

Scope of Work: CWTS and Potable Booster Skid PLC Upgrade

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Revision: 1

This will be a turnkey replacement of the discontinued Allen-Bradley controllers with the current Allen-Bradley controllers

Contractor to provide the following:

1. Provide controller and all related hardware needed to functionally replace the existing controller
 - a. The CWTS PLC has three SLC 5/05 racks in two cabinets which are connected via ethernet cable and shall be replaced with 1756 Allen-Bradley Control Logix 5000 controllers
 - i. Figure 1 is a picture of the existing Main CWTS PLC
 - a. In Rack 0 Slot 8 a Prosoft Card is shown in the rack that does not need to be replaced and has been replaced with a DIN rail mounted PLX32-EIP-MBTCP Prosoft module located within the same cabinet as the PLC
 - ii. Figure 7 and Figure 8 show the current Main CWTS SLC 5/05 chassis racks
 - iii. Figure 2 is a picture of the existing LimeFeed PLC which is connected via ethernet to the Main CWTS PLC
 - iv. Figure 9 shows the current LimeFeed SLC 5/05 chassis rack
 - b. The Potable Water Booster PLC is a L23E-QBFC1B Controller and shall be replaced with an Allen-Bradley ControlLogix 5069-L33ER controller
 - i. Figure 3 is a picture of the existing Potable Water Booster Skid controller
2. Convert the existing PLC application to the newest RSLogix 5000 program
3. Upgrade HMI to ControlLogix tagging system and upgrade HMI as listed below
 - a. The Main CWTS PLC will need a new Panel View 7 display
 - i. Figure 4 shows the existing Main CWTS PLC HMI
 - b. The LimeFeed PLC currently has a Red Lion HMI, this HMI does not need to be replaced as it is no longer used, and can be removed
 - i. Figure 5 shows the existing LimeFeed PLC HMI
 - ii. The LimeFeed PLC is controlled via the Main CWTS PLC HMI
 - c. The Potable Water Booster Skid PLC HMI does not need to be replaced
 - i. Figure 6 shows the existing Potable Water Booster Skid PLC HMI
4. Upgrade network switches as listed below
 - a. The LimeFeed PLC, the Potable Water Booster Skid PLC, and the Main CWTS PLC will require new Allen-Bradley Stratix 5200 network switches

5. Update power supplies as listed below
 - a. The LimeFeed PLC and the Potable Water Booster Skid PLC will need 1606-XLS80E power supplies
 - b. The Main CWTS PLC will use the existing 1606-XLS80E power supply
6. Provide as-builts of the installation
7. Onsite services include the following
 - a. Remove PLCs
 - b. Install CompactLogix and 1756 ControlLogix 5000 controllers
 - c. Machine Startup and Testing

Additional Comments:

- No UPS's are needed to be updated
- We would like to only switch the Potable Water House PLC to Compact Logix because this is the replacement for the existing Compact Logix controller. We want to switch the Main CWTS PLC and the LimeFeed PLC to the 1756 series to align with what we use and have spares for at the plant
- The LimeFeed does need any type of coating and can leave as is

