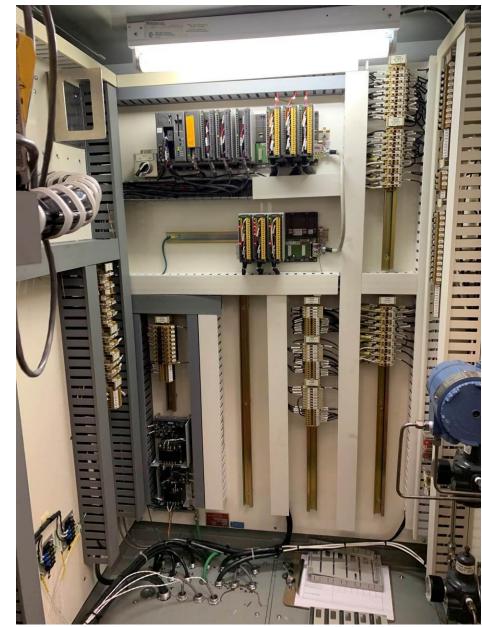
The City of Winnipeg Tender No. 805-2019 Addendum 4

> Appendix R – Photograph Log Hurst RPS, TBPS, WTP, DBPS and DCFF, and SLAIF.



PHOTOGRAPH 1: Hurst RPS pump 15 local control panel LCP-15 exterior.



PHOTOGRAPH 2: Hurst RPS pump 15 local control panel LCP-15 interior.



PHOTOGRAPH 3: Hurst RPS pump 15 local control panel LCP-15 facing the rear of the door panel showing the connections on the Bently Nevada pump and motor condition monitoring unit.



PHOTOGRAPH 4: Hurst RPS pump 15 local control panel LCP-15 interior showing the pump PLC.



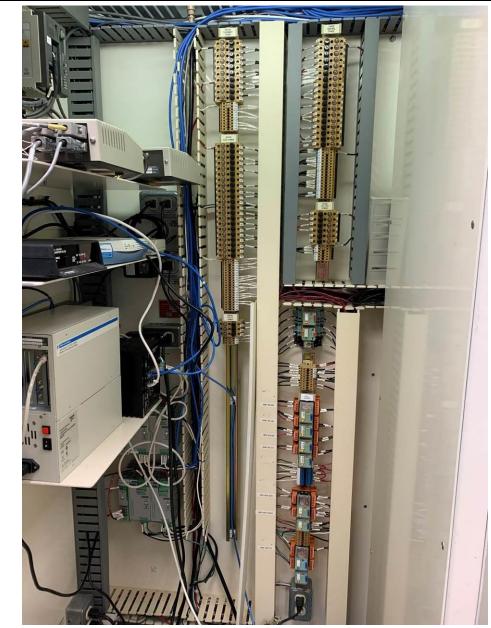
PHOTOGRAPH 5: Hurst RPS main control panel exterior.



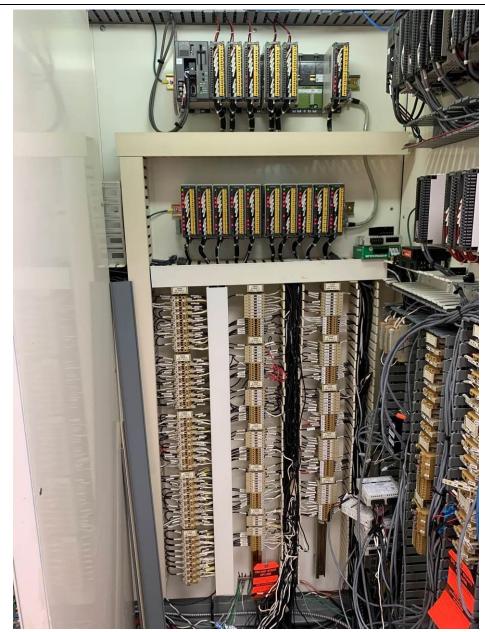
PHOTOGRAPH 6: Hurst RPS main control panel interior.



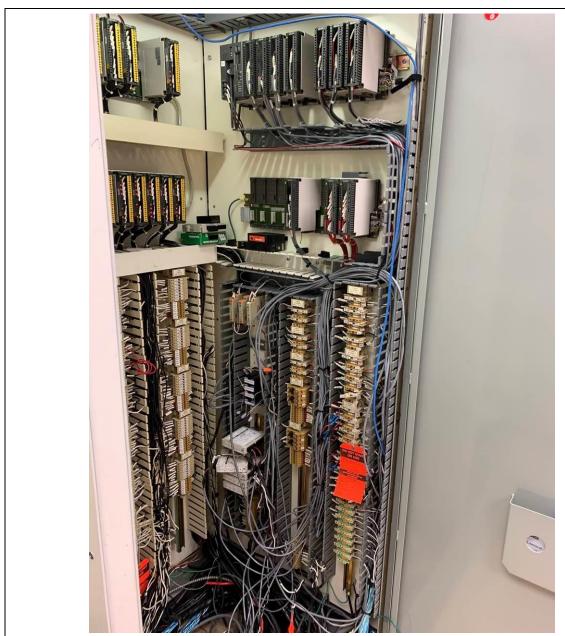
PHOTOGRAPH 7: Hurst RPS main control panel left side interior showing station PLCs and Modbus+ equipment.



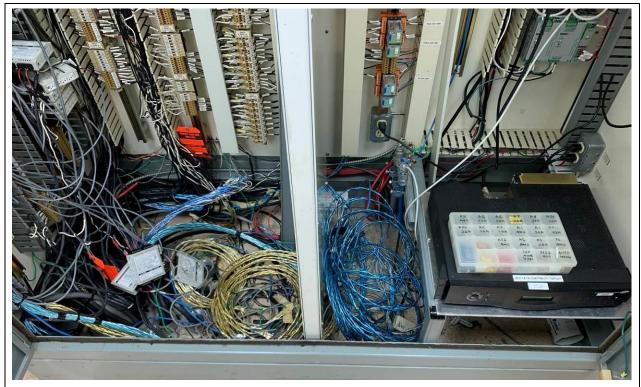
PHOTOGRAPH 8: Hurst RPS main control panel left side interior showing station terminal block wiring.



