient shall submit on an annual basis to the Department all HOME monitoring documentation necessary to ensure that HOME Recipients are in continued compliance with federal and State regulations. Such documentation requirements and the annual submission deadline shall be provided by the Department.
- D. Upon acceptance of the Project Completion Report in IDIS and throughout the affordability period, the HOME Recipient shall submit on July 1, and no later than July 31, an Annual Performance Report on a form provided by the Department.

25. Breach and Remedies

- A. The following shall constitute a breach of this Agreement:
- 1) HOME Recipient's failure to comply with the terms of this Agreement.
 - 2) HOME Recipient's failure to comply with, or HOME Recipient's failure to assure that all recipients of HOME funds comply with, applicable state and federal HOME rules and regulations.
 - 3) Use of, or permitting the use of, HOME funds provided under this Agreement for any ineligible costs or for activities not approved under this Agreement.
 - 4) Any failure to comply with the deadlines set forth in Exhibit A.
 - 5) HOME Recipient's failure to assure that the appropriate security documents and lien agreements applicable to the Work are executed and, where appropriate, recorded.

EXHIBIT D

- 6) HOME Recipient's failure to monitor the progress of the Work and the activities of any recipient of HOME funds provided under this Agreement in a commercially reasonable manner.
 - 7) HOME Recipient's failure to exercise commercially reasonable due diligence in the enforcement of the security documents and lien agreements.
 - 8) Lack of continued capacity to carry out the approved Work either on behalf of the HOME Recipient or by the HOME Recipient named in this Agreement.
- B. In addition to any other remedies that may be available to the Department in law or equity for breach of this Agreement, the Department, after written notice and reasonable time to cure, may:
- 1) Bar the HOME Recipient from applying for future HOME funds;
 - 2) Revoke any other existing HOME award(s) to the HOME Recipient;
 - 3) Withhold any funds remaining undisbursed under this Agreement;
 - 4) Require the return of any unexpended HOME funds disbursed under this Agreement;
 - 5) Require repayment of HOME funds disbursed and expended under this agreement;
 - 6) Require the immediate return to the Department of all funds derived from the use of HOME funds including, but not limited to program income, recaptured funds and returned funds; and,
 - 7) Require the HOME Recipient to assign the security documents and lien agreements for the Work to the Department.
- C. All remedies available to the Department are cumulative and not exclusive.

26. Inspections

- A. Before a project can be designated as completed in IDIS, the HOME Recipient shall perform an on-site inspection of all Work performed hereunder to ensure that the Work has been performed in accordance with the applicable federal, State and/or local requirements, the construction contract, and this Agreement. The HOME Recipient agrees to require that all Work found by such inspections not to conform to the applicable requirements be corrected, and to withhold payment to the construction contractor or subcontractor until it is so corrected.

EXHIBIT D

- B. The Department reserves the right to inspect the property at any time during the period of construction and throughout the period of affordability.

27. Project Site

Notwithstanding any provision in this Agreement, the parties hereto further agree and acknowledge that this Agreement does not constitute a commitment of funds or approval of a project site, and that such a commitment of funds or an approval of a project site may occur only upon satisfactory completion of environmental review and receipt by the HOME Recipient of a release from the Department.

28. Security Documents and Lien Agreements

HOME funds shall be disbursed in the form of loans except for funds disbursed for the purposes set forth in the Department HOME Regulations Section 8205(b)(2), which shall be provided in the form of a grant. The HOME Recipient shall ensure that all loans made by the HOME Recipient are evidenced by a promissory note, the repayment of which is secured by a deed of trust to be recorded on the property being assisted, or by other security approved by the Department in writing. The HOME Recipient agrees that all said documents shall be executed and where appropriate, recorded, prior to disbursement of funds to the project and shall contain the applicable minimum affordability period set forth in 24 CFR 92.252 and 92.254.

29. Audit/Retention and Inspection of Records

- A. The HOME Recipient agrees that the Department or its designee shall have the right to review, obtain, and copy all records and supporting documentation pertaining to performance of this Agreement. The HOME Recipient agrees to provide the Department or its designee with any relevant information requested and shall permit the Department or its designee access to its premises, upon reasonable notice, during normal business hours for the purpose of interviewing employees who might reasonably have information related to such records and inspecting and copying such books, records, accounts, and other material that may be relevant to a matter under investigation for the purpose of determining compliance with California Government Code Section 8546.7. The HOME Recipient further agrees to maintain such records for a period of five years after final payment under this Agreement, unless a longer period of records retention is stipulated.
- B. The HOME Recipient further agrees to retain all records for a period of five years after the final payment under this Agreement, or as specifically stipulated below.
- 1) Rental housing project records shall be retained for five years after the project completion date. The records that specify individual tenant income verifications, project rents and project inspections must be retained for five years after the affordability period terminates. Tenant-based rental assistance project records shall be retained for five years after the period of rental assistance terminates.
 - 2) Homeownership housing project records shall be retained for five years after the project completion date. The documents imposing recapture/resale restrictions must be retained for five years after the affordability period terminates.

EXHIBIT D

- 3) All written agreements must be retained for five years after this Agreement terminates.
 - 4) Records covering displacements and acquisition must be retained for five years after the date by which all persons displaced from the property and all persons whose property is acquired for the project have received the final payment.
 - 5) If any litigation, claim, negotiation, audit, monitoring, inspection or other action has been started before the expiration of the required record retention period, all records must be retained until completion of the action and resolution of all issues, which arise from it.
 - 6) The HOME Recipient also agrees to include in any contract that it enters into in an amount exceeding \$10,000, the Department's right to audit the contractor's records and interview their employees. The HOME Recipient shall comply with the caveats and be aware of the penalties for violation of fraud and for obstruction of investigation as set forth in California Public Code Section 10115.10.
- C. The determination by the Department of the eligibility of any expenditure shall be final.
- D. Pursuant to 24 CFR §85.26 and OMB Circular A-133, a HOME Recipient who received in excess of \$500,000 in federal funds annually, shall cause to be performed an annual single or program-specific audit conducted for that year by the close of each fiscal year in which this Agreement is in effect, of the following:
- 1) The financial statements and a schedule of federal awards and the auditor's report on the statements and the schedule;
 - 2) A written report of the independent auditor's understanding of the internal control structure and the assessment of control risk;
 - 3) The auditor's report on compliance; and,
 - 4) Other items as stipulated in OMB Circular A-133.
- E. The audit shall be performed by an independent certified public accountant. Selection of an independent audit firm shall be consistent with procurement standards contained in 24 CFR 85.36.
- F. The HOME Recipient shall notify the Department of the auditor's name and address immediately after the selection has been made. The contract for audit shall allow access by the Department to the independent auditor's working papers.

EXHIBIT D

- G. The HOME Recipient shall submit three copies of all required audit reports to the State Controller's Office within 30 days after receipt of the auditor's report, nine months after the end of the required audit period, unless a longer period is agreed to in advance, to:

State Controller's Office
Division of Audits
Single Audit Unit
3301 C Street, Suite 705
Sacramento, CA 95816

In addition, the HOME Recipient shall submit one copy of the audit report within the same time frame described in this paragraph to:

Federal Audit Clearinghouse
Bureau of the Census
1201 E. 10th Street
Jeffersonville, IN 47132

- H. The performance of this Agreement by the HOME Recipient shall be subject to examination and audit by the State Auditor pursuant to Government Code Section 8546.7.
- I. The HOME Recipient is responsible for the completion of audits and all costs of preparing audits.
- J. If there are audit findings, the HOME Recipient must submit a detailed response acceptable to the Department for each audit finding.
- K. The HOME Recipient shall retain all books and records relevant to this Agreement for a minimum of five (5) years after the project completion, as evidenced by the certificate of occupancy or submittal of the HUD-required Completion Report whichever is later; except that 1) records of individual tenant income verifications, project rents inspections shall be retained for the most recent five year period, until five years after the affordability terminates; and, 2) records relating to any and all audits or litigation relevant to this Agreement shall be retained for five years after the conclusion or resolution of the matter.

30. Signs

During the construction period of a project, the Department may place or require to be placed signs on the property stating that the HOME Program is providing financing. The signs shall indicate in a typeface and size commensurate with its funding that the Department is a source of financing for the project, through the HOME Program.

31. Special Conditions-Contractors/Sub Contractors

The HOME Recipient agrees to comply with all conditions of this Agreement including the Special Conditions set forth in Exhibit E. These conditions shall be met to the satisfaction of the Department prior to Project Set-Up or disbursement of funds, as appropriate. The HOME Recipient shall ensure that all contractors and/or subcontractors are made aware of and agree to comply with all of the conditions of this Agreement and the applicable federal and State requirements governing the use of HOME funds. Failure to comply with these conditions may

EXHIBIT D

result in cancellation of this Agreement.

32. Conditional Reservation of Funds

Notwithstanding any provision in this Agreement, the parties hereto agree and acknowledge that this Agreement constitutes a conditional reservation of funds.

33. Federal Property Management Standards

The HOME Recipient shall comply with the HUD property management standards as set forth in 24 CFR 85.31 and 85.32.

34. Eligible Uses of Program Income

Program **Income** may be retained by the HOME Recipient for the term of this Agreement provided the HOME Recipient is in full compliance with all applicable HOME program requirements. Per 24 CFR 92.500(c)(1), Program Income must be placed in an interest bearing local HOME account.

Program Income shall be used for eligible activities as specified in the federal HOME regulations and as more specifically described at 24 CFR 92.2 and 92.503. Recipient shall obtain advance HOME management approval for the use of Program Income, and shall comply with all HOME program requirements including advance HOME set-up and NEPA approval, shall expend all program income prior to reimbursement for new grant funds from HCD, and shall report on the use of Program Income quarterly.

35. State Contract Manual Requirements (Section 3.11, Federally Funded Contracts (Rev. 3/03):

- A. All contracts, except for State construction projects that are funded in whole or in part by the Federal government, must contain a 30-day cancellation clause and the following provisions:
- 1) It is mutually understood between the parties that this contract may have been written for the mutual benefit of both parties before ascertaining the availability of congressional appropriation of funds to avoid program and fiscal delays that would occur if the contract were executed after that determination was made.
 - 1) This contract is valid and enforceable only if sufficient funds are made available to the State by the United States Government for the purpose of this Program. In addition, this contract is subject to any additional restrictions, limitations, or conditions enacted by the Congress or to any statute enacted by the Congress that may affect the provisions, terms, or funding of this contract in any manner.
 - 2) The parties mutually agree that if the Congress does not appropriate sufficient funds for the program, this contract shall be amended to reflect any reduction in funds.
 - 3) The department has the option to invalidate the contract under the 30-day cancellation clause or to amend the contract to reflect any reduction in funds.

EXHIBIT D

- A. Exemptions from provisions A.1 through A.4 above may be granted by the Department of Finance provided that the director of the State agency can certify in writing that Federal funds are available for the term of the contract.
- B. GC § 8546.4(e) provides that State agencies receiving Federal funds shall be primarily responsible for arranging for Federally required financial and compliance audits, and shall immediately notify the Director of Finance, the State Auditor, and the State Controller when they are required to obtain Federally required financial and compliance audits.

EXHIBIT E

SPECIAL TERMS AND CONDITIONS

These Special Conditions are specific for this Standard Agreement.

1. None.



June 8, 2020

Tony Noia
HOME Program Representative
Department of Housing and Community Development
2020 W. El Camino Ave. Room 200
Sacramento, CA 95833

Re: Request for Time Extension Amendment- City of Ukiah 16-HOME-11376

Dear Mr. Noia:

The City of Ukiah respectfully requests an amendment to City of Ukiah 16-HOME-11376, to extend the program funds expenditure deadline one year from July 31, 2020 to July 31, 2021.

There have been major impacts to Ukiah's economy from the effects of the COVID-19 shelter in place orders. As the county seat of Mendocino County, Ukiah is a regional employment and services hub, and the shutting down of our businesses has had a devastating effect on the ability of households, especially lower-income households, to afford their monthly housing payments.

Extending the City's 16-HOME-11376 standard agreement expenditure deadline one year will enable the City to deploy resources through the Tenant Based Rental Assistance program and First Time Homebuyer program to assist our lower-income residents most in need at this time.

We hope you will assist us by granting this request. If you have additional questions, please contact Craig Schlatter, Community Development Director, at (707) 463-6219 or cschlatter@cityofukiah.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sage Sangiacomo", is written over the word "Sincerely,".

Sage Sangiacomo
City Manager

CC: Douglas F. Crane, Mayor
Shannon Riley, Deputy City Manager
Daniel Buffalo, Finance Director
Craig Schlatter, Community Development Director

City of Ukiah

**HOME Investment Partnerships Program
California Department of Housing & Community Development**

Serving the Ukiah Valley
Ukiah, Calpella, Potter Valley, Redwood Valley, Talmage

HOME TENANT-BASED RENTAL ASSISTANCE PROGRAM ("TBRA") PROGRAM GUIDELINES

WITH HUD COVID-19 WAIVERS



HCD Certificate Model Version: 2018

Approved by HCD HOME (Original): 1/16/2019

Approved by HCD HOME (Revised): _____

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City of Ukiah
HOME TENANT-BASED RENTAL ASSISTANCE (“TBRA”)
WITH HUD COVID-19 WAIVERS

I. INTRODUCTION

These Program Guidelines have been developed by the California Department of Housing and Community Development (HCD) based on the Section 8 Housing Assistance Program (HAP) operated by the U.S. Department of Housing and Urban Development (HUD), and have been adopted for the implementation of the City of Ukiah HOME Tenant-Based Rental Assistance Security and Utility Deposit Assistance Program (hereinafter referred to as “TBRA Program”).