Figures

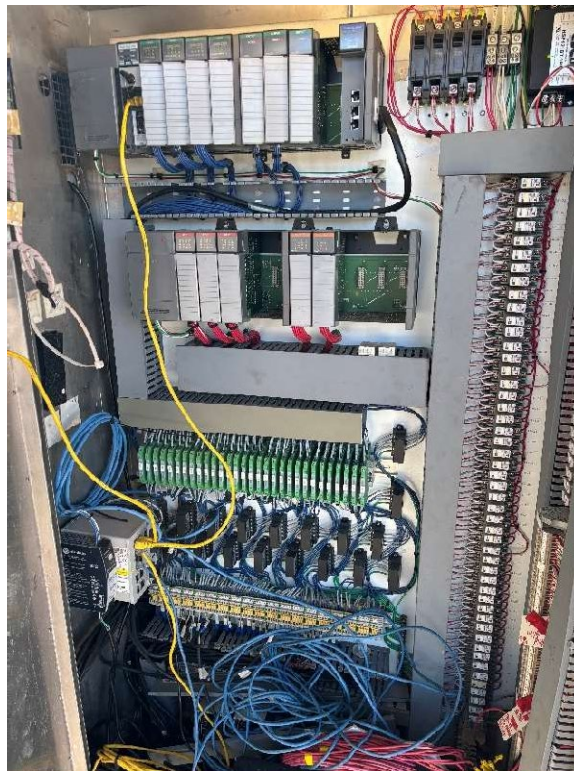


Figure 1: Existing Main CWTS SLC 5/05 Controller



Figure 2: Existing LimeFeed SLC 5/05 Controller

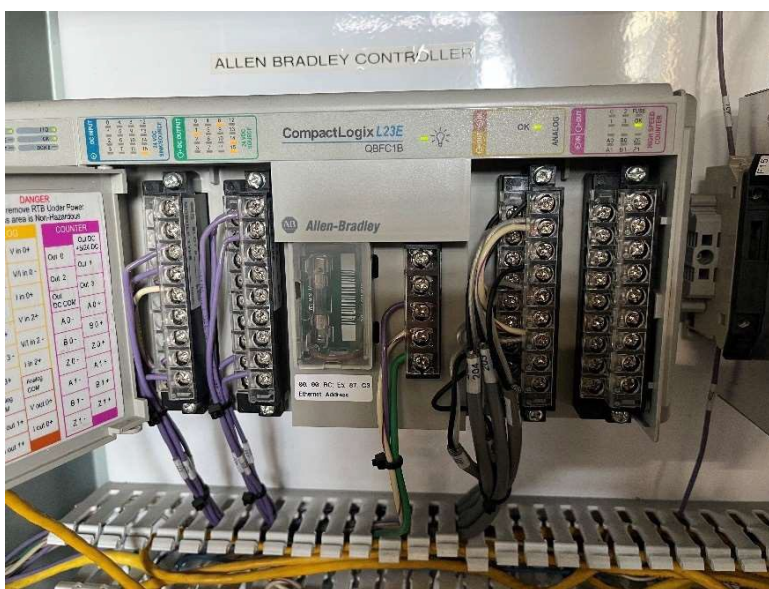


Figure 3: Existing Potable Water Booster Skid CompactLogix L23E controller



Figure 4: Existing Main CWTS PanelView 7 HMI



Figure 5: Existing RedLion Model G303 HMI

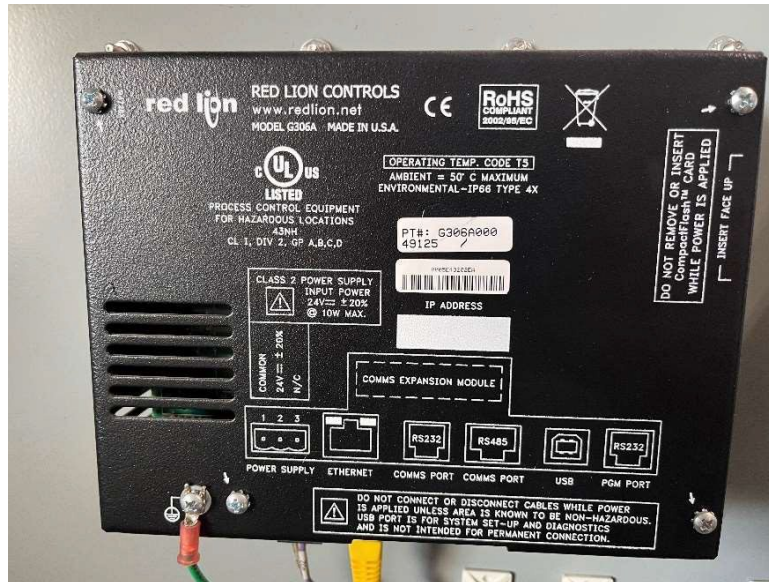


Figure 6: Existing RedLion Model G306A HMI

Main CWTS Current Chassis (1747-L551)		
Rack Number	Slot	Old Module
0	0	SLC 5/05 CPU
0	1	1746-NI8
0	2	1746-NI8
0	3	1746-NI8
0	4	1746-NI8
0	5	1746-NO4I
0	6	1746-NO4I
0	7	1746-NO4I
0	8	Empty
0	9	Empty

Figure 7: Main CWTS PLC Rack 0

Main CWTS Current Chassis (1747-L551)		
Rack Number	Slot	Old Module
1	0	1746-IA16
1	1	1746-IA16
1	2	1746-IA16
1	3	Empty
1	4	Empty
1	5	1746-OW16
1	6	1746-OW16
1	7	Empty
1	8	Empty
1	9	Empty

Figure 8: Main CWTS PLC Rack 1

Lime Feed Current Chassis (1747-L551)		
Rack Number	Slot	Old Module
0	0	SLC 5/05 CPU
0	1	1746-IA16
0	2	1746-OW16
0	3	1746-OW16
0	4	1746-NI4
0	5	1746-NO4I
0	6	Empty
0	7	1746-NI4
0	8	Empty
0	9	Empty

Figure 9: LimeFeed PLC Rack 0