PHOTOGRAPH 9: Hurst RPS main control panel right side interior showing station station discrete I/O and terminal block wiring.

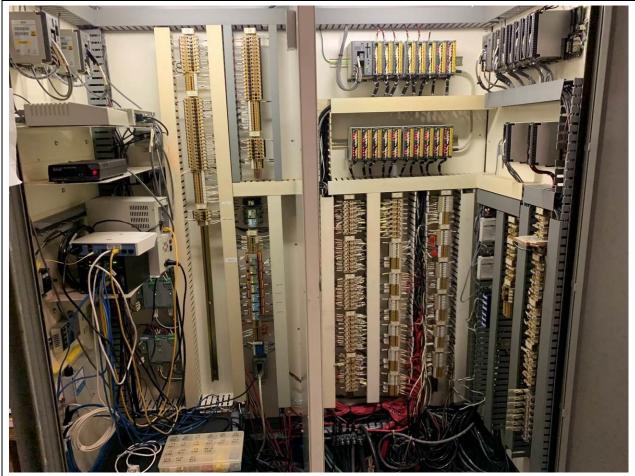


PHOTOGRAPH 10: Hurst RPS main control panel right side interior showing station analog I/O and terminal block wiring.



PHOTOGRAPH 11: Hurst RPS main control panel floor.

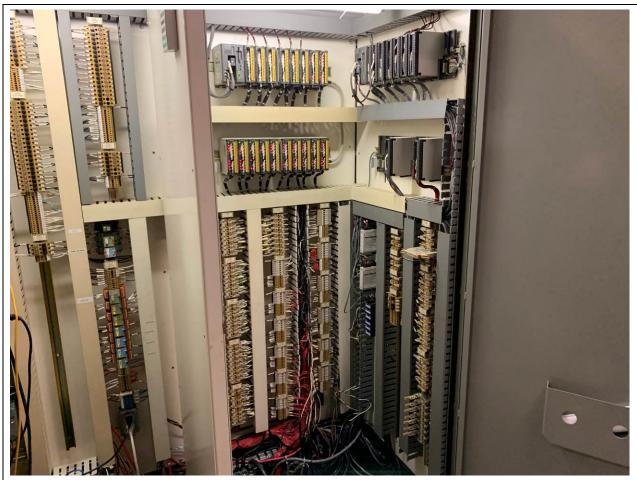




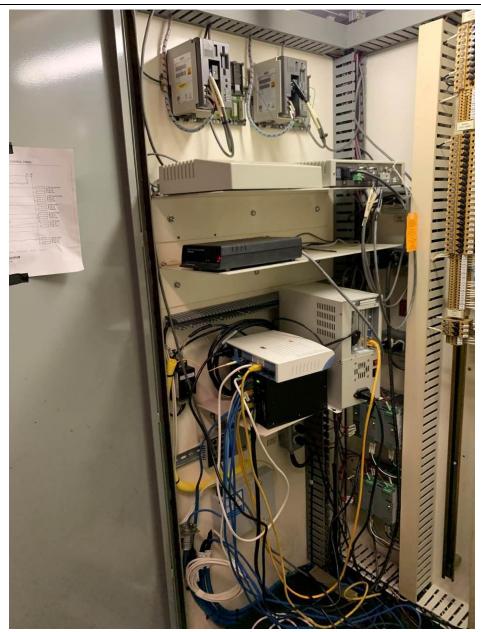
PHOTOGRAPH 13: MacLean RPS main control panel interior.



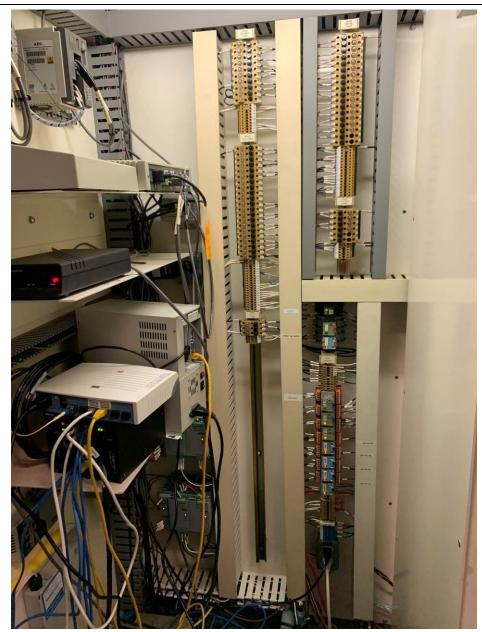
PHOTOGRAPH 14: MacLean RPS main control panel left side interior.



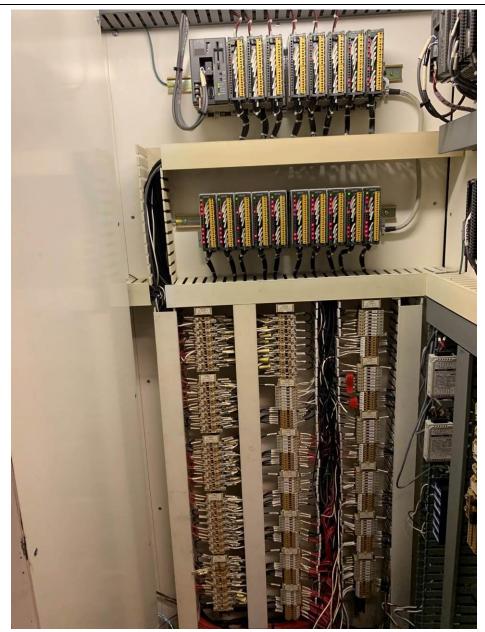
PHOTOGRAPH 15: MacLean RPS main control panel right side interior.