Conflict of Interest Requirements

In accordance with 24 CFR Section 92.356 of the HOME Investment Partnerships (HOME) Final Rule, the following will apply:

(a) Conflicts prohibited. No persons described in paragraph (b) of this section who exercises or has exercised any functions or responsibilities with respect to activities assisted with HOME funds or who are in a position to participate in a decision making process or gain inside information with regard to these activities, may obtain a financial interest or benefit from a HOME-assisted activity, or have a financial interest in any contract, subcontract or agreement with respect to the HOME-assisted activity, or the proceeds from such activity, either for themselves or those with whom they have business or immediate family ties, during their tenure or for one year thereafter. Immediate family ties include (whether by blood, marriage or adoption) the spouse, parent (including stepparent), child (including stepchild), brother, sister (including a stepbrother or stepsister), grandparent, grandchild and in-laws of a covered person.

(b) Persons covered. The conflict of interest provisions of paragraph (a) of this section apply to any person who is an employee, agent, consultant, officer, or elected official or appointed official of the participating jurisdiction, State recipient, or subrecipient which are receiving HOME funds.

(c) Exceptions: Threshold requirements. Upon the written request of the participating jurisdiction to HCD, HUD may grant an exception to the provisions of paragraph (a) of this section on a case-by-case basis when it determines that the exception will serve to further the purposes of the HOME Investment Partnerships Program and the effective and efficient administration of the participating jurisdiction's program or project. See 24 CFR 92.356(d)(1-6) for details on the documentation needed in order to submit an exception request to HCD.

Participating Agencies

The City of Ukiah TBRA Program will be administered by the City of Ukiah Community Development Department, Housing Division (hereinafter referred to as “Program Operator”). Note: The term “Program Operator” used throughout this document refers to the Program Administrator named above.

Fair Housing

The Fair Housing Lender and Accessibility logos will be placed on all outreach materials. The Program Operator will follow affirmative marketing procedures that provide information, through the implementation of an outreach marketing program to attract all eligible persons without regard to race, color, national origin, sex, sexual orientation, gender identity, age, religion, disability, and familial status. Affirmative marketing plans and procedures shall be approved by HCD. Fair housing marketing actions will be based upon a characteristic analysis comparison (census data may be used) of the TBRA Program's eligible area compared to the ethnicity of the population served by the TBRA Program (includes, separately, all applications received and those receiving assistance) and an explanation of any underserved segments of the population. This information is used to show that protected classes (age, gender, ethnicity, race, and disability) are not being excluded from the TBRA Program. Flyers or other outreach materials, in English and any other language that is the primary language of a significant portion of the area residents, will be widely distributed in the TBRA Program-eligible area.

II. ELIGIBILITY

The TBRA Program will be available in areas located in the Ukiah Valley. This includes the incorporated area of the City of Ukiah and portions of Mendocino County unincorporated areas as described below:

Talmage
Redwood Valley
Potter Valley
Calpella
Ukiah (unincorporated areas)

Preference will be given to applicants who reside or work in the City of Ukiah.

Optional Self-Certification of Income During HUD Waiver Period

Under the HUD issued waivers for COVID-19, households can opt to provide a written self-certification of income which includes, except in the case of homeless households, an explanation of the economic impact of COVID-19 on the household. If a household opts to utilize this alternative method of income documentation, they must either complete the traditional income verification process, as described below, by the end of the HUD waiver period or the TBRA rental assistance will terminate. This waiver ends on December 31, 2020, unless extended by HUD and HCD.

Income Qualification Criteria

Projected gross annual income of the applicant household will be used to determine whether it is above or below the published HCD income limits. Income qualification criteria, as shown in the most recent HCD program-specific guidance at <http://www.hcd.ca.gov/grants-funding/income-limits/income-calculation-and-determination-guide.shtml>, will be followed to independently determine and certify the household's gross annual income. Income will be verified by reviewing and analyzing

tax returns, copies of wage receipts or paystubs, subsidy checks, bank statements and third-party verification of employment forms sent to employers. All documentation shall be dated within six (6) months prior to assistance, at a minimum, be recent, cover a consecutive two (2) month period.

Note: For households participating in a HUD Section 8 Housing Assistance program or other Low and Moderate Income program in which a Part 5 Income Certification has been conducted, no separate income certification will be required through the City's HOME TBRA Program provided that the applicant household has an approved application and can demonstrate an income certification was completed within the last 90 days by the HUD or other program sponsor.

A. HOUSEHOLD INCOME DEFINITION:

Household income is the gross annual income of all adult household members that is projected to be received during the coming 12-month period, and will be used to determine TBRA Program eligibility. Refer to Income Inclusions and Exclusions for further guidance to the types of incomes to be included or excluded when calculating gross annual income. For those types of income counted, gross amounts (before any deductions have been taken) are used, and the types of income that are not considered would include income of minors or live-in aides. Certain other household members living apart from the household also require special consideration. The household's projected ability to pay must be used, rather than past earnings, when calculating income.

The Part 5 Annual Income Inclusions and Exclusions list is attached to these guidelines as **ATTACHMENT A**. In addition, the link to HUD's Annual Income and Exclusions chart is:

http://www.hcd.ca.gov/grants-funding/income-limits/income-calculation-and-determination-guide/docs/AppendixB_AnnualIncomeInclusionsExclusions.doc

B. ASSETS:

There is no asset limitation for participation in the TBRA Program. Income from assets is, however, recognized as part of annual income under the Part 5 definition. An asset is a cash or non-cash item that can be converted to cash. The value of necessary items such as furniture, clothing and automobiles are not included. *(Note: it is the income earned – e.g. interest on a savings account – not the asset value, which is counted in annual income.)*

An asset's cash value is the market value less reasonable expenses required to convert the asset to cash, including penalties or fees for converting financial holdings and costs for selling real property. The cash value (rather than the market value) of an item is counted as an asset.

Part 5 Asset Inclusions and Exclusions is attached to these guidelines as **ATTACHMENT B**. The link to Asset Inclusions and Exclusions is: http://www.hcd.ca.gov/grants-funding/income-limits/income-calculation-and-determination-guide/docs/AppendixB_AnnualIncomeInclusionsExclusions.doc

Eligible Families – Income and Assets

Most applicants must have household incomes at or below sixty percent (60%) of the applicable County's area median income (AMI), adjusted by household size, as published by HCD each year (see **ATTACHMENT C**). The link to current area median incomes adjusted by household size is: <http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits.shtml>

However, the TBRA Program may provide assistance to up to ten percent (10%) of its assisted households with incomes at or below eighty percent (80%) of County's AMI, under each HOME contract.

"Household" means one or more persons who occupy a housing unit. Subject to the exemptions allowed in the "**Income Determination Guide**", all persons, including unborn children, and including non-related individuals, will be considered household members for purposes of determining income eligibility.

All adult applicants must certify that they meet the household income eligibility requirements for the TBRA Program and have their household income documented. The income limits in place at the time the applicant(s) eligibility is certified will apply when determining applicant income eligibility.

Preference within 12 Months of Pandemic

Within 12 months of a federal declaration of a disaster due to a pandemic, preference shall be given to applicants who satisfy each of the following criteria:

- The household has experienced a documented decrease in total gross monthly household income of at least 30% because of the pandemic.
- The household is currently renting or leasing a unit pursuant to a written rental agreement.
- The owner of the unit is willing to enter into a rental assistance agreement through the TBRA Program for this applicant and unit.
- The rental unit satisfies the TBRA Program requirements.

General TBRA Program Design

The City's TBRA Program is designed to assist eligible tenants with the payment of rent, security deposits, and utility deposits. All TBRA assistance will be made in the form of a grant, and will not have to be repaid.

NOTE: Assistance under the TBRA Program will consist of one 12-month term and is not subject to renewal if funding is available. The minimum term of assistance will be

12 months unless a shorter term of as few as six months is requested by the household.

Rent Standards

Rent Standard During Waiver Period

During the HUD waiver period, provided the applicant has demonstrated an economic impact of at least 30% from the COVID-19 pandemic, the applicant may request the Program pay the landlord for any unpaid rent and/or late charges incurred after March 13, 2020, through the date the Program's rent subsidy begins for the applicant. The Program shall not reimburse the participants for any rent previously paid by participants to the landlord during this time period. Additionally, during the HUD waiver period, the Rent Standard cap is waived. Instead, the participant shall pay 30% of their income towards housing costs (rent and utility allowance) and the rental subsidy shall make up the difference. At the end of the HUD Waiver period, the rental subsidy shall be recalculated using the Rent Standard, employing the process described below. After the end of the HUD Waiver Period, no assistance will be paid for a unit if the participant's share of the housing cost exceeds the percentages of income described below and the housing cost exceeds the Rent Standard.

Rent Standard Outside of Waiver Period

The TBRA Program has adopted a Schedule of Rent Standards (also known as Payment Standards) in accordance with the method identified in HOME Final Rule Section 92.253(h)(3)(ii). Rent Standards will be updated annually and attached hereto as **ATTACHMENT D**. These Rent Standards will represent the highest gross rent (unit rent plus Utility Allowance) that can be approved for TBRA assistance.

Utility Allowances

The TBRA Program has elected to utilize the project-specific utility schedule in which the housing unit is located, when available. If none is available for a given unit, the local Public Housing Authority's Schedule of Utility Allowances will be utilized. The utility allowances for affected tenants will be determined by obtaining a copy of the current utility allowance schedule for the project in which the housing unit is located or the published local Public Housing Authority Schedule.

Rental Security Deposits

The TBRA Program may approve the payment of a rental security deposit to the landlord for new rentals where the program recipient has less than six months of gross income in their checking/savings accounts, and where the lease between the landlord and tenant is for at least one year. The amount of the security deposit may not exceed the equivalent of two month's rent for the unit. Rental security and utility deposits are grants and not loans, and shall therefore be returned to the tenant at the end of the rental agreement.

Rental Assistance Subsidy Amounts

Except during the waiver period, the monthly rental subsidy for each household will be the difference between the Gross Rent (approved rent plus the utility allowance, if any) and either thirty percent (30%) of the household's adjusted monthly income or 10% of the household's gross monthly income, whichever is more. The amount the tenant must pay monthly is known as the Total Tenant Payment ("TTP").

Examples for Calculating Tenant and Program Payment

The Smith household has been income certified and is eligible for assistance. Based on their household composition they are eligible for a two-bedroom unit. Their Gross Annual Income is \$22,500 and their Adjusted Gross Annual Income is \$18,300. Thirty percent (30%) of their adjusted Gross Monthly Income is \$458. The current TBRA Payment Standard for a two-bedroom unit is \$775. The current utility allowance is \$100. Since 10% of their Gross Annual Income is less than 30% of their Adjusted Gross Annual Income, the adjusted income is used in these examples.

EXAMPLE 1: Unit Rents for \$725 with **all** utilities included

The Smiths must pay \$458 monthly TTP	Approved Rent:	\$725
(30% of adjusted gross monthly	Less TTP (all for rent)	(458)
Income, so $\$18,300/12 \times 0.30 = \458)	Program payment for rent	<u>\$267</u>

Note: In this first example, since all utilities are included, there is no Utility Allowance, so the whole TTP goes toward rent.

EXAMPLE 2: Unit Rents for \$625 with **some or no** utilities included

The Smiths must pay \$458 monthly TTP	Approved Rent:	\$625
(30% of adjusted gross monthly	Plus Utility Allowance	<u>100</u>
Income, so $\$18,300/12 \times 0.30 = \458)	Equals Total rent/utilities	\$725
	Less TTP (\$100 for utilities	
	and \$358 for rent)	(458)
	Program Payment for rent	<u>\$267</u>

Note: In this second example, the Total Tenant Payment of \$458 is split between the utility allowance amount (for non-included utilities, using the applicable Utility Allowance Schedule) and the tenant's share of the rent.

Utilizing the same rents and utility allowances as in the previous two examples, there are occasionally circumstances in which the Total Tenant Payment is so low that it will not even cover the estimated cost of utilities. Performing the analysis assuming the Smith household's Gross Annual Income and Adjusted Gross Annual Income are both \$3,000 results in the following:

EXAMPLE 3: Unit Rents for \$625 with **no** utilities included (less income)

The Smiths must pay \$75 monthly TTP	Approved Rent:	\$625
(30% of adjusted gross monthly		
Income, so $\$3,000/12 \times 0.30 = \75)	Plus Utility Allowance	<u>100</u>
	Equals Total rent/utilities	\$725
	Less TTP (\$75 for utilities	
	and \$0 for rent)	(75)
	Equals monthly subsidy	<u>\$650</u>

	Less Program rent pmt.	<u>(625)</u>
	Equals Program payment	
(\$100 Utility Allowance less \$75 paid by tenant)	to tenant for utilities	<u>\$ 25</u>

Note: In this third example, the Total Tenant Payment of \$75 isn't enough to cover the estimated utility expenses. The TBRA Program therefore pays all of the rent for the unit and a Utility Reimbursement to the tenant to cover the portion of the estimated utilities that exceed 30% of their adjusted income.

III. APPLYING FOR ADMISSION

How to Apply

Families may apply for assistance by completing and submitting an application package to the City of Ukiah Community Development Department, Attn: Housing Division.

Completion of an Application

Upon completion of the application, an interview appointment will be scheduled. The interview appointment may be conducted in person or by telephone.

Applicants are responsible for rescheduling interview appointments when the original appointment is missed. If the Applicant does not reschedule and misses two consecutive interview appointments, the application may be rejected.

- At a minimum, the head of household will be required to attend the interview appointment. All adult household members must sign the Applicant/Tenant Certification Form in order for the application to be considered complete.
- Information provided by the Applicant to be verified includes information on household composition, income, allowances and deductions, preference status, full-time student status, and other factors relating to eligibility before being issued a TBRA Eligibility Agreement.
- Third-party verifications shall be obtained by telephone or by the method described in the note below. When telephone requests are unsuccessful, the Program Operator will make adequate effort to ensure the third party is a valid source by documenting and including in the tenant's file the following information: Third-party's name, attempted contact person and contact information; name of the person who attempted the telephone interview; and date and time of the telephone call.
- Note: For Applicants participating in a HUD Section 8 Housing Assistance program or other Low and Moderate Income program in which a Part 5 Income Certification has been conducted, no separate income certification will be required through the City's HOME TBRA Program provided that the applicant household has an approved application and can demonstrate an income certification was completed within the last 90 days by the HUD or other program sponsor.