PHOTOGRAPH 16: MacLean RPS main control panel left side interior showing station PLCs and Modbus+ equipment.



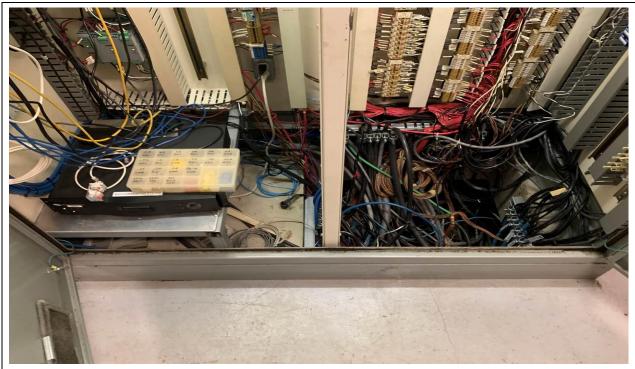
PHOTOGRAPH 17: MacLean RPS main control panel left side interior showing terminal block wiring.



PHOTOGRAPH 18: MacLean RPS main control panel right side interior showing station discrete I/O and terminal block wiring.



PHOTOGRAPH 19: MacLean RPS main control panel right side interior showing station analog I/O and terminal block wiring.



PHOTOGRAPH 20: MacLean RPS main control panel floor.



PHOTOGRAPH 21: DBPS local control panel LCP-D12 exterior.



PHOTOGRAPH 22: DBPS local control panel LCP-D12 interior.



PHOTOGRAPH 23: DBPS local control panel LCP-D12 panel door.



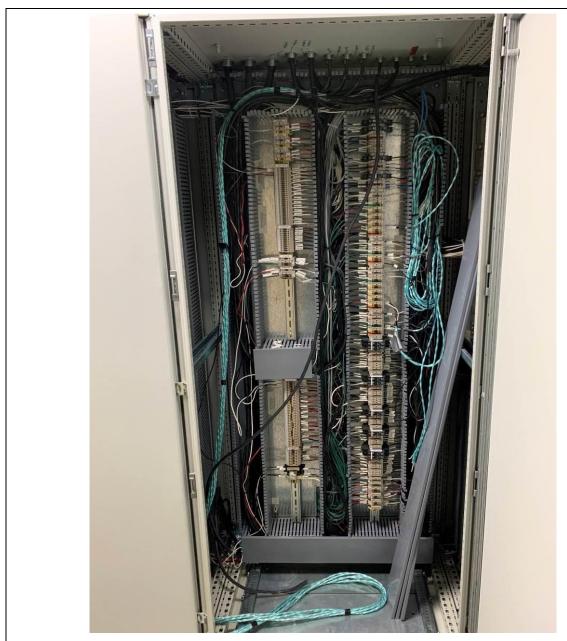
PHOTOGRAPH 24: DBPS local control panel LCP-D12 Quantum remote I/O.



PHOTOGRAPH 25: DBPS control panel CP-D21 exterior. The panel has three sections of equal size.



PHOTOGRAPH 26: DBPS control panel CP-D21 left interior section.



PHOTOGRAPH 27: DBPS control panel CP-D21 middle interior section.



PHOTOGRAPH 28: DBPS control panel CP-D21 right interior section.



PHOTOGRAPH 29: DBPS control panel CP-D21 Quantum remote I/O.



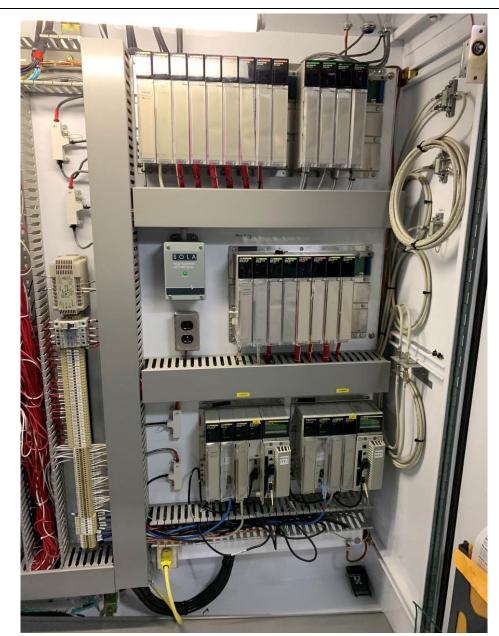
PHOTOGRAPH 30: DBPS control panel CP-D21 Quantum redundant PLCs.



PHOTOGRAPH 31: DBPS UV Master PLC panel interior.



PHOTOGRAPH 32: DBPS UV Master PLC panel left side interior showing terminal block wiring.



PHOTOGRAPH 33: DBPS UV Master PLC panel right side interior showing redundant PLCs and remote I/O.



PHOTOGRAPH 34: DBPS UV Master PLC panel remote I/O.



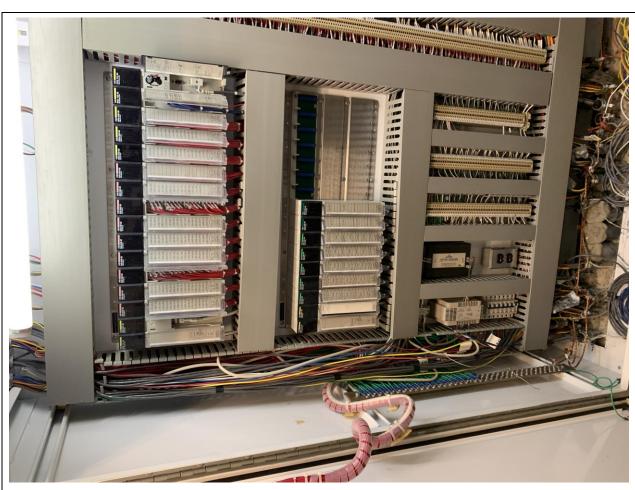
PHOTOGRAPH 35: DBPS UV Master PLC panel remote I/O.