If additional information is needed to determine eligibility, a request will be sent to the Applicant, detailing the necessary additional information, which must be submitted within 10 working days. If no response is received within 10 days, a second request will be sent, allowing an additional 10 days to respond. If no response is received to the second request for additional information, an ineligibility letter will be sent. After the verification process is completed, the Program Operator will make a final determination of eligibility based on verified data.

IV. OCCUPANCY STANDARDS

All units occupied by households receiving TBRA assistance must meet the Housing Quality Standards found at 24 CFR 982.401 at the time of initial occupancy and throughout assisted tenancy.

Size of Units

Households meeting the preference criteria may remain in their units and be assisted in place; however, if they elect to select a different unit, the following occupancy standards shall apply.

The occupancy standard for the TBRA Program is two persons per sleeping area. The standards prescribed will apply to the majority of families. However, in some cases the relationship, age, sex, health, or disability of a household member may warrant the assignment of a larger unit. Exceptions for larger units may be granted within the following guidelines:

- Unborn children shall be included in the size of the household;
- Persons with verifiable medical needs;
- Other extenuating circumstances;
- Foster children are included when determining unit size (but not for household size for income limits evaluation);
- Space will not be provided for a household member who is absent more than 90 consecutive days (e.g., member of the military);

The following provides guidance on over-crowding and under-crowding:

<u>Unit Size</u>	<u>Min. # of Persons</u>	<u>Max. # of Persons</u>
1-BDR.	1	2
2-BDR.	2	4
3-BDR.	3	6
4-BDR.	4	8

Permanently Absent

If any adult member of a household leaves the unit for more than ninety (90) days, that adult member will be considered permanently absent from the unit. A remaining adult member of the household must report, in writing within ten (10) days, the

change in household composition to the property manager and the Program Operator, who will then remove the absent adult as a household member.

Visitors

Any adult not included on the application that is in the unit for thirty (30) consecutive days without the written approval of the Program Operator will be considered to be living in the unit as an unauthorized household member.

Absence of evidence of a verifiable address will be considered verification that the visitor is a member of the household.

Statements from neighbors and/or the landlord will be considered in making a determination.

The burden of proof that an individual is a visitor rests on the household. In the absence of such proof, an individual will be considered an unauthorized member of the household and the Program Operator may terminate assistance if prior approval was not requested for the addition.

In a joint physical custody arrangement, if a minor is in the household less than 183 days per year (50% of the year), the minor will be considered to be an eligible visitor and not a household member.

Change in Household Composition

The Program Operator will verify changes in household composition (either reported or unreported). However, the burden of proof that an individual has moved ultimately rests on the household.

Change in Ownership

A change of ownership will be processed upon receipt of evidence of ownership, and a Letter of Authority Transfer, if applicable. Prior to the change of ownership taking effect, any payments made to the previous owner will be the responsibility of the new owner to recover.

Participant Relocation

Household relocation shall be limited. A household may move to a new unit during the lease only:

- When a mutual agreement between the owner and the tenant has been signed; or
- For good cause (the recipient must provide documentation such as police reports, court order, etc.)

In either case, the recipient must provide proper notice (30-day written notice) to the Program Operator and the Property Manager prior to initiating a move.

V. TBRA ELIGIBILITY AGREEMENT ISSUANCE AND BRIEFINGS

Purpose of Briefings

The purpose of the briefing is to provide new participants with the information found in the TBRA Eligibility Agreement (**ATTACHMENT E**). This will ensure that all Participants are aware of their responsibilities and the ramifications if they fail to comply.

Attendance Requirement

The head of household is required to attend a briefing to receive TBRA assistance.

Format

Briefings can either be in a group or held individually.

The TBRA Eligibility Information briefing shall cover the following:

- Procedures for notifying the Program Operator of abuses such as side payments or other overcharges and Housing Quality Standard violations in the unit;
- The HUD brochure on lead-based paint (Protect Your Family From Lead in Your Home) and information about where blood level testing is available, for units built prior to 1978.
- Conditions and procedures for notifying the Program Operator of changes which may occur between annual re-examinations;
- Conditions in the lease addendum under which tenancy may be terminated; and
- Conditions under which TBRA Housing Program assistance may be terminated.

Household Obligations

While the relationship between the tenant and landlord is the same as in the private housing market, the TBRA Housing Program participants have the following additional obligations:

1. The household must supply any information that is determined to be necessary in the administration of the TBRA Program, which may include rental history including any evictions, credit history, and criminal background information. The Program Operator may reject an applicant based on the information provided.
2. Any guest or household member who causes damages beyond normal wear and tear will be the responsibility of the household. If Housing Quality Standards (HQS) failures are determined to be caused by a tenant or guest, it will be the tenant's responsibility to correct. If the failure is life-threatening, the tenant must correct the defect within 24 hours. For other tenant-caused failures/defects, the tenant must correct the defect within 30 calendar days (or by a Program-approved extension).
3. The members of the household must not commit fraud, bribery or any other corrupt or criminal act in connection with the TBRA Program.

Discretion to Deny or Terminate Assistance

In deciding whether to deny or terminate assistance because of action or failure to act by members of a household, the Program Operator has the discretion to consider all of the circumstances in each case, including the seriousness of the case and the extent of participation or culpability of individual household members. The Program Operator may also review the household's more recent history and record of compliance, and the effects of denial or termination of assistance on other household members who were not involved in the action or failure to act.

The Program Operator may impose, as a condition of continued assistance for other household members, a requirement that household members who participated in or were culpable for the action or failure to act will not reside in the unit. The Program Operator may permit the other members of the household to continue in the TBRA Program.

Term of the TBRA Eligibility Agreement

A newly-issued TBRA Eligibility Agreement will be valid for a period of sixty (60) days from the date of issuance.

Joint Custody of Children

Children who are subject to a joint custody agreement will be considered members of the household if the applicant has at least 50% legal and physical custody of the minor as evidenced by legal documentation.

Alimony and Child Support

Regular alimony and child support payments are counted as income. If the amount of child support or alimony received is less than the amount awarded by the court, the Program Operator will use the amount awarded by the court unless the household can document non-receipt or receipt of a lower amount.

TBRA Housing Authorization Determination for Split Households

In cases where a household assisted by the TBRA Program becomes divided into two households due to divorce, legal separation, or the division of the household, the TBRA Program will recertify the household members remaining in the assisted unit to determine eligibility and the level of assistance.

Initial, Annual and Interim Examinations

The Program Operator will perform initial, annual and interim examinations, as required.

Annual Re-examinations

Households will be notified in writing 120 days in advance of the scheduled effective date of the re-examination. The Program Operator will use the same procedures for obtaining and verifying information that were used at admission. The Program Operator will compare the information the household reports against the household's most recent re-examination to identify any discrepancies and ask the household to explain them.

The following procedures will be followed for each re-examination:

- Re-verification of household income and composition;
- Unit inspection;
- Rent reasonableness verified, if the landlord is requesting a rent increase;
- The owner and household are notified of tenant contribution increase at least 30 days prior to the effective date.

The head of household, and any additional adult living in the unit must have a current Form HUD-9886, *Authorization for Release of Information/Privacy Act Notice*, on file any time verification of income is to be determined.

Households and owners will be notified of the results of the re-examination and effective date of any changes.

Reporting Changes Between Regularly-Scheduled Recertifications:

If any of the following changes occur, the Resident agrees to advise management and the Program Operator within ten (10) days:

- Any household member moves out of the unit;
- The household proposes to move a new member into the unit;
- An adult member of the household who was reported as unemployed on the most recent certification (or recertification) obtains employment;
- The household's income cumulatively changes by ten percent (10%) or more a month.

Interim Examinations

If an interim re-examination indicates that the tenant rent will be reduced or increased by ten percent (10%) or more, changes may take effect the first of the month following the determination, allowing for a 30-day notification to the tenant. If the change is less than ten percent (10%), no interim recertification will be processed, but the documentation will become part of the tenant file.

Households and owners will be notified of the results of the re-examination and effective date of any changes.

VI. LEASE ADDENDUM AND HOME RENTAL ASSISTANCE CONTRACT (HRA CONTRACT) EXECUTION AND ADDENDUM

Lease Addendum

Prior to commencement of the TBRA Program assistance, the Program Operator requires that the Program's Lease Addendum (**ATTACHMENT F**) and its Additional Lease Addendum (**ATTACHMENT G**) be executed by the landlord and tenant.

HOME Rental Assistance Contract (HRA Contract)

The HRA Contract is a contract between the Program Operator and an owner. In the HRA Contract for the TBRA Program, the owner agrees to lease a specified dwelling unit to a specified eligible household, and the TBRA Program agrees to make monthly housing assistance payments to the owner for the household. The TBRA

Program HRA Contract is based on the HAP Contract used for the Section 8 Housing Assistance Program. A copy of the TBRA Program's HRA Contract is attached as "**ATTACHMENT H.**" The term of the lease between the owner and the tenant may not expire before the term of the TBRA assistance.

Prior to HRA Contract execution, the Program Operator will ensure:

- That the income information is not more than 180 days old for participants;
- That owners provide their current address of residence or business, and proof of ownership of the property;
- That if there is not an existing lease, the landlord offer the tenant a one-year lease per HOME requirements, or provide evidence of a rejection of that offer in favor of a shorter lease for at least the HOME assistance term;
- That a Letter of Transfer of Authority is available if a management agent manages the property; and
- That Rent Reasonableness has been verified per the following procedures.

Rent Reasonableness

The Program Operator will make a determination as to the reasonableness of the rent the owner is proposing in relation to comparable units on the private unassisted market. The market area for rent reasonableness comparables shall include the similar areas of the city or county where the proposed rental is located.

Rent reasonableness determinations are made when units are placed under HRA Contract for the first time and when owners request annual or special contract rent adjustments. The Program Operator will certify and document in the tenant file that the approved rent:

- Does not exceed rents charged by the owner for comparable unassisted units in the private market; and,
- Is reasonable in relation to rents charged by other owners for comparable units in the private market.

The items used for rent reasonableness documentation include:

- Square footage;
- Number of bedrooms;
- Number of bathrooms;
- Location;
- Unit type;
- Quality;
- Amenities;
- Facilities;
- Date built; and,
- Management and maintenance services.

Documentation of the rent reasonableness study for each unit leased will be maintained by the Program Operator. The Program Operator will maintain a file(s) that includes comparable data on unassisted units in the private market, and will compare the subject unit against selected units in the same area with similar

characteristics. Adjustments will be made for favorable and unfavorable differences between the subject unit and the comparables. The information on unassisted units will be updated on an annual basis.

VII. HOUSING QUALITY STANDARDS

Under the HUD issued waivers under COVID-19, initial HQS inspections will be waived upon request as long as the following criteria can be met:

- The City's inspector must be able to visibly inspect the unit using technology to ensure the unit meets HQS and local building codes before assistance is provided.
- The City must physically inspect the unit within three months after health officials remove special measures to prevent the spread of COVID-19.
- If the unit is pre-1978 construction, the City inspector must be able to verify by visual inspection (which can be via technology) that there is no disturbed lead-based paint.
- The owner and tenant must sign a form verifying that to the best of their knowledge the unit meets HQS and local building codes.

Upon City inspection, if the unit does not pass, the owner must make the required repairs within the time period specified below or assistance on the unit shall terminate.

Within 120 days of the end of the COVID waiver period, any units that are still being assisted but that did not have physical inspections must be physically inspected and found to meet HQS and local building codes. If the unit has not passed inspection by 120 days after the end of the waiver period, the assistance for the unit shall terminate.

Policy

No unit will be placed on the TBRA Program unless Housing Quality Standards (HQS) and applicable local building codes are met, in accordance with 24 CFR 982.401. The units must continue to meet these standards as long as the household is on the TBRA Program. Lead-based paint requirements will apply to all units constructed prior to 1978. The TBRA Program adheres to the acceptability criteria in HUD Section 8 Housing Assistance program regulations for Housing Quality Standards ("**ATTACHMENT I**"). Current HQS Inspection Forms are attached as "**ATTACHMENT J**".

All Housing Quality Inspections will be performed by the Program Operator (or its designee).

There are four types of inspections:

- Initial
- Annual
- Special

- Move-out: Move-out inspections will be completed within 15 working days when requested by either the tenant or landlord.

Clearing Deficiencies

At initial and annual inspections, the owner will be given not more than 30 days to correct the items noted as “fail”. Extenuating circumstances could, with Program Operator approval, extend the time limit allowed to correct the items. The owner may be allowed two re-inspections for repair work to be completed (at inspector’s discretion) depending upon the complexity of work to be done. If, after the inspections, the unit still fails HQS, the household will be required to find another unit if it wishes to remain on the TBRA Program.

Owner Fails to Correct HQS Items

If the HRA Contract is terminated due to the owner’s failure or refusal to correct the failed items, and the current TBRA Program tenant was required to move to another unit to continue receiving TBRA Program assistance, the Program Operator will not approve the vacated unit for a new TBRA Program tenant for a minimum of one year, and only upon receiving a written assurance from the owner that they will fulfill the requirements of the minimum HQS in the future.

Request for Special Unit Inspection

A landlord/owner, tenant, or the Program Operator may request to have the tenant’s unit inspected prior to the re-examination date. The Program Operator or its designee will schedule the inspection within ten (10) working days of the request.

VIII. DENIAL OR TERMINATION OF ASSISTANCE

Tenant Fraud

If the household has knowingly committed fraud in connection with the TBRA Program, the Program Operator may terminate assistance and cancel the HRA contract.

If the household has misrepresented income, assets, or allowances, which would have caused an increase in the tenant portion of the rent, the Program Operator will make every effort to recover any overpayment made as a result of tenant fraud or abuse.

If the household intentionally, willingly, and knowingly commits fraud or is involved in any other illegal scheme with the owner, the Program Operator may deny assistance.

Landlord Fraud

If a landlord has committed fraud or misrepresentation in connection with the TBRA Program, the Program Operator will terminate the contract and review the circumstances and household’s involvement to determine if the household is eligible to relocate to another unit with continuation of assistance.

The Program may bar the landlord from participation in the TBRA Program for breach of the HOME TBRA Contract.

The Program Operator will make every effort to recover any overpayments made as a result of landlord fraud or abuse.

Lease Violations

Termination of tenancy or failure to renew leases will only be permitted for the following reasons:

- Tenants have serious or repeated violations of the terms and conditions of the lease.

The following criteria will be used to decide if a serious or repeated violation of the lease will result in termination of assistance:

- If the owner terminates tenancy through court action for serious or repeated violation of the lease;
- If the owner notifies the household of termination of tenancy for serious or repeated lease violations, and the household moves from the unit prior to the completion of court action.
- If there are police reports, neighborhood complaints or other third party information, that has been verified by the Program Operator.
- Tenants were part of a transitional housing program and completed their allowable transitional housing period; or,
- Other “good cause” exists for termination of the tenancy.

Dispute Resolution and Appeals Procedure

Any applicant denied assistance from the Program has the right to appeal. Complaints concerning the Program should be made to the Program Operator first. If unresolved in this manner, the complaint or appeal must be made in writing and filed with the Sponsor. The Sponsor will then schedule a meeting with the Assistance Review Committee. Their written response will be made within thirty (30) working days. If the applicant is not satisfied with the Committee's decision, a request for an appeal may be filed with the Sponsor's governing body. Final appeal must be filed in writing with HCD within one year after denial.

ATTACHMENT A

24 CFR Part 5 ANNUAL INCOME INCLUSIONS AND EXCLUSIONS

24 CFR Part 5 Annual Income Inclusions

§5.609 Annual income.

(a) *Annual income* means all amounts, monetary or not, which:

- (1) Go to, or on behalf of, the family head or spouse (even if temporarily absent) or to any other family member; or
- (2) Are anticipated to be received from a source outside the family during the 12-month period following admission or annual reexamination effective date; and
- (3) Which are not specifically excluded in paragraph (c) of this section.
- (4) Annual income also means amounts derived (during the 12-month period) from assets to which any member of the family has access.

(b) Annual income includes, but is not limited to:

- (1) The full amount, before any payroll deductions, of wages and salaries, overtime pay, commissions, fees, tips and bonuses, and other compensation for personal services;
- (2) The net income from the operation of a business or profession. Expenditures for business expansion or amortization of capital indebtedness shall not be used as deductions in determining net income. An allowance for depreciation of assets used in a business or profession may be deducted, based on straight line depreciation, as provided in Internal Revenue Service regulations. Any withdrawal of cash or assets from the operation of a business or profession will be included in income, except to the extent the withdrawal is reimbursement of cash or assets invested in the operation by the family;
- (3) Interest, dividends, and other net income of any kind from real or personal property. Expenditures for amortization of capital indebtedness shall not be used as deductions in determining net income. An allowance for depreciation is permitted only as authorized in paragraph (b)(2) of this section. Any withdrawal of cash or assets from an investment will be included in income, except to the extent the withdrawal is reimbursement of cash or assets invested by the family. Where the family has net family assets in excess of \$5,000, annual income shall include the greater of the actual income derived from all net family assets or a percentage of the value of such assets based on the current passbook savings rate, as determined by HUD;
- (4) The full amount of periodic amounts received from Social Security, annuities, insurance policies, retirement funds, pensions, disability or death benefits, and other similar types of periodic receipts, including a lump-sum amount or prospective monthly amounts for the delayed start of a periodic amount (except as provided in paragraph (c)(14) of this section);
- (5) Payments in lieu of earnings, such as unemployment and disability compensation, worker's compensation and severance pay (except as provided in paragraph (c)(3) of this section);

(6) *Welfare assistance payments.*

(i) Welfare assistance payments made under the Temporary Assistance for Needy Families (TANF) program are included in annual income only to the extent such payments:

(A) Qualify as assistance under the TANF program definition at 45 CFR 260.31; and

(B) Are not otherwise excluded under paragraph (c) of this section.

(ii) If the welfare assistance payment includes an amount specifically designated for shelter and utilities that is subject to adjustment by the welfare assistance agency in accordance with the actual cost of shelter and utilities, the amount of welfare assistance income to be included as income shall consist of:

(A) The amount of the allowance or grant exclusive of the amount specifically designated for shelter or utilities; plus

(B) The maximum amount that the welfare assistance agency could in fact allow the family for shelter and utilities. If the family's welfare assistance is ratably reduced from the standard of need by applying a percentage, the amount calculated under this paragraph shall be the amount resulting from one application of the percentage.

(7) Periodic and determinable allowances, such as alimony and child support payments, and regular contributions or gifts received from organizations or from persons not residing in the dwelling;

(8) All regular pay, special pay and allowances of a member of the Armed Forces (except as provided in paragraph (c)(7) of this section).

(9) For section 8 programs only and as provided in 24 CFR 5.612, any financial assistance, in excess of amounts received for tuition and any other required fees and charges, that an individual receives under the Higher Education Act of 1965 (20 U.S.C. 1001 *et seq.*), from private sources, or from an institution of higher education (as defined under the Higher Education Act of 1965 (20 U.S.C. 1002)), shall be considered income to that individual, except that financial assistance described in this paragraph is not considered annual income for persons over the age of 23 with dependent children. For purposes of this paragraph, "financial assistance" does not include loan proceeds for the purpose of determining income.

24 CFR Part 5 Annual Income Exclusions

(c) Annual income does not include the following:

(1) Income from employment of children (including foster children) under the age of 18 years;

(2) Payments received for the care of foster children or foster adults (usually persons with disabilities, unrelated to the tenant family, who are unable to live alone);

(3) Lump-sum additions to family assets, such as inheritances, insurance payments (including payments under health and accident insurance and worker's compensation), capital gains and settlement for personal or property losses (except as provided in paragraph (b)(5) of this section);

- (4) Amounts received by the family that are specifically for, or in reimbursement of, the cost of medical expenses for any family member;
- (5) Income of a live-in aide, as defined in §5.403;
- (6) Subject to paragraph (b)(9) of this section, the full amount of student financial assistance paid directly to the student or to the educational institution;
- (7) The special pay to a family member serving in the Armed Forces who is exposed to hostile fire;
- (8) (i) Amounts received under training programs funded by HUD;
- (ii) Amounts received by a person with a disability that are disregarded for a limited time for purposes of Supplemental Security Income eligibility and benefits because they are set aside for use under a Plan to Attain Self-Sufficiency (PASS);
- (iii) Amounts received by a participant in other publicly assisted programs which are specifically for or in reimbursement of out-of-pocket expenses incurred (special equipment, clothing, transportation, child care, etc.) and which are made solely to allow participation in a specific program;
- (iv) Amounts received under a resident service stipend. A resident service stipend is a modest amount (not to exceed \$200 per month) received by a resident for performing a service for the PHA or owner, on a part-time basis, that enhances the quality of life in the development. Such services may include, but are not limited to, fire patrol, hall monitoring, lawn maintenance, resident initiatives coordination, and serving as a member of the PHA's governing board. No resident may receive more than one such stipend during the same period of time;
- (v) Incremental earnings and benefits resulting to any family member from participation in qualifying State or local employment training programs (including training programs not affiliated with a local government) and training of a family member as resident management staff. Amounts excluded by this provision must be received under employment training programs with clearly defined goals and objectives, and are excluded only for the period during which the family member participates in the employment training program;
- (9) Temporary, nonrecurring or sporadic income (including gifts);
- (10) Reparation payments paid by a foreign government pursuant to claims filed under the laws of that government by persons who were persecuted during the Nazi era;
- (11) Earnings in excess of \$480 for each full-time student 18 years old or older (excluding the head of household and spouse);
- (12) Adoption assistance payments in excess of \$480 per adopted child;
- (13) [Reserved]
- (14) Deferred periodic amounts from supplemental security income and Social Security benefits that are received in a lump sum amount or in prospective monthly amounts, or any deferred Department of Veterans Affairs disability benefits that are received in a lump sum amount or in prospective monthly amounts.

(15) Amounts received by the family in the form of refunds or rebates under State or local law for property taxes paid on the dwelling unit;

(16) Amounts paid by a State agency to a family with a member who has a developmental disability and is living at home to offset the cost of services and equipment needed to keep the developmentally disabled family member at home; or

(17) Amounts specifically excluded by any other Federal statute from consideration as income for purposes of determining eligibility or benefits under a category of assistance programs that includes assistance under any program to which the exclusions set forth in 24 CFR 5.609(c) apply. A notice will be published in the FEDERAL REGISTER and distributed to PHAs and housing owners identifying the benefits that qualify for this exclusion. Updates will be published and distributed when necessary.

(d) *Annualization of income.* If it is not feasible to anticipate a level of income over a 12-month period (e.g., seasonal or cyclic income), or the PHA believes that past income is the best available indicator of expected future income, the PHA may annualize the income anticipated for a shorter period, subject to a redetermination at the end of the shorter period.

ATTACHMENT B

Asset Inclusions and Exclusions

January, 2005

ASSET INCLUSIONS:

1. Cash held in savings accounts, checking accounts, safe deposit boxes, homes, etc. For savings accounts, use the current balance. For checking accounts, use the average 6-month balance. Assets held in foreign countries are considered assets.
2. Cash value of revocable trusts available to the applicant.
3. Equity in rental property or other capital investments. Equity is the estimated current market value of the asset less the unpaid balance on all loans secured by the asset and all reasonable costs (e.g., broker fees) that would be incurred in selling the asset. Under HOME, equity in the family's primary residence is not considered in the calculation of assets for owner-occupied rehabilitation projects.
4. Cash value of stocks, bonds, Treasury bills, certificates of deposit, mutual funds, and money market accounts.
5. Individual retirement, 401(K), and Keogh accounts (even though withdrawal would result in a penalty).
6. Retirement and pension funds.
7. Cash value of life insurance policies available to the individual before death (e.g., surrender value of a whole life or universal life policy).
8. Personal property held as an investment such as gems, jewelry, coin collections, antique cars, etc.
9. Lump sum or one-time receipts, such as inheritances, capital gains, lottery winnings, victim's restitution, insurance settlements and other amounts not intended as periodic payments.
10. Mortgages or deeds of trust held by an applicant.

ASSET EXCLUSIONS:

1. Necessary personal property, except as noted in number 8 of Inclusions, such as clothing, furniture, cars and vehicles specially equipped for persons with disabilities.
2. Interest in Indian trust lands.
3. Assets not effectively owned by the applicant. That is, when assets are held in an individual's name, but the assets and any income they earn accrue to the benefit of someone else who is not a member of the household and that other person is responsible for income taxes incurred on income generated by the asset.
4. Equity in cooperatives in which the family lives.
5. Assets not accessible to and that provide no income for the applicant.
6. Term life insurance policies (i.e., where there is no cash value).
7. Assets that are part of an active business. "Business" does not include rental of properties that are held as an investment and not a main occupation.

ATTACHMENT C

CURRENT INCOME LIMITS FOR MENDOCINO COUNTY

As of July 1, 2020

Household Size:

Income Category:	1	2	3	4	5	6	7	8
60%	\$29,400	\$33,600	\$37,800	\$41,940	\$45,300	\$48,660	\$52,020	\$55,380
80%	\$39,150	\$44,750	\$50,350	\$55,900	\$60,400	\$64,850	\$69,350	\$73,800

The link to the official, HCD-maintained HOME Income Limits is:

<http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits.shtml>

ATTACHMENT D

CURRENT RENT STANDARDS FOR CITY OF UKIAH TBRA PROGRAM, BASED ON 90% (*) - 110% (**) OF HUD FMRs BELOW:

<u>Efficiency</u> (0-Bedroom)	<u>One-Bedroom</u>	<u>Two-Bedroom</u>	<u>Three-Bedroom</u>	<u>Four-Bedroom</u>
\$775**	\$832**	\$1,001**	\$1,147**	\$1,260**

IMPORTANT: Rent Standard represents the maximum approvable gross unit rent (meaning including the applicable Utility Allowance) by Unit Bedrooms

Final FY 2020 (effective July 1, 2020) HUD FMRs By Unit Bedrooms
<https://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits/docs/2020-HOME-Rent-Limits.pdf>

	<u>Efficiency</u>	<u>One-Bedroom</u>	<u>Two-Bedroom</u>	<u>Three-Bedroom</u>	<u>Four-Bedroom</u>
Final FY 2020 HUD FMR	\$805	\$892	\$1,173	\$1,659	\$1,932

Note: The FMRs for unit sizes larger than four bedrooms are calculated by adding 15 percent to the four-bedroom FMR for each extra bedroom. For example, the FMR for a five-bedroom unit is 1.15 times the four-bedroom FMR, and the FMR for a six-bedroom unit is 1.30 times the four-bedroom FMR.



ATTACHMENT E

HOME TBRA Eligibility Agreement



TENANT NAME:	Unit Size:	Issued On:
Number of Household Members:		

1. HOME TBRA Rental Assistance Program

This Agreement by the City of Ukiah and the Tenant identified above who is eligible to participate in the HOME TBRA Rental Assistance Program (Program) operated by City of Ukiah. Under the Program, the City of Ukiah issues a one-time payment of up to two months' rent for rental security deposit and/or utility deposit assistance to the Landlord on behalf of the eligible Tenant.

By executing this Agreement, the City of Ukiah fully expects to have HOME funds available to provide financial assistance to the Tenant. The City of Ukiah is under no obligation to the Tenant or the Landlord or any other party until the City of Ukiah has approved the unit and a contract addendum has been entered into between the Landlord and the Tenant.