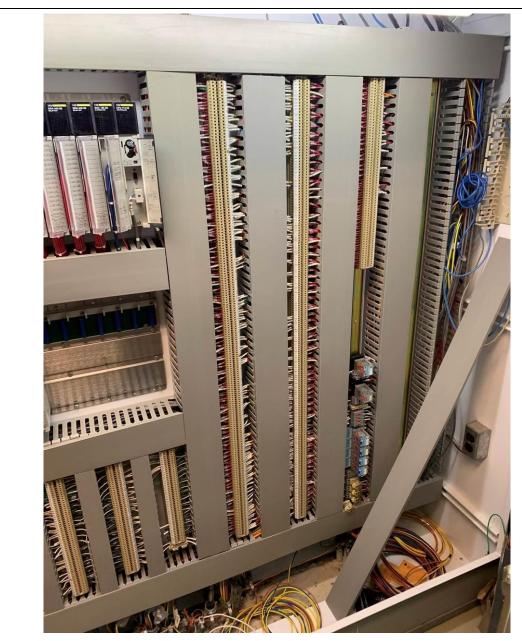
PHOTOGRAPH 36: DBPS UV Master PLC panel Quantum redundant PLCs.



PHOTOGRAPH 37: DCFF main control panel exterior.



PHOTOGRAPH 38: DCFF main control panel left side interior showing remote I/O.



PHOTOGRAPH 39: DCFF main control panel right side interior showing terminal block wiring.

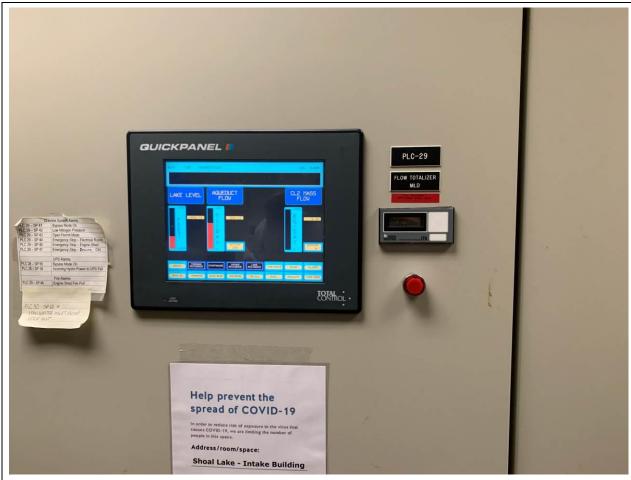




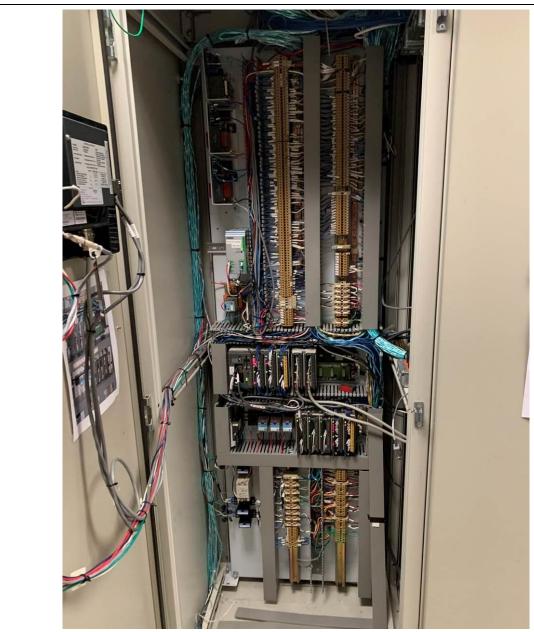
PHOTOGRAPH 41: DCFF main control panel remote I/O.



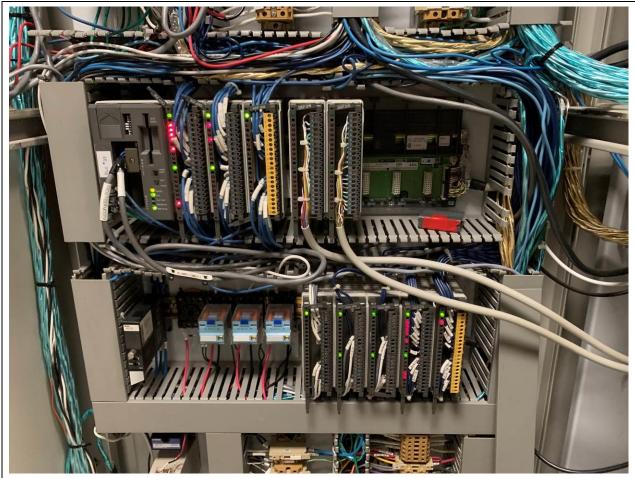
PHOTOGRAPH 42: SLAIF control room main alarm panel PL-15 exterior.