The City of Ukiah will work with the Landlord and the Tenant to execute all of the necessary documents as follows:

- The Landlord and the Tenant must sign a Contract Addendum regarding domestic violence tenant protections (Attachment F).

- Once all necessary documents have been signed, a one-time payment to the Landlord for the security deposit and/or utility deposit can be processed.

2. Requirements for Participating Tenants

The Household must:

- supply true and complete information about the household's income, assets, and other household circumstances that affect eligibility;
- sign and submit consent forms for obtaining information, as applicable;
- allow the Program Operator or its designee to inspect the unit prior to issuance of the security and/or utility deposit;
- use the dwelling unit as the household's principal place of residence and solely as a residence for the household;

- notify the Program Operator and property manager when there is a change in household composition;
- not sublease or sublet the unit;
- not own or have any interest in the unit;
- not commit any serious or repeated violation of the Lease;
- not commit fraud, bribery or any other corrupt or criminal act in connection with the HOME Rental Assistance Program;
- not engage in drug-related criminal activity or violent criminal activity;
- notify the owner and the Program Operator no less than 30-days prior to when the household intends to move out of the unit or terminate the assistance;
- notify the Program Operator of abuses such as side payments or other overcharges and Section 8 Housing Quality Standards (see **ATTACHMENT I**) violations in the unit; and
- provide the Program Operator with a copy of any owner eviction notice within three (3) business days;

4. **Period of Rental Assistance**

Assistance under the HOME TBRA Program is not guaranteed. The assistance is currently anticipated to be available for a period of two (2) years.

Assistance may be terminated if:

- the household's monthly cost of housing does not exceed 30% of the household's adjusted income;
- at any re-examination, the Tenant's income is greater than the published income limit for the program;
- the Tenant is evicted from the assisted unit, for other good cause;
- the Tenant provides false information or commits any fraud in connection with the TBRA program, or fails to cooperate with required re-examinations; or
- funding for the TBRA Rental Assistance Program is terminated or becomes otherwise unavailable.

The Program Operator will give the Tenant at least 30 days' notice of termination of assistance.

5. **Location of Rental Assistance**

An applicant may choose to remain in their current unit, or may choose to rent an eligible unit within the service area identified in the Eligibility section on page 5.

During 12 months from a federally-declared disaster due to a pandemic, preference shall be given to applicants who have been economically impacted by the disaster and who can lease-in-place. If the applicant is not able to lease-in-place, they shall not be eligible to receive this preference.

6. **Equal Housing Opportunity**

If a Tenant has reason to believe that he/she has been discriminated against on the basis of age, race, color, creed, religion, sex, sexual orientation, gender identity, religion, disability, national origin, or familial status, the Tenant may file a complaint with HUD. HUD has set up a "hot line" to answer questions and take complaints about Fair Housing and Equal Opportunity. The toll-free number is (800) 669-9777.

WARNING: 18 U.S.C. 1001 provides, among other things, that whoever knowingly and willingly makes or uses a document or writing containing any false, fictitious, or fraudulent statements or entries, in any matter within the jurisdiction of any department or agency of the United States, shall be fined not more than \$10,000, or imprisoned for not more than five years, or both.

SIGNATURE OF OWNER

DATE

SIGNATURE OF OWNER

DATE

The City of Ukiah:	
Name:	Signature:
Date:	Telephone:
ELIGIBLE TENANT:	
Name:	Signature:
Date:	Telephone:



ATTACHMENT F LEASE ADDENDUM



TENANT	LANDLORD	UNIT NO. & ADDRESS

This Lease Addendum ("Addendum") adds the following paragraphs to the Lease between the Tenant and Landlord referred to above.

- A. Purpose of the Addendum.** The Tenant Lease for the above-referenced unit is being amended to include the provisions of this Addendum because the Tenant has been approved to receive rental assistance under the City of Ukiah's HOME Tenant-Based Rental Assistance Program operated by the City of Ukiah. Under the HOME Rental Assistance Program, the City of Ukiah will make monthly payments to the Landlord on behalf of the Tenant pursuant to the HOME TBRA Contract (Attachment H).
- B. Conflict with Other Provisions of the Lease.** In case of any conflict between the provisions of this Addendum and other sections of the Lease, the provisions of this Addendum shall prevail.
- C. Terms of the Lease.** The tenant lease shall continue until: (1) the Lease is terminated by the Landlord in accordance with applicable state and local Tenant/Landlord laws; or (2) the Lease is terminated by the Tenant in accordance with the Lease or by mutual agreement during the term of the Lease.
- D. Rental Assistance Payment.** Each month the City of Ukiah will make a rental assistance payment to the Landlord on behalf of the Tenant. This payment shall be credited by the Landlord toward the monthly rent payable by the Tenant. The balance of the monthly rent shall be paid by the Tenant.
- E. Utilities and Appliances.** The utilities and appliances listed in Column 1 are provided by the Landlord and included in the rent. The utilities and appliances listed in Column 2 below are not included in the rent and are paid separately by the Tenant.

UTILITY/APPLIANCE	Included in Rent	Tenant-Paid
Garbage Collection		
Water/Sewer		
Heating Fuel (specify)		
Lights, electric		
Cooking Fuel (specify)		

Other (specify)		
Refrigerator		
Stove/Range		

F. Household Members. Household members authorized to live in this unit are listed below. The Tenant may not permit other persons to join the Household without notifying the City of Ukiah and obtaining the Landlord's permission. Household members:

-
-
-
-
-

G. Housing Quality Standards. The Landlord shall maintain the dwelling unit, common areas, equipment, facilities and appliances in decent, safe, and sanitary condition (as determined by Section 8 Housing Quality Standards).

H. Termination of Tenancy. The Landlord may evict the Tenant following applicable state and local laws. The landlord must provide the Tenant with at least 30 days' written notice of the termination. The Landlord must notify the City of Ukiah in writing when eviction proceedings have begun. This may be done by providing the City of Ukiah with a copy of the required notice to the Tenant.

I. Prohibited Lease Provision. Any provision of the Lease which falls within the classifications below shall not apply and not be enforced by the Landlord.

- (1) *Confession of Judgment.* Consent by the Tenant to be sued, to admit guilt, or to a judgment in favor of the Landlord in a lawsuit brought in connection with the Lease.
- (2) *Treatment of Property.* Agreement by the Tenant that the Landlord may take or hold the Tenant's property, or may sell such property without notice to the Tenant and a court decision on the rights of the parties.
- (3) *Excusing the Landlord from Responsibility.* Agreement by the Tenant not to hold the Landlord or Landlord's agent legally responsible for any action or failure to act, whether intentional or negligent.
- (4) *Waiver of Legal Notice.* Agreement by the Tenant that the Landlord may institute a lawsuit without notice to the Tenant.
- (5) *Waiver of Court Proceedings for Eviction.* Agreement by the Tenant that the Landlord may evict the Tenant Family (i) without instituting a civil court proceedings in which the Family has the opportunity to present a defense, or (ii) before a decision by the court on the rights of the parties.
- (6) *Waiver of Jury Trial.* Authorization to the Landlord to waive the Tenant's right to a trial by jury.

- (7) *Waiver of Right to Appeal Court Decision.* Authorization to the Landlord to waive the Tenant's right to appeal a court decision or waive the Tenant's right to sue to prevent a judgment from being put into effect.
- (8) *Tenant Chargeable with Cost of Legal Actions Regardless of Outcome of the Lawsuit.* Agreement by the Tenant to pay lawyer's fees or other legal costs whenever the Landlord decides to sue, whether or not the Tenant wins.

J. Nondiscrimination. The Landlord shall not discriminate against the Tenant in the provision of services, or in any other manner, on the grounds of age, race, color, creed, religion, sex, sexual orientation, gender identity disability, national origin, or familial status.

TENANT SIGNATURES	LANDLORD SIGNATURES
By: (Type or Print Name of Tenant Representative)	LANDLORD NAME:
(Signature/Date)	By: (Type or Print Name of Landlord Representative)
By: (Type or Print Name of Tenant Representative)	(Signature/Date)
(Signature/Date)	

ATTACHMENT G

ADDITIONAL LEASE ADDENDUM

VIOLENCE AGAINST WOMEN AND JUSTICE DEPARTMENT REAUTHORIZATION ACT OF 2005

TENANT	LANDLORD	UNIT NO. & ADDRESS
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This contract addendum adds the following paragraphs to the HRA Program Contract.

Purpose of the Addendum

The contract is being amended to include the provisions of the Violence Against Women and Justice Department Reauthorization Act of 2005 (VAWA).

Conflicts with Other Provisions of the Contract

In case of any conflict between the provisions of this Addendum and other sections of the Contract, the provisions of this Addendum shall prevail.

Term of the Contract Addendum

The effective date of this Contract Addendum is _____. This Contract Addendum shall continue to be in effect until the Contract is terminated.

VAWA Protections

1. The Landlord may not consider incidents of domestic violence, dating violence or stalking as serious or repeated violations of the lease or other "good cause" for termination of assistance, tenancy or occupancy rights of the victim of abuse.
2. The Landlord may not consider criminal activity directly relating to abuse, engaged in by a member of a tenant's household or any guest or other person under the tenant's control, cause for termination of assistance, tenancy, or occupancy rights if the tenant or an immediate member of the tenant's family is the victim or threatened victim of that abuse.
3. The Landlord may request in writing that the victim, or a family member on the victim's behalf, certify that the individual is a victim of abuse and that the Certification of Domestic Violence, Dating Violence or Stalking, Form HUD-91066, or other documentation as noted on the certification form, be completed and submitted within 14 business days, or an agreed upon extension date, to receive protection under the VAWA. Failure to provide the certification or other supporting documentation within the specified timeframe may result in eviction.

Tenant

Date

Landlord

Date



ATTACHMENT H



HOME TENANT-BASED RENTAL ASSISTANCE (TBRA) CONTRACT

LANDLORD NAME & ADDRESS _____ _____ Telephone No. (____)____-____	UNIT NO. & ADDRESS _____ _____ _____	TENANT NAME(S) _____ _____ _____
---	---	---

This HOME TBRA Contract ("Contract") is entered into between the City of Ukiah and the Landlord identified above. This Contract applies only to the Tenant family and the dwelling unit identified above.

1. TERM OF THE CONTRACT

The term of this Contract shall begin on¹_____ and end no later than _____.² The Contract automatically terminates on the last day of the term of the Lease.

2. RENT AND AMOUNTS PAYABLE BY TENANT AND THE CITY OF UKIAH

- A. *Initial Rent.* The initial total monthly rent payable to the Landlord for the 12 months of this Contract is \$_____.
- B. *Rent Adjustments.* With no less than 60 days' notice to the Tenant and **the City of Ukiah**, the owner may propose a reasonable adjustment to be effective no earlier than 60 days from the date of notice. The proposed rent may be rejected by either the Tenant or **the City of Ukiah**. The Tenant may reject the proposed rent by providing the Landlord with 30 days' written notice of intent to vacate. If **the City of Ukiah** rejects the proposed rent, **the City of Ukiah** must give both the Tenant and the Landlord 30 days' notice of intent to terminate the HOME TBRA Contract.
- C. *Tenant Share of the Rent.* Initially, and until such time as both the Landlord and the Tenant are notified by **the City of Ukiah**, the Tenant's share of the rent shall be \$_____.
- D. *The City of Ukiah's Share of the Rent.* Initially, and until such time as both the Landlord and Tenant are notified by **the City of Ukiah**, **the City of Ukiah's** share of the rent shall be \$_____. Neither **the City of Ukiah** nor HUD assumes any obligation for the Tenant's rent, or for payment of any claim by the Landlord against

¹ Insert the date assistance starts.

² The maximum allowable length of a HOME TBRA contract is twenty-four (24) months.

the Tenant. **The City of Ukiah's** obligation is limited to making rental payments on behalf of the Tenant in accordance with this Contract.

- E. *Payment Conditions.* The right of the owner to receive payments under this Contract shall be subject to compliance with all of the provisions of the Contract. The Landlord shall be paid under this Contract on or about the first day of the month for which the payment is due. The Landlord agrees that the endorsement on the check shall be conclusive evidence that the Landlord received the full amount due for the month, and shall be a certification that:
1. the Contract unit is in decent, safe and sanitary condition, and that the Landlord is providing the services, maintenance and utilities agreed to in the Lease.
 2. the Contract unit is leased to and occupied by the Tenant named above in this Contract.
 3. the Landlord has not received and will not receive any payments as rent for the Contract unit other than those identified in this Contract.
 4. to the best of the Landlord's knowledge, the unit is used solely as the Tenant's principal place of residence.
- F. *Overpayments.* If **the City of Ukiah** determines that the Landlord is not entitled to any payments received, in addition to other remedies, **the City of Ukiah** may deduct the amount of the overpayment from any amounts due the Landlord, including the amounts due under any other HOME TBRA Contract.

3. HOUSING QUALITY STANDARDS AND LANDLORD-PROVIDED SERVICES

- A. The Landlord agrees to maintain and operate the Contract unit and related facilities to provide decent, safe and sanitary housing in accordance with 24 CFR Section 982.401, including all of the services, maintenance and utilities agreed to in the Lease.
- B. **The City of Ukiah** and **HCD** shall have the right to inspect the Contract unit and related facilities at least annually, and at such other times as may be necessary to assure that the unit is in decent, safe, and sanitary condition, and that required maintenance, services and utilities are provided.
- C. If **the City of Ukiah** determines that the Landlord is not meeting these obligations, **the City of Ukiah** shall have the right, even if the Tenant continues in occupancy, to terminate payment of **the City of Ukiah's** share of the rent and/or terminate the Contract.

4. TERMINATION OF TENANCY

The Landlord may evict the Tenant following applicable state and local laws. The Landlord must give the Tenant at least 30 days' written notice of the termination and notify **the Program Operator** in writing when eviction proceedings are begun. This may be done by providing **the Program Operator** with a copy of the required notice to the tenant.

5. FAIR HOUSING REQUIREMENTS

- A. *Nondiscrimination.* The Landlord shall not, in the provision of services or in any other manner, discriminate against any person on the grounds of age, race, color, creed,

religion, sex, sexual orientation, gender identity, disability, national origin, or familial status. The obligation of the Landlord to comply with Fair Housing Requirements insures to the benefit of the United States of America, the Department of Housing and Urban Development, and **the City of Ukiah**, any of which shall be entitled to involve any of the remedies available by law to redress any breach or to compel compliance by the Landlord.

- B. *Cooperation in Quality Opportunity Compliance Reviews.* The Landlord shall comply with **the City of Ukiah** and with **The California Department of Housing and Community Development (HCD)** in conducting compliance reviews and complaint investigations pursuant to all applicable civil rights statutes, Executive Orders and all related rules and regulations.

6. CITY OF UKIAH AND HCD/HUD ACCESS TO LANDLORD RECORDS

- A. The Landlord shall provide any information pertinent to this Contract which **the City of Ukiah, HCD or HUD** may reasonably require.
- B. The Landlord shall permit **the City of Ukiah, HCD or HUD**, or any of their authorized representatives, to have access to the premises and, for the purposes of audit and examination, to have access to any books, documents, papers, and records of the Landlord to the extent necessary to determine compliance with this Contract.

7. RIGHTS OF THE CITY OF UKIAH IF LANDLORD BREACHES THE CONTRACT

- A. Any of the following shall constitute a breach of the Contract:
- (1) If the Landlord has violated any obligation under this Contract; or
 - (2) If the Landlord has demonstrated any intention to violate any obligation under this Contract; or
 - (3) If the Landlord has committed any fraud or made any false statement in connection with the Contract, or has committed fraud or made any false statement in connection with any Federal housing assistance program.
- B. **The City of Ukiah** right and remedies under the Contract include recovery of overpayments, termination or reduction of payments, and termination of the Contract. If **the City of Ukiah** determines that a breach has occurred, **the City of Ukiah** may exercise any of its rights or remedies under the Contract. **The City of Ukiah** shall notify the Landlord in writing of such determination, including a brief statement of the reasons for the determination. The notice by **the City of Ukiah** to the landlord may require the Landlord to take corrective action by a time prescribed in the notice.
- C. Any remedies employed by **the City of Ukiah** in accordance with this Contract shall be effective as provided in a written notice by **the City of Ukiah** to the Landlord. **The City of Ukiah** exercise or non-exercise of any remedy shall not constitute a waiver of the right to exercise that or any other right or remedy at any time.

8. THE CITY OF UKIAH'S RELATION TO THIRD PARTIES

- A. **The City of Ukiah** does not assume any responsibility for, or liability to, any person injured as a result of the Landlord's action or failure to act in connection with the

implementation of this Contract, or as a result of any other action or failure to act by the Landlord.

- B. The Landlord is not the agent of **the City of Ukiah** and this Contract does not create or affect any relationship between **the City of Ukiah** and any lender to the Landlord, or any suppliers, employees, contractors or subcontractors used by the Landlord in connection with this Contract.
- C. Nothing in this Contract shall be construed as creating any right of the Tenant or a third party (other than HCD and HUD) to enforce any provision of this Contract or to assess any claim against HUD, HCD, **the City of Ukiah** or the Landlord under this Contract.

9. CONFLICT OF INTEREST PROVISIONS

No employee of **the City of Ukiah**, Name of Program Operator, or HCD who formulates policy or influences decisions with respect to the Rental Assistance Program, and no public official or member of a governing body or state of local legislator who exercise his functions or responsibilities with respect to the program shall have any direct or indirect interest during this person's tenure, or for one year thereafter, in this contract or in any proceeds or benefits arising from the Contract or to any benefits which may arise from it.

10. TRANSFER OF THE CONTRACT

The Landlord shall not transfer in any form this Contract without the prior written consent of **the City of Ukiah**. **The City of Ukiah** shall give its consent to a transfer if the transferee agrees in writing (in a form acceptable to **the City of Ukiah**) to comply with all terms and conditions of this Contract.

11. ENTIRE AGREEMENT: INTERPRETATION

- A. This Contract contains the entire agreement between the Landlord and **the City of Ukiah**. No changes in this Contract shall be made except in writing signed by both the Landlord and **the City of Ukiah**.
- B. The Contract shall be interpreted and implemented in accordance with HUD requirements.

12. WARRANTY OF LEGAL CAPACITY AND CONDITION OF UNIT

- A. The Landlord warrants the unit is in decent, safe, and sanitary condition as defined in 24 CFR Section 982.401, and that the Landlord has the legal right to lease the dwelling unit covered by this Contract during the Contract term.
- B. The party, if any, executing this Contract on behalf of the Landlord hereby warrants that authorization has been given by the Landlord to execute it on behalf of the Landlord.

Landlord Name (Type or Print):	The City of Ukiah's Representative:
(Signature/Date)	(Signature/Date)

WARNING: 18 U.S.C. 1001 provides, among other things, that whoever knowingly and willingly makes or uses a document or writing containing any false, fictitious, or fraudulent statements or entries, in any matter within the jurisdiction of any department or agency of the United States, shall be fined not more than \$10,000, or imprisoned for not more than five years, or both.

LANDLORD'S CHECK TO BE ACH CREDIT SERVICE or MAILED TO:

SS NO. _____

NAME(S) _____

ADDRESS _____

SIGNATURE OF OWNER

DATE

SIGNATURE OF OWNER

DATE

ATTACHMENT I

24 CFR § 982.401 Housing Quality Standards (HQS)

(a) Performance and acceptability requirements.

(1) This section states the housing quality standards (HQS) for housing assisted in the programs.

(2)

(i) The HQS consist of:

(A) Performance requirements; and

(B) Acceptability criteria or HUD approved variations in the acceptability criteria.

(ii) This section states performance and acceptability criteria for these key aspects of housing quality:

(A) Sanitary facilities;

(B) Food preparation and refuse disposal;

(C) Space and security;

(D) Thermal environment;

(E) Illumination and electricity;

(F) Structure and materials;

(G) Interior air quality;

(H) Water supply;

(I) Lead-based paint;

(J) Access;

(K) Site and neighborhood;

(L) Sanitary condition; and

(M) Smoke detectors.

(3) All program housing must meet the HQS performance requirements both at commencement of assisted occupancy, and throughout the assisted tenancy.

(4)

(i) In addition to meeting HQS performance requirements, the housing must meet the acceptability criteria stated in this section, unless variations are approved by HUD.

(ii) HUD may approve acceptability criteria variations for the following purposes:

(A) Variations which apply standards in local housing codes or other codes adopted by the PHA; or

(B) Variations because of local climatic or geographic conditions.

(iii) Acceptability criteria variations may only be approved by HUD pursuant to paragraph (a)(4)(ii) of this section if such variations either:

(A) Meet or exceed the performance requirements; or

(B) Significantly expand affordable housing opportunities for families assisted under the program.

(iv) HUD will not approve any acceptability criteria variation if HUD believes that such variation is likely to adversely affect the health or safety of participant families, or severely restrict housing choice.

(b) Sanitary facilities—

(1) **Performance requirements.** The dwelling unit must include sanitary facilities located in the unit. The sanitary facilities must be in proper operating condition, and adequate for personal cleanliness and the disposal of human waste. The sanitary facilities must be usable in privacy.

(2) Acceptability criteria.

- (i) The bathroom must be located in a separate private room and have a flush toilet in proper operating condition.
- (ii) The dwelling unit must have a fixed basin in proper operating condition, with a sink trap and hot and cold running water.
- (iii) The dwelling unit must have a shower or a tub in proper operating condition with hot and cold running water.
- (iv) The facilities must utilize an approvable public or private disposal system (including a locally approvable septic system).

(c) Food preparation and refuse disposal—

(1) Performance requirement.

- (i) The dwelling unit must have suitable space and equipment to store, prepare, and serve foods in a sanitary manner.
- (ii) There must be adequate facilities and services for the sanitary disposal of food wastes and refuse, including facilities for temporary storage where necessary (e.g., garbage cans).

(2) Acceptability criteria.

- (i) The dwelling unit must have an oven, and a stove or range, and a refrigerator of appropriate size for the family. All of the equipment must be in proper operating condition. The equipment may be supplied by either the owner or the family. A microwave oven may be substituted for a tenant-supplied oven and stove or range. A microwave oven may be substituted for an owner-supplied oven and stove or range if the tenant agrees and microwave ovens are furnished instead of an oven and stove or range to both subsidized and unsubsidized tenants in the building or premises.
- (ii) The dwelling unit must have a kitchen sink in proper operating condition, with a sink trap and hot and cold running water. The sink must drain into an approvable public or private system.
- (iii) The dwelling unit must have space for the storage, preparation, and serving of food.
- (iv) There must be facilities and services for the sanitary disposal of food waste and refuse, including temporary storage facilities where necessary (e.g., garbage cans).

(d) Space and security—

- (1) Performance requirement.** The dwelling unit must provide adequate space and security for the family.

(2) Acceptability criteria.

- (i) At a minimum, the dwelling unit must have a living room, a kitchen area, and a bathroom.
- (ii) The dwelling unit must have at least one bedroom or living/sleeping room for each two persons. Children of opposite sex, other than very young children, may not be required to occupy the same bedroom or living/sleeping room.
- (iii) Dwelling unit windows that are accessible from the outside, such as basement, first floor, and fire escape windows, must be lockable (such as window units with sash pins or sash locks, and combination windows with latches). Windows that are nailed shut are acceptable only if these windows are not needed for ventilation or as an alternate exit in case of fire.
- (iv) The exterior doors of the dwelling unit must be lockable. Exterior doors are doors by which someone can enter or exit the dwelling unit.

(e) Thermal environment—

- (1) Performance requirement.** The dwelling unit must have and be capable of maintaining a thermal environment healthy for the human body.

(2) Acceptability criteria.

- (i) There must be a safe system for heating the dwelling unit (and a safe cooling system, where present). The system must be in proper operating condition. The system must be able to provide adequate heat (and cooling, if applicable), either directly or indirectly, to each room, in order to assure a healthy living environment appropriate to the climate.
- (ii) The dwelling unit must not contain unvented room heaters that burn gas, oil, or kerosene. Electric heaters are acceptable.

(f) *Illumination and electricity—*

(1) *Performance requirement.* Each room must have adequate natural or artificial illumination to permit normal indoor activities and to support the health and safety of occupants. The dwelling unit must have sufficient electrical sources so occupants can use essential electrical appliances. The electrical fixtures and wiring must ensure safety from fire.

(2) *Acceptability criteria.*

- (i) There must be at least one window in the living room and in each sleeping room.
- (ii) The kitchen area and the bathroom must have a permanent ceiling or wall light fixture in proper operating condition. The kitchen area must also have at least one electrical outlet in proper operating condition.
- (iii) The living room and each bedroom must have at least two electrical outlets in proper operating condition. Permanent overhead or wall-mounted light fixtures may count as one of the required electrical outlets.

(g) *Structure and materials—*

(1) *Performance requirement.* The dwelling unit must be structurally sound. The structure must not present any threat to the health and safety of the occupants and must protect the occupants from the environment.

(2) *Acceptability criteria.*

- (i) Ceilings, walls, and floors must not have any serious defects such as severe bulging or leaning, large holes, loose surface materials, severe buckling, missing parts, or other serious damage.
- (ii) The roof must be structurally sound and weathertight.
- (iii) The exterior wall structure and surface must not have any serious defects such as serious leaning, buckling, sagging, large holes, or defects that may result in air infiltration or vermin infestation.
- (iv) The condition and equipment of interior and exterior stairs, halls, porches, walkways, etc., must not present a danger of tripping and falling. For example, broken or missing steps or loose boards are unacceptable.
- (v) Elevators must be working and safe.

(h) *Interior air quality—*

(1) *Performance requirement.* The dwelling unit must be free of pollutants in the air at levels that threaten the health of the occupants.

(2) *Acceptability criteria.*

- (i) The dwelling unit must be free from dangerous levels of air pollution from carbon monoxide, sewer gas, fuel gas, dust, and other harmful pollutants.
- (ii) There must be adequate air circulation in the dwelling unit.
- (iii) Bathroom areas must have one openable window or other adequate exhaust ventilation.
- (iv) Any room used for sleeping must have at least one window. If the window is designed to be openable, the window must work.

(i) *Water supply—*

(1) Performance requirement. The water supply must be free from contamination.

(2) Acceptability criteria. The dwelling unit must be served by an approvable public or private water supply that is sanitary and free from contamination.

(j) Lead-based paint performance requirement. The Lead-Based Paint Poisoning Prevention Act ([42 U.S.C. 4821-4846](#)), the Residential Lead-Based Paint Hazard Reduction Act of 1992 ([42 U.S.C. 4851-4856](#)), and implementing regulations at part [35](#), subparts A, B, M, and R of this title apply to units assisted under this part.

(k) Access performance requirement. The dwelling unit must be able to be used and maintained without unauthorized use of other private properties. The building must provide an alternate means of exit in case of fire (such as fire stairs or egress through windows).

(l) Site and Neighborhood—

(1) Performance requirement. The site and neighborhood must be reasonably free from disturbing noises and reverberations and other dangers to the health, safety, and general welfare of the occupants.

(2) Acceptability criteria. The site and neighborhood may not be subject to serious adverse environmental conditions, natural or manmade, such as dangerous walks or steps; instability; flooding, poor drainage, septic tank back-ups or sewage hazards; mudslides; abnormal air pollution, smoke or dust; excessive noise, vibration or vehicular traffic; excessive accumulations of trash; vermin or rodent infestation; or fire hazards.

(m) Sanitary condition—

(1) Performance requirement. The dwelling unit and its equipment must be in sanitary condition.

(2) Acceptability criteria. The dwelling unit and its equipment must be free of vermin and rodent infestation.