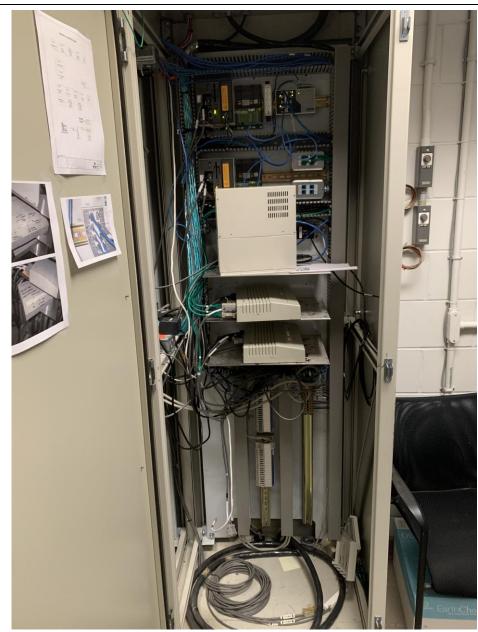
PHOTOGRAPH 43: SLAIF control room main alarm panel PL-15 HMI.



PHOTOGRAPH 44: SLAIF control room main alarm panel PL-15 left side interior.



PHOTOGRAPH 45: SLAIF control room main alarm panel PL-15 right side interior.



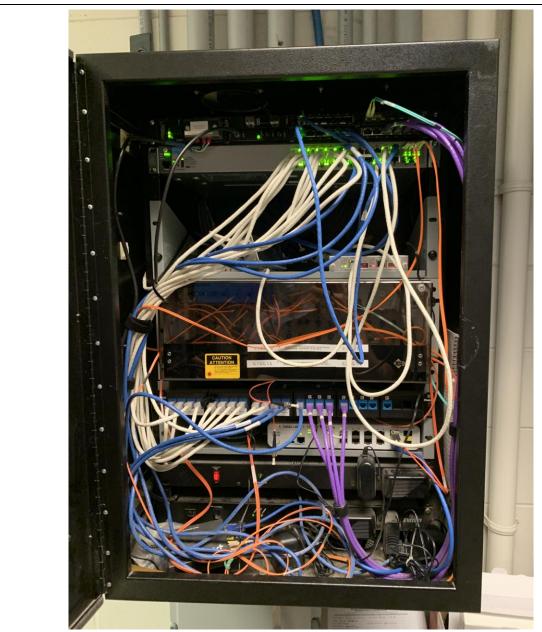
PHOTOGRAPH 46: SLAIF control room main alarm panel PL-15 right side interior.



PHOTOGRAPH 47: SLAIF control room main alarm panel PL-15 redundant station PLCs.



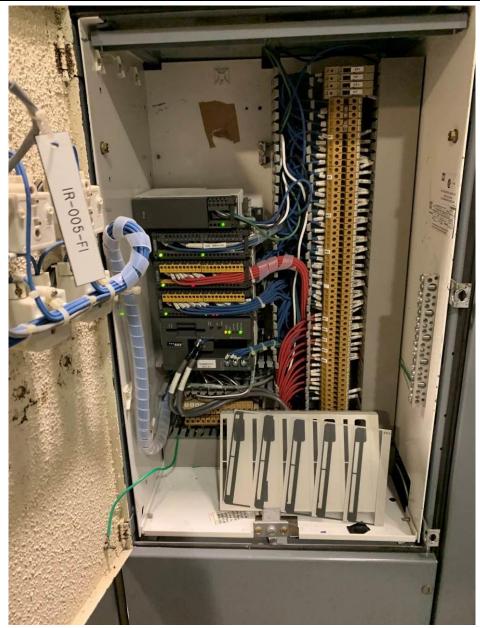
PHOTOGRAPH 48: SLAIF control room network panel NP-P801 exterior.



PHOTOGRAPH 49: SLAIF control room network panel NP-P801 interior showing NRT-P801 in the top rack.



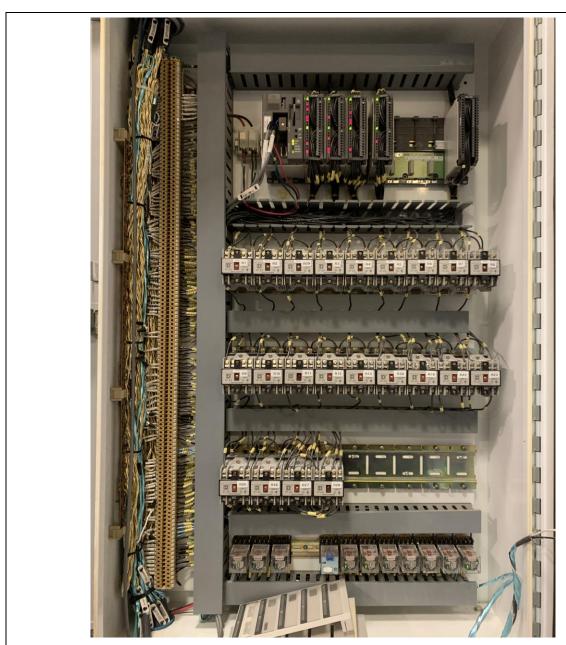
PHOTOGRAPH 50: SLAIF electrical room MCC-A2 cell 42 domestic water exterior.



PHOTOGRAPH 51: SLAIF electrical room MCC-A2 cell 42 domestic water PLC-31.



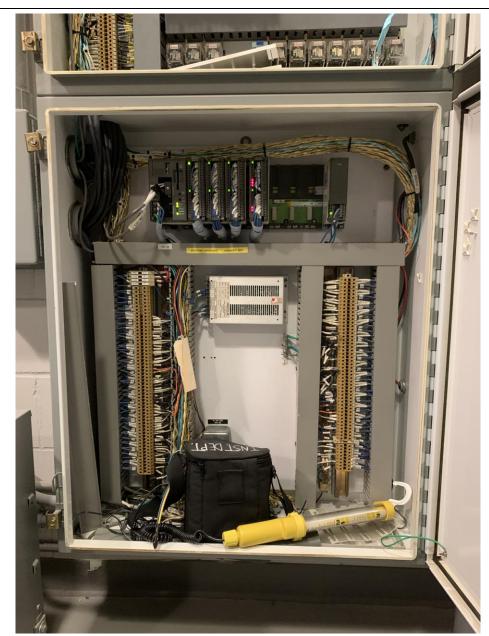
PHOTOGRAPH 52: SLAIF electrical room panel ATS PL-43 exterior. Panel PL-43 is right below panel ATS-PL-43.