(n) Smoke detectors performance requirement—

(1) Except as provided in paragraph (n)(2) of this section, each dwelling unit must have at least one battery-operated or hard-wired smoke detector, in proper operating condition, on each level of the dwelling unit, including basements but excepting crawl spaces and unfinished attics. Smoke detectors must be installed in accordance with and meet the requirements of the National Fire Protection Association Standard (NFPA) 74 (or its successor standards). If the dwelling unit is occupied by any hearing-impaired person, - smoke detectors must have an alarm system, designed for hearing-impaired persons as specified in NFPA 74 (or successor standards).

(2) For units assisted prior to April 24, 1993, owners who installed battery-operated or hard-wired smoke detectors prior to April 24, 1993 in compliance with HUD's smoke detector requirements, including the regulations published on July 30, 1992, (57 FR 33846), will not be required subsequently to comply with any additional requirements mandated by NFPA 74 (i.e., the owner would not be required to install a smoke detector in a basement not used for living purposes, nor would the owner be required to change the location of the smoke detectors that have already been installed on the other floors of the unit).

ATTACHMENT J

HOUSING QUALITY STANDARDS (HQS) INSPECTION FORMS

The TBRA Program will use the following HQS Inspection Form, which may be printed and attached below:

<http://portal.hud.gov/hudportal/documents/huddoc?id=52580.pdf>

ATTACHMENT K



HOME Tenant-Based Rental Assistance (TBRA) Program Tenant Selection Plan



The Tenant Selection Plan and Outreach Strategy is part of the City of Ukiah's HOME Tenant-Based Rental Assistance (TBRA) Program administered by City of Ukiah Housing Division.

TBRA Policies Affecting Marketing and Tenant Selection

Target Population

HOME TBRA will be targeted to individuals and their household members with income at or below 60% of the Area Median Income (AMI) at the time the TBRA rental assistance is provided to the participant.

Program Eligibility Requirements

This program is designed for households whose monthly rent and utility costs exceed 30% of their adjusted household income. Prior to occupancy, an applicant must qualify under all HOME eligibility criteria.

Income Limits are established by HUD and adjusted annually

The household's annual income may not exceed the applicable HOME income limit for the household size. Current income limits can be viewed at <http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits.shtml>. To be eligible for TBRA rental assistance, the applicant's household gross annual income must be at or below 80% of the area median household income (AMI) adjusted for household size. However, at least 90% of households served under this Program must be at or below 60% AMI.

Wait List

For placement on the City of Ukiah's wait list, applicants must complete an application and relevant consent forms. Placement on the wait list does not constitute acceptance. Further eligibility acceptance and screening is required prior to approval of assistance. Applicants will be placed on the wait list in chronological order by the date the complete application is received.

The City of Ukiah will maintain one wait list. All applications will be date and time stamped when they are received.

Applicants under the age of 18 will be processed only if they are emancipated in accordance with State law or if State law requires housing be made available to minors.

If an applicant claims a preference, it will be noted on the wait list. The preference will be verified when the applicant is being processed for assistance. Applicants who apply and do not meet the preference criteria will be informed that they will be assisted on a first-come, first-served basis after all preferences have been assisted.

Applicants claiming a preference which cannot be verified will be considered a non-preference applicant, and reflected as such on the wait list.

Announcement and Marketing

Public announcement will be made per the Affirmative Fair Housing Marketing Plan.

Application Process

Application packets can be obtained from the City of Ukiah Community Development Department, Attn: Housing Division. Application packets can be mailed or emailed to anyone interested in receiving one. Detailed instructions will be included with the application packet on how to deliver the completed application.

Applications will be accepted by mail to the City of Ukiah or in person from the office where they were obtained. Funding will be available on or after Meetings with applicants will take place at a pre-arranged location convenient to the applicant.

Rejecting Ineligible or Unqualified Applicants

Each rejected applicant will be promptly notified in writing of the reason(s) for rejection. This notice will advise the applicant that he/she may within fourteen (14) calendar days of the date of the notice, request in writing a meeting by telephone to discuss the reasons for rejection.

Should the applicant request a meeting to discuss the rejection, it will be conducted by the City of Ukiah Housing Division. The applicant will be advised in writing of the results of this meeting within five (5) business days.

Process for Opening and Closing the Wait List

Opening the Wait List:

A classified ad will be placed in the local newspaper. Advertisements will include how, where and when to apply and will conform to the advertising and outreach activities described in the Affirmative Fair Housing Marketing Plan.

Closing the Wait List:

The wait list will be closed when the available Program funds have been fully committed. At that time, the City of Ukiah will no longer accept additional applications.

Occupancy Standards

Occupancy standards are based on the following:

<u>Rental-Assisted Unit</u>	<u>Number of Persons</u>	
<u>Bedroom Size</u>	<u>Minimum</u>	<u>Maximum</u>
One Bedroom	1	2
Two Bedroom	2	4
Three Bedroom	3	6
Four Bedroom	4	8

In addition, household composition is taken into account and unit size is also based on the following:

- Will count all full-time members of the household;
- Will count all persons under the age of 18 anticipated to reside in a unit (**Examples** include children expected to be born to pregnant women, children who are in the process of being adopted by an adult, children whose custody is being obtained by an adult, children who are subject to a joint custody agreement but who live in the apartment at least 50% of the time, foster children who will reside in the apartment, children who are temporarily absent due to placement in a foster home);
- Will count live-in attendants; and
- Will count children who are away at school, but live with the family during school recesses.

Participant Relocation

A recipient household may move to a new unit during the lease term only:

- When a mutual agreement between the City of Ukiah and the recipient has been signed; or
- For good cause (the recipient must provide documentation such as police reports, court orders, etc.); and
- Within the Program service area as described on the cover page of these Program Guidelines

In either case, the recipient must provide proper notice (30-day written notice) to the City of Ukiah and the Property Manager prior to initiating a move.

Unit Inspections

Unit(s) will be inspected within 30 days prior to the first assistance payment, and then annually by the Program Operator. However, HCD is authorized to inspect the unit(s) at any time. Residents will be notified in writing 48 hours in advance of unit inspections.

Note: For Applicants participating in a HUD Section 8 Housing Assistance program or other Low and Moderate Income program in which a Housing Quality Standards inspection has been conducted, no separate HQS inspection will be required through the City's HOME TBRA Program provided that the Applicant household has an approved application and can demonstrate proof of the HQS inspection having been completed within the last 90 days.

Annual inspections are performed by the Program Operator to determine whether the unit

continues to meet minimum HQS standards and to ensure the units are safe, clean and free of damages.

Violence Against Women Act (VAWA)

Domestic Violence includes felony or misdemeanor crimes of violence committed by a current or former spouse of the victim, by a person with whom the victim shares a child in common, by a person who is cohabitating with or has cohabitated with the victim as a spouse, by a person similarly situated to a spouse of the victim under domestic or family violence laws of the jurisdiction receiving grant monies, or by any other person against an adult or youth victim who is protected from that person's acts under the domestic or family violence laws of the jurisdiction.

Dating Violence means violence committed by a person:

- A) who is or has been in a social relationship of a romantic or intimate nature with the victim; and
- B) where the existence of such a relationship shall be determined based on a consideration of the following factors:
 - (i) the length of the relationship;
 - (ii) the type of relationship; and
 - (iii) the frequency of interaction between the persons involved in the relationship.

Stalking means:

- A) (i) to follow, pursue, or repeatedly commit acts with the intent to kill, injure, harass or intimidate; or (ii) to place under surveillance with the intent to kill, injure, or intimidate another person; and
- B) in the course of, or as a result of, such following, pursuit, surveillance or repeatedly committed acts to a place a person in reasonable fear of the death of, or serious bodily injury to, or to cause substantial emotional harm to (i) that person; (ii) a member of the immediate family of that person; or (iii) the spouse or intimate partner of that person.

Immediate Family Member means, with respect to a person:

- A) a spouse, parent, brother or sister, or child of the person, or an individual to whom that person stands in loco parentis (in place of a parent); or
- B) any other person living in the household of that person and related to that person by blood or marriage.

The VAWA protections apply to families applying for or receiving rental assistance payments under the HOME TBRA Program. An applicant cannot be denied admission because he/she has been a victim of domestic violence, dating violence or stalking. Domestic violence, dating violence or stalking is not good cause for the eviction of the victim of that violence. An incident of actual or threatened domestic violence, dating violence, or stalking does not qualify as a serious or repeated violation of the lease nor does it constitute good cause for terminating the assistance, tenancy or occupancy rights of the victim. Furthermore, criminal activity directly relating to domestic violence, dating violence or stalking is not grounds for terminating the victim's tenancy. The Lease Addendum must contain language that makes it clear that domestic violence, dating violence or stalking is not good cause for evicting the victim of that violence. Applicants who are or have been victims of domestic violence or stalking or encouraged to complete the HUD approved Certification of Domestic Violence, Dating Violence or Stalking (Form HUD-91066). The Program Operator will allow the landlord to bifurcate or divide the

lease as a matter of law so that certain offending tenants can be evicted or removed while the remaining household member's lease and occupancy rights are allowed to remain intact.

Eligibility Agreement

The City of Ukiah will issue an Eligibility Agreement to the recipient which will allow the recipient to remain in their unit and/or locate an acceptable unit, when a recipient's current unit is not eligible, based on its condition or lack of rent reasonableness.

Special Accommodations and Compliance with Section 504 Requirements

The City of Ukiah is committed to providing all persons with equal access to its services, activities, education, and employment regardless of race, color, sex, sexual orientation, ethnic origin, gender identity, religion, disability, or age of any member of an applicant family. For a reasonable accommodation, please contact the City of Ukiah.



AGENDA SUMMARY REPORT

SUBJECT: Receive Updates on City Council Committee and Ad Hoc Assignments, and, if Necessary, Consider Modifications to Assignments and/or the Creation/Elimination of Ad Hoc(s).

DEPARTMENT: City Clerk

PREPARED BY: Kristine Lawler, City Clerk

PRESENTER: Sage Sangiacomo, City Manager

ATTACHMENTS:

1. 2020 City Council Special Assignments - 07-06-20

Summary: City Council members will provide reports and updates on their committee and ad hoc assignments. If necessary, the Council may consider modifications.

Background: City Council members are assigned to a number of committees and ad hoc activities. These assignments are included as Attachment #1.

Discussion: Previously, the City Council discussed having more time allocated to reporting on committee and ad hoc activities. Often, the Council Reports section of the regular agenda is rushed due to impending business (i.e., public hearings), and not enough time is afforded for reports beyond community activities.

In an effort to foster regular updates on committee and ad hoc assignments, this item is being placed on the agenda to provide the City Council members an expanded opportunity to report on assignments and modify assignments as necessary.

Recommended Action: Receive report(s). The Council will consider modifications to committee and ad hoc assignments along with the creation/elimination ad hoc(s).

BUDGET AMENDMENT REQUIRED: No

CURRENT BUDGET AMOUNT: N/A

PROPOSED BUDGET AMOUNT: N/A

FINANCING SOURCE: N/A

PREVIOUS CONTRACT/PURCHASE ORDER NO.: N/A

COORDINATED WITH: N/A

Approved: 
Sage Sangiacomo, City Manager

2020 CITY COUNCIL SPECIAL ASSIGNMENTS

COUNTY/REGIONAL OnGoing One + Alternate	MTG DATE/TIME	MEETING LOCATION		MAILING ADDRESS/CONTACT	COMMITTEE FUNCTION	ASSIGNED TO	PRINCIPAL STAFF SUPPORT
Disaster Council	Shall meet a minimum of twice a year at a time and place designated upon call of the chair	Place designated upon call of the chair or, if she/he is unavailable or unable to call such meeting, the first vice chair and then the City Manager or her/his designee.		Emergency Management Coordinator 300 Seminary Ave. Ukiah, CA 95482 467-5765 - Tami Bartolomei	Develop any necessary emergency and mutual aid plans, agreements, ordinances, resolutions, rules, and regulations.	Mulheren Orozco- Alternate	Tami Bartolomei, Community Services Administrator; 467-5765 tbartolomei@cityofukiah.com
Greater Ukiah Business & Tourism Alliance	3rd Tuesday of month, 11:30 a.m.	200 S School St. Ukiah, CA 95482		200 S School St. Ukiah, CA 95482	Promotes tourism and works to strengthen and promote the historic downtown and businesses within the greater Ukiah area	Mulheren	Shannon Riley, Deputy City Manager; 467-5793 sriley@cityofukiah.com
Mendocino Council of Governments (MCOG)	1st Monday of month, 1:30 p.m.	Board of Supervisors Chambers 501 Low Gap Road Ukiah, CA		Executive Director 367 N. State Street, Ste. 206 Ukiah, CA 95482 463-1859	Plan and allocate State funding, transportation, infrastructure and project County wide	Brown Mulheren- Alternate	Tim Eriksen, Public Works Director/City Engineer; 463-6280 teriksen@cityofukiah.com
Mendocino County Inland Water and Power Commission (IWPC)	2nd Thursday of month, 6:00 p.m.	Civic Center 300 Seminary Avenue conference room 5		IWPC Staff P.O. Box 1247 Ukiah, CA 95482 391-7574 - Candace Horsley	Develops coordination for water resources and current water rights: Potter Valley project - Eel River Diversion	Orozco Brown- Alternate	Sean White, Director of Water Resources; 463-5712 swhite@cityofukiah.com
Mendocino Solid Waste Management Authority (MSWMA)	3rd Thursday of every other month (varies), 10:00 a.m.	Willits Council Chambers		Solid Waste Director 3200 Taylor Drive Ukiah, CA 95482 468-9710	County-wide Solid Waste JPA	Brown Scalmanini- Alternate	Tim Eriksen, Public Works Director/City Engineer; 463-6280 teriksen@cityofukiah.com
Mendocino Transit Authority (MTA) Board of Directors	Last Wednesday of month, 1:30 p.m.	Alternating locations - Ukiah Conference Center or Fort Bragg, or Point Arena		Executive Director 241 Plant Road Ukiah, CA 95482 462-1422	County-wide bus transportation issues and funding	Mulheren Brown- Alternate	Tim Eriksen, Public Works Director/City Engineer; 463-6280 teriksen@cityofukiah.com
North Coast Opportunities (NCO)	4th Wednesday of month, 2 p.m.	Alternating locations - Ukiah and Lakeport		Ross Walker, Governing Board Chair North Coast Opportunities 413 North State Street Ukiah, CA 95482	Assist low income and disadvantaged people to become self reliant	Bartolomei (appointed 12/19/18)	Tami Bartolomei, Community Services Administrator; 467-5765 tbartolomei@cityofukiah.com
North Coast Rail Authority (NCRA)	2nd Wednesday of month, 10:30 a.m.	Various Locations - announced		419 Talmage Road, Suite M Ukiah, CA 95482 463-3280	Provides a unified and revitalized rail infrastructure meeting the freight and passenger needs of the region	Shannon Riley, Deputy City Manager	Shannon Riley, Deputy City Manager; 467-5793 sriley@cityofukiah.com
Russian River Watershed Association (RRWA)	4th Thursday of month, 9:00 a.m. (only 5 times a year)	Windsor Town Hall		Russian River Watershed Association Attn: Daria Isupov 425 South Main St., Sebastopol, CA 95472 666-4857	Consider issues related to Russian river - plans projects and funding requests	Mulheren Brown- Alternate	Tim Eriksen, Public Works Director/City Engineer; 463-6280 teriksen@cityofukiah.com
Ukiah Valley Basin Groundwater Sustainability Agency (GSA)	2nd Thursday of month, 1:30 p.m.	Board of Supervisors Chambers; 501 Low Gap Road Ukiah, CA		County Executive Office Nicole French 501 Low Gap Rd., Rm. 1010 Ukiah, CA 95482 463-4441	GSA serves as the Groundwater Sustainability Agency in the Ukiah Valley basin	Crane Mulheren- Alternate	Sean White, Director of Water Resources; 463-5712 swhite@cityofukiah.com
COUNTY/REGIONAL One + Staff Alternate	MTG DATE/TIME	MEETING	LOCATION	MAILING ADDRESS/CONTACT	COMMITTEE FUNCTION	ASSIGNED TO	PRINCIPAL STAFF SUPPORT
Economic Development & Financing Corporation (EDFC)	2nd Thursday of month, 2:00 p.m.	Primarily 631 S. Orchard Street (location varies)		Executive Director 631 South Orchard Avenue Ukiah, CA 95482 467-5953	Multi-agency co-op for economic development and business loan program	Riley (appointed 12/19/18)	Shannon Riley, Deputy City Manager; 467-5793 sriley@cityofukiah.com
Sun House Guild ex officio	2nd Tuesday of month, 4:30 p.m.	Sun House 431 S. Main St. Ukiah, CA		431 S. Main Street Ukiah, CA 95482 467-2836	Support and expand Grace Hudson Museum	Bartolomei (appointed 12/19/18)	David Burton, Museum Director; 467-2836 dburton@cityofukiah.com
Continued - COUNTY/REGIONAL One + Staff Alternate	MTG DATE/TIME	MEETING	LOCATION	MAILING ADDRESS/CONTACT	COMMITTEE FUNCTION	ASSIGNED TO	PRINCIPAL STAFF SUPPORT
Mendocino Youth Project JPA Board of Directors	3rd Wednesday of month, 7:45 a.m.	776 S. State Street Conference Room		Mendocino Co. Youth Project 776 S. State Street, Ste. 107 Ukiah, CA 95482 707-463-4915	Targets all youth with a focus on drug and alcohol prevention, healthy alternatives and empowering youth to make healthy choices	Noble Waidelich, Police Lieutenant	Noble Waidelich, Police Lieutenant; 463-6249; nwaidelich@cityofukiah.com
Northern California Power Agency (NCPA)	4th Thursday of month, 9:00 a.m. (see calendar from NCPA)	Roseville, CA and other locations		651 Commerce Drive Roseville, CA 95678 916-781-4202	Pool of public utilities for electric generation and dispatch	Crane Grandi - Alternate	Mel Grandi, Electric Utility Director; 463-6295 mgrandi@cityofukiah.com

2020 CITY COUNCIL SPECIAL ASSIGNMENTS

LOCAL/COUNTY/REGIONAL/LIANS OnGoing One or Two Council and/or Staff	MTG DATE/TIME	LOCATION	MAILING ADDRESS/CONTACT	COMMITTEE FUNCTION	ASSIGNED TO	PRINCIPAL STAFF SUPPORT
Adventist Health Community Advisory Council	Quarterly: Aug. 27, 6:45 a.m. Nov 5, 6:45 a.m.	275 Hospital Drive Ukiah, CA 95482	275 Hospital Drive Ukiah, CA 95482 707-463-7623 Allyne Brown - Allyne.Brown@ah.org	Provides the Adventist Health Ukiah Valley (AHUV) Governing Board and Administration with advice, support, and suggestions on matter of importance to Mendocino, Lake and Sonoma Counties.	Brown	Kristine Lawler , City Clerk; 463-6217 klawler@cityofukiah.com
League of California Cities Redwood Empire Legislative Committee	Prior to Division Meetings, meets 3x in person and then via conference call	Various locations that are announced	Redwood Empire League President; Public Affairs Program Manager (916) 658-8243	Elected city officials and professional city staff attend division meetings throughout the year to share what they are doing and advocate for their interests in Sacramento	Mulheren Brown- Alternate	Sage Sangiacomo , City Manager; 463-6221 ssangiacomo@cityofukiah.com
City Selection Committee	Called as required by the Clerk of the Board	BOS Conference Room 501 Low Gap Rd. Rm. 1090 Ukiah, CA	C/O: BOS 501 Low Gap Rd., Rm 1090 Ukiah, CA 95482 463-4441	Makes appointments to LAFCO and Airport Land Use Commission	Mayor	Kristine Lawler , City Clerk; 463-6217 klawler@cityofukiah.com
Investment Oversight Committee	Varies	Civic Center 300 Seminary Ave. Ukiah, CA 95482	Civic Center 300 Seminary Ave. Ukiah, CA 95482	Reviews City investments, policies, and strategies	Crane Orozco, Alternate Alan Carter , Treasurer	Dan Buffalo , Director of Finance; 463-6220 dbuffalo@cityofukiah.com
Library Advisory Board	3rd Wednesdays of alternate months (beginning January), 1:00 p.m.	Various Mendocino County Libraries	Ukiah County Library 463-4491	Review library policy and activities	Mulheren	Kristine Lawler , City Clerk; 463-6217; klawler@cityofukiah.com
Ukiah Players Theater Board of Directors	3rd Tuesday of month, 6:00 p.m	1041 Low Gap Rd Ukiah, CA 95482 462-1210	1041 Low Gap Rd Ukiah, CA 95482 462-1210	To oversee the activities, organization and purpose of the Ukiah Players Theater	Greg Owen , Airport Manager (appointed 12/19/18)	Kristine Lawler , City Clerk; 463-6217 klawler@cityofukiah.com
Ukiah Unified School District (UUSD) Committee	Quarterly	511 S. Orchard, Ste. D Ukiah, CA 95482	511 S. Orchard Ukiah, CA 95482	Information exchange with UUSD Board Chair, Mayor, Superintendent, and City Manager	Mayor, City Manager and Police Chief	Sage Sangiacomo , City Manager; 463-6221 ssangiacomo@cityofukiah.com
Russian River Flood Control District (RRFCD) Liaison	1st Monday of month, 5:30 p.m.	151 Laws Ave., Suite D Ukiah, CA	151 Laws Ave., Ukiah, CA 95482; rrfc@pacific.net; 462-5278	Proactively manage the water resources of the upper Russian River for the benefit of the people and environment of Mendocino County	Mulheren/Orozco White (appointed 12/19/18)	Sean White , Director of Water Resources; 463-5712 swhite@cityofukiah.com
HHS Advisory Board	2nd Wednesday of month; 9:00 a.m.	Big Sur Room County Department of Social Services	Executive Director Jackie Williams - 462-1934 c/o Ford St. Project 139 Ford St. Ukiah CA 95482	Discussions and possible work on health and human service issues	Brown - Liaison	Shannon Riley , Deputy City Manager; 467-5793 sriley@cityofukiah.com
Mendocino County Local Area Formation Commission (LAFCO)	1st Monday of month, 9:00 a.m.	Board of Supervisors Chambers	Executive Director 200 S. School Street, Ste. 2 Ukiah, CA 95482 463-4470	Required by legislation - planning spheres of influence, annexation, service areas, and special districts	(positions not active) Crane Mulheren- Alternate	Craig Schlatter , Director of Community Development; 463-6219; cschlatter@cityofukiah.com
Mendocino County Airport Land Use Commission	As needed	BOS Conference Room 501 Low Gap Rd., Rm. 1090, Ukiah, CA	Mendocino County Executive Office 501 Low Gap Rd. Rm. 1010 Ukiah, CA 95482	To formulate a land use compatibility plan, provide for the orderly growth of the airport and the surrounding area, and safeguard the general welfare of the inhabitants within the vicinity	Owen/Schlatter	Greg Owen , Airport Manager; 467-2855; gowen@cityofukiah.com Craig Schlatter , Director of Community Development; 463-6219; cschlatter@cityofukiah.com
Mendocino County 2nd District Liaison	1st Wednesdays of month, 8:00 a.m.	Civic Center Annex conference room #5 411 West Clay St. Ukiah, CA 95482	Civic Center 300 Seminary Ave. Ukiah, CA 95482	To coordinate activities and policy development with the City's 2nd District Supervisor	Brown Crane- Alternate	Sage Sangiacomo , City Manager; 463-6221; ssangiacomo@cityofukiah.com
LOCAL/COUNTY/REGIONAL/LIANS OnGoing One or Two Council and/or Staff	MTG DATE/TIME	LOCATION	MAILING ADDRESS/CONTACT	COMMITTEE FUNCTION	ASSIGNED TO	PRINCIPAL STAFF SUPPORT
Fire Executive Committee	2nd Wednesdays of month, 3:45 p.m.	Ukiah Valley Conference Center, 200 S. School Street Ukiah, CA	Stephanie Abba Civic Center 300 Seminary Ave. Ukiah, CA 95482 sabba@cityofukiah.com	Per the recently adopted agreement between the City of Ukiah and the Ukiah Valley Fire Protection District	Orozco/Brown	Doug Hutchison , Fire Chief; 463-6263; dhutchison@cityofukiah.com
Mendocino County 5th District Liaison	Monthly; TBD	Civic Center Annex conference room #5 411 West Clay St. Ukiah, CA 95482	Civic Center 300 Seminary Ave. Ukiah, CA 95482	To coordinate activities and policy development with the County's 5th District Supervisor	Brown	Sage Sangiacomo , City Manager; 463-6221; ssangiacomo@cityofukiah.com

2020 AD HOC COMMITTEES			
COMMITTEE	ASSIGNED TO	PRINCIPAL STAFF SUPPORT	COMMENTS
Electric Grid Operational Improvements	Crane/Scalmanini	Mel Grandi, Electric Utility Director; 463-6295 mgrandi@cityofukiah.com	
Downtown Parking Management	Mulheren/Brown	Shannon Riley, Deputy City Manager; 467-5793 sriley@cityofukiah.com	
Public Works Project Specification Development	Crane/Mulheren	Tim Eriksen, Public Works Director/City Engineer; 463-6280 teriksen@cityofukiah.com	
Uniform Cost Accounting	Crane/Mulheren	Tim Eriksen, Public Works Director/City Engineer; 463-6280 teriksen@cityofukiah.com	
Marbut Study Ad Hoc	Brown/Scalmanini	Justin Wyatt, Police Operations Captain, 463-6760 jwyatt@cityofukiah.com	
Cannabis Events	Mulheren/Brown	Tami Bartolomei, Community Services Administrator; 467-5765 tbartolomei@cityofukiah.com	
Public Right of Way Related ADA Compliance	Scalmanini/Orozco	Tim Eriksen, Public Works Director/City Engineer; 463-6280 teriksen@cityofukiah.com	
Mayor Rotation Guidelines	Brown/Crane	Kristine Lawler, City Clerk; 463-6217 klawler@cityofukiah.com	
2020 Rate Study for Sewer	Brown/Orozco	Sean White, Director of Water Resources; 463-5712 swhite@cityofukiah.com Tim Eriksen, Public Works Director/City Engineer; 463-6280 teriksen@cityofukiah.com Dan Buffalo, Director of Finance; 463-6220 dbuffalo@cityofukiah.com	
Budget Development Best Practices and Financial Policy For FY 20/21 Budget	Crane/Brown	Dan Buffalo, Director of Finance; 463-6220 dbuffalo@cityofukiah.com Sheri Mannion, Human Resource Director/Risk Manager; 463-6272, smannion@cityofukiah.com	
Advance Planning & Policy for Sphere of Influence (SOI), Municipal Service Review (MSR), Annexation, Tax Sharing, Detachment, and Out of Area Service Agreements	Crane/Scalmanini	Sage Sangiacomo, City Manager 463-6221 ssangiacomo@cityofukiah.com Shannon Riley, Deputy City Manager 467-5793 sriley@cityofukiah.com Craig Schlatter, Community Development Director 463-6219 cschlatter@cityofukiah.com Sean White, Director of Water Resources; 463-5712 swhite@cityofukiah.com Tim Eriksen, Public Works Director/City Engineer; 463-6280 teriksen@cityofukiah.com Mel Grandi, Electric Utility Director; 463-6295 mgrandi@cityofukiah.com Dan Buffalo, Director of Finance; 463-6220 dbuffalo@cityofukiah.com	
2020 Electric Rate Study	Crane/Scalmanini	Mel Grandi, Electric Utility Director; 463-6295 mgrandi@cityofukiah.com	
Diversity and Equity	Orozco/Mulheren	TBD	