PHOTOGRAPH 53: SLAIF electrical room panel ATS PL-43 interior.



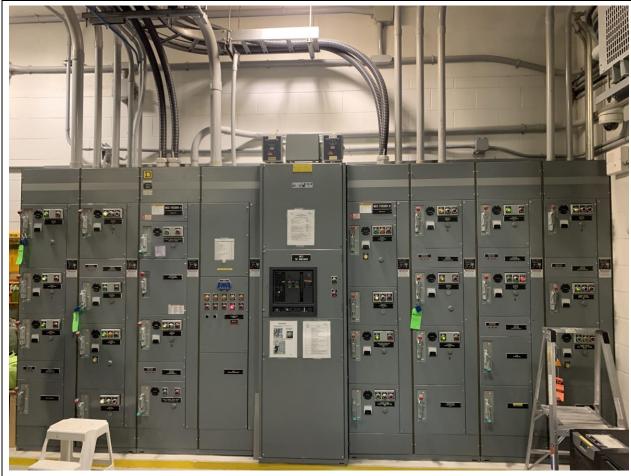
PHOTOGRAPH 54: SLAIF electrical room panel ATS PL-43 PLC 24.



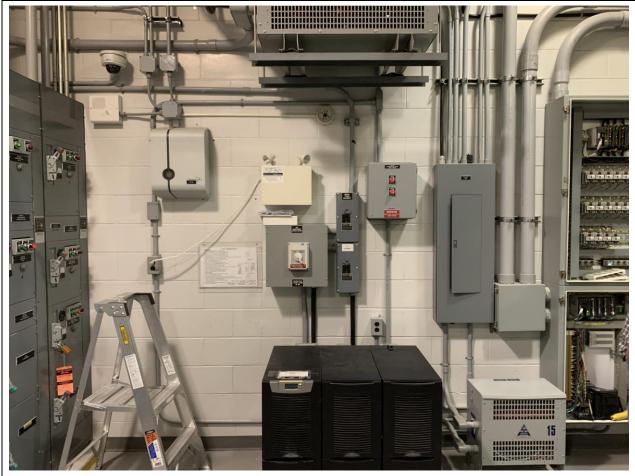
PHOTOGRAPH 55: SLAIF electrical room panel PL-43 interior. Panel ATS PL-43 is directly above panel PL-43.



PHOTOGRAPH 56: SLAIF electrical room panel PL-43 PLC 28.



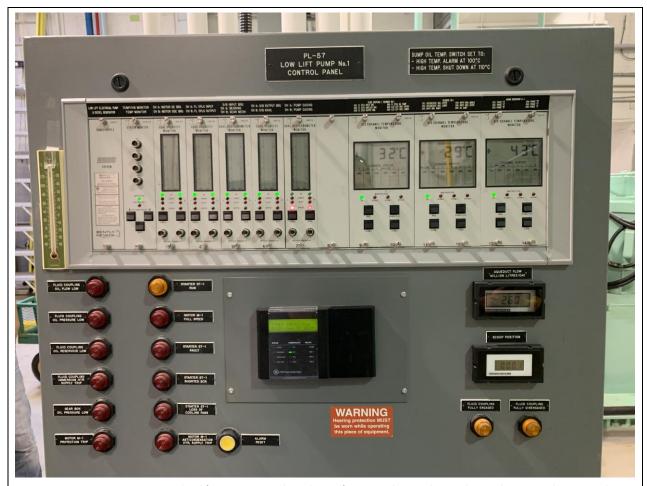
PHOTOGRAPH 57: SLAIF electrical room facing West showing MCC-A2 (left), MCC Tie-Breaker (centre), and MCC-B2 (right).



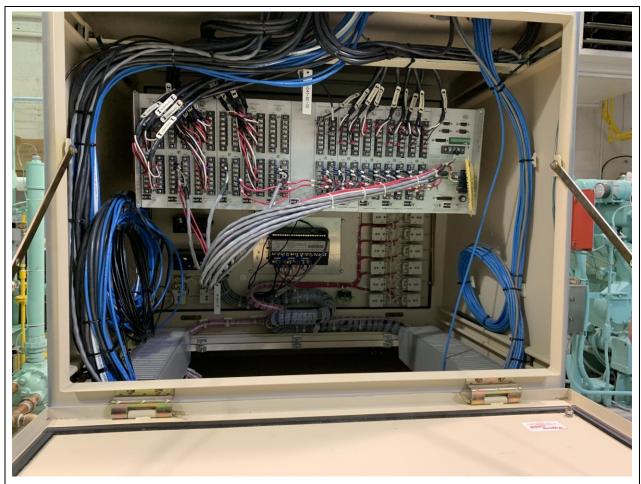
PHOTOGRAPH 58: SLAIF electrical room facing North with MCC on the left and panels ATS PL-43 and PL-43 on the right.



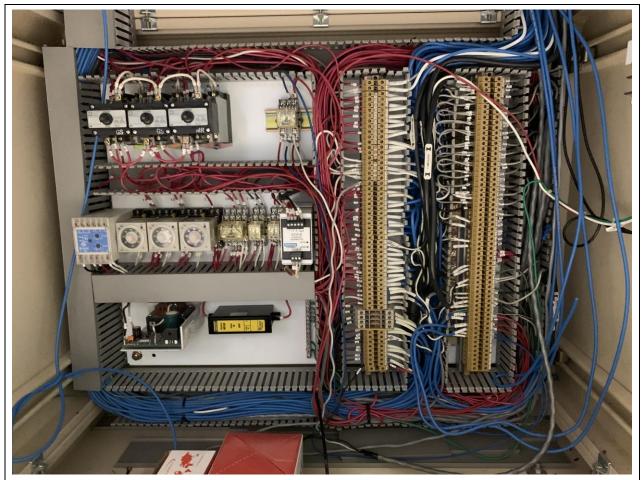
PHOTOGRAPH 59: SLAIF pump room low lift pump #1 control panel PL-57 front view.



PHOTOGRAPH 60: SLAIF pump room low lift pump #1 control panel PL-57 front view showing the Bently Nevada pump and motor condition monitoring unit.



PHOTOGRAPH 61: SLAIF pump room low lift pump #1 control panel PL-57 rear view showing the Bently Nevada pump and motor condition monitoring unit wiring.



PHOTOGRAPH 62: SLAIF pump room low lift pump #1 control panel PL-57 lower section front view showing the terminal block wiring.

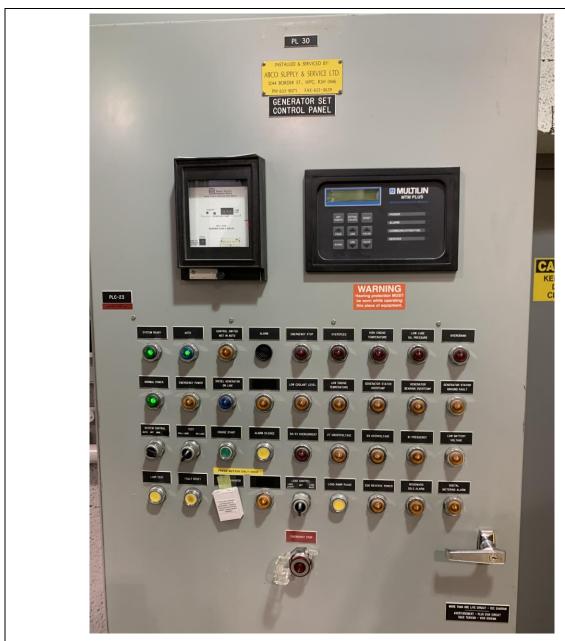




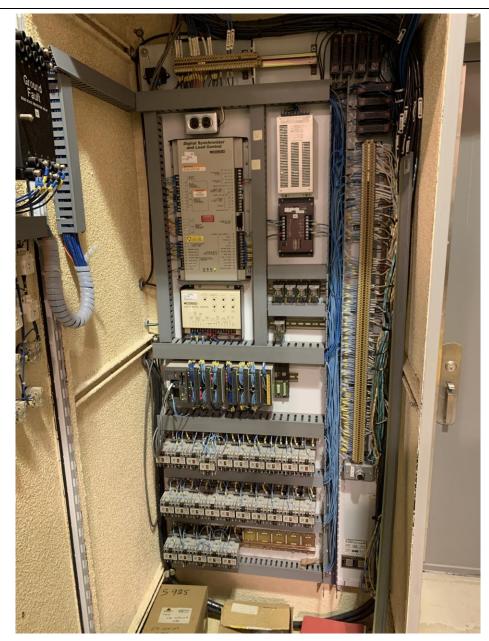
PHOTOGRAPH 64: SLAIF pump room alarm panel PL-17 interior.



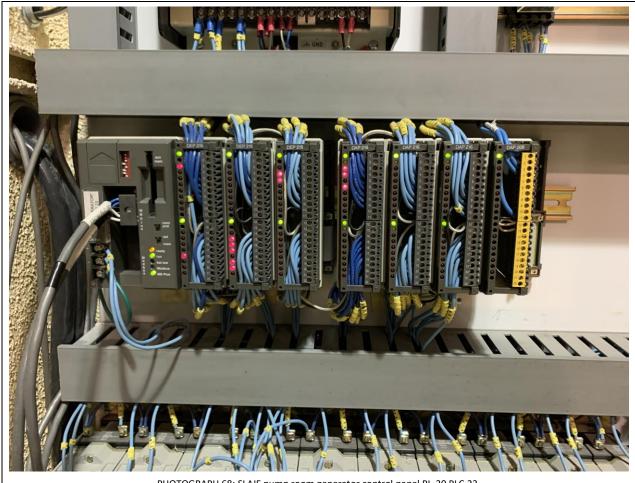
PHOTOGRAPH 65: SLAIF pump room alarm panel PL-17 PLC 30.



PHOTOGRAPH 66: SLAIF pump room generator control panel PL-30 exterior.



PHOTOGRAPH 67: SLAIF pump room generator control panel PL-30 interior.



PHOTOGRAPH 68: SLAIF pump room generator control panel PL-30 PLC 23.



PHOTOGRAPH 69: SLAIF pump room low lift pump #2 control panel PL-59 exterior.



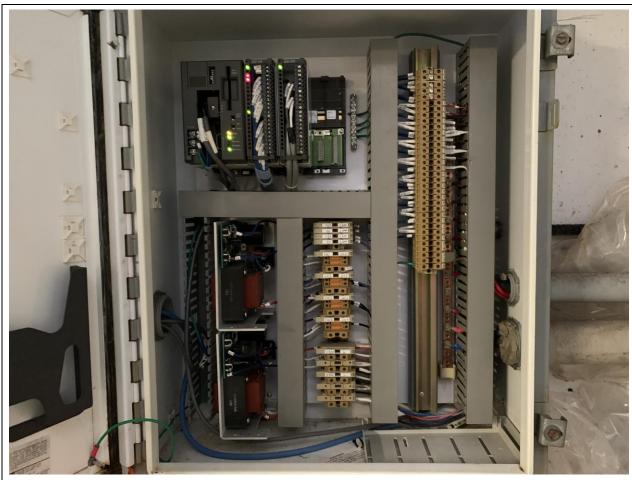
PHOTOGRAPH 70: SLAIF pump room low lift pump #2 control panel PL-59 exterior showing the Bently Nevada pump and motor condition monitoring unit.



PHOTOGRAPH 71: SLAIF pump room low lift pump #2 control panel PL-59 interior showing the Bently Nevada pump and motor condition monitoring unit wiring.



PHOTOGRAPH 72: SLAIF Acid Transfer Building alarm panel PL-40 exterior.



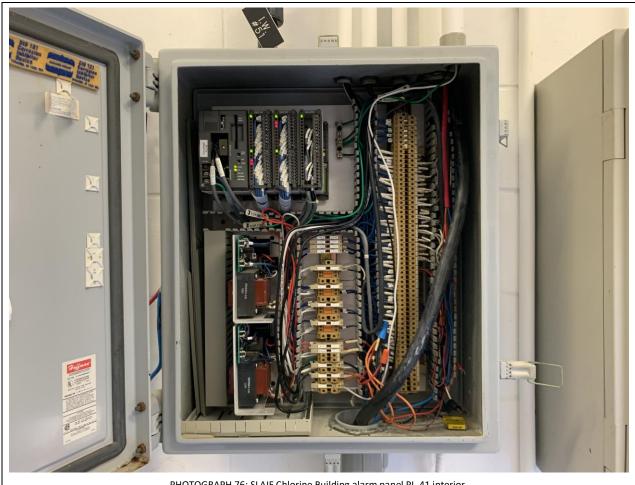
 ${\tt PHOTOGRAPH~73:~SLAIF~Acid~Transfer~Building~alarm~panel~PL-40~interior.}$ 



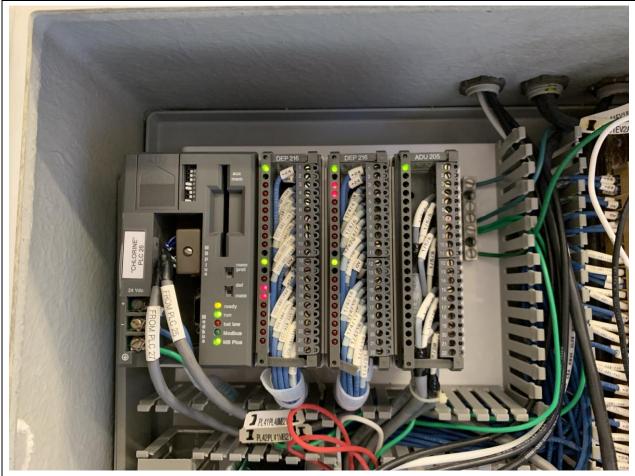
PHOTOGRAPH 74: SLAIF Acid Transfer Building alarm panel PL-40 PLC 25.



PHOTOGRAPH 75: SLAIF Chlorine Building alarm panel PL-41 exterior.



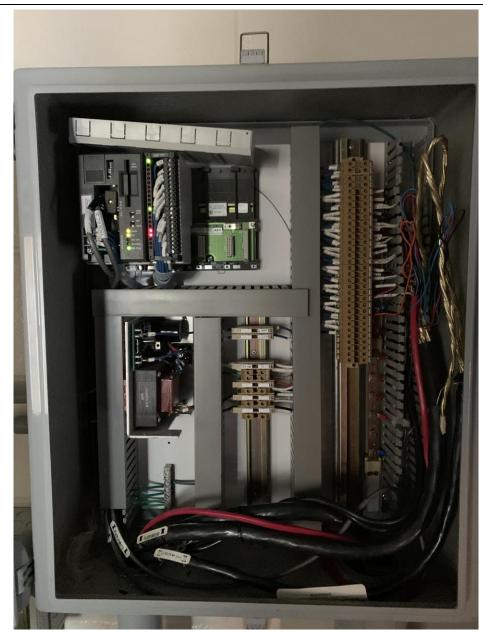
PHOTOGRAPH 76: SLAIF Chlorine Building alarm panel PL-41 interior.



PHOTOGRAPH 77: SLAIF Chlorine Building alarm panel PL-41 PLC 26.



PHOTOGRAPH 78: SLAIF Dechlorination Building alarm panel PL-42 exterior.



PHOTOGRAPH 79: SLAIF Dechlorination Building alarm panel PL-42 interior.



 ${\tt PHOTOGRAPH~80:~SLAIF~Dechlorination~Building~alarm~panel~PL-42~PLC~27.}$ 



PHOTOGRAPH 81: SLAIF Engine Shed panel PL-82 exterior.



PHOTOGRAPH 82: SLAIF Engine Shed panel PL-82 interior.



 ${\tt PHOTOGRAPH~83: Engine~Shed~network~panel~NP-E800~exterior.}$ 



 ${\tt PHOTOGRAPH~84: Engine~Shed~network~panel~NP-E800~interior~showing~NRT-E800.}$ 



PHOTOGRAPH 85: SLAIF Electrical Shed network panel NP-H800 exterior.



PHOTOGRAPH 86: SLAIF Electrical Shed network panel NP-H800 interior showing the existing network media converter.

Appendix R Page 87 of 96



PHOTOGRAPH 87: SLAIF Electrical Shed panel PL-64 exterior.



PHOTOGRAPH 88: SLAIF Electrical Shed panel PL-64 interior showing extisting terminal block wiring.





PHOTOGRAPH 90: SLAIF Operator's Residence panel PL-66 interior.



PHOTOGRAPH 91: SLAIF Operator's Residence HMI.







 ${\tt PHOTOGRAPH~94:~SLAIF~Staffhouse~network~panel~NP-S800~interior.}$ 



PHOTOGRAPH 95: SLAIF Staffhouse HMI.



PHOTOGRAPH 96: SLAIF Staffhouse location of new control panel CP-S800 and LHMI-S800.