

MONTHLY PROGRESS REPORT

Project: **Wallingford Energy Center Expansion Project**
Client **Wallingford Energy II, LLC**
Location **Wallingford, Connecticut**
Job Number: **1015-5113**
Reporting Period **October 1st, 2017 through October 31st, 2017**

Submitted:
November 7th, 2017
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EXECUTIVE SUMMARY

ProEnergy is pleased to report the Substantial Completion of the project has improved from last month by 2 calendar days from December 7th to December 5th. The improvement is due to improved progress towards first fire of both units.

The focus for PES this month was to:

- Get permanent power to the MCC's
- Complete TLO & GLO oil flushes on Units 6 & 7
- Complete installation and alignment of engines
- Complete the commissioning activities for Unit's 6 & 7 to first fire the units
- Complete shooting loops and verifying motors for Unit's 6 & 7 first fire
- Complete installation and commissioning of CEMS system
- Install winterized CO2 skids
- Run fuel gas up to Units 6 & 7
- Complete installation of safety showers near AFCU skids
- Complete the site road installation and paving

The critical path is presently completing the first fire of the units and performing maintenance on the 15kV SWGR to allow closing the GCB's and synchronizing the units. The 15kV SWGR has provided several unforeseen issues and in an effort to mitigate any future problems, ProEnergy is going to replace all questionable parts to prevent further delays.

Weekly review meetings are continuing to be held each Thursday morning to discuss project status and issues.

ProEnergy is actively looking to improve the schedule dates for each major milestone and most importantly the Substantial Completion.

1. MAJOR ACTIVITIES COMPLETED**1.1. ENGINEERING-** None reported**1.2. PROCUREMENT**

- CTG for Unit #6 --Received on site 10/17/17
- CTG for Unit #7 --Received on site 10/17/17

1.2 FABRICATION / SHOP WORK - None reported**1.3 CONSTRUCTION**

1.4.1. MECHANICAL**#6 CTG Equipment**

- Installed H-Frame
- Lifted Unit 6 turbine from truck and used skates to position turbine under H-Frame.
- Performed turbine to generator alignment.
- Performed inlet volute alignment on Unit 6.
- Finished installing exhaust package walls and sealed all joints.
- Installed check valves in TLO lines and connected to turbine.
- Installed and tested ignitors.
- Installed CO2 piping to skid.
- Finished Diffuser alignment and started on clamshells.
- Started insulating above ground fuel/gas lines

#6 Stack & SCR

- Finished breach expansion joint drain supports.

#7 CTG Equipment

- Installed H-Frame.
- Removed lift fixture and H-Frame from Unit 6 and installed on Unit 7.
- Lifted Unit 7 turbine from truck and used skates to position turbine under H-Frame.
- Performed Unit 7 turbine alignment.
- Pulled lift fixture out of turbine package.
- Installed inlet volute inner boot on Unit 7.
- Installed VBV duct expansion joint on Unit 7.
- Finished installing exhaust package walls and sealed all joints.
- Installed check valves in TLO lines and connected to turbine.
- Installed and tested ignitors.
- Installed check valves in TLO lines on Unit 6.
- Installed CO2 piping to skid.
- Finished Diffuser alignment and started on clamshells.

#7 Stack & SCR

- Finished breach expansion joint drain supports

1.4.2. ELECTRICAL

15KV System

- Made 72 terminations
- Installed Braids from Generator to Bus

480 Auxiliary Switchgear and Transformer

480V System

- Installed 15 feet of flex on waste water box
- Pulled 7060 feet of cables
- Installed 280 feet of power conduit
- Made 445 terminations
- Installed disconnect for CEMS

24VDC System

- Installed 200 feet instrumentation conduit
- Pulled 7100 feet cable
- Installed 780 feet conduit
- Made 425 terminations
- Mounted Waste Water heat controller

PDC Building

- Pulled 50 feet of battery alarm cable
- Made 154 terminations
- Installed Gen Protection, 4/C #2 to the 70 amp spare breaker
- Pulled 450 feet of fiber cable

Lighting

- Made 100 terminations
- Installed 715 feet of conduit
- Installed 3100 feet of cable for lights
- Installed 10 station lights
- Pulled 200 feet of circuit cable
- Pulled 600 feet of # 10 wire for receptacles and lighting
- Pulled 800 feet of cable

Heat Trace

- Installed 20 feet of 12" tray
- Installed transformer
- Installed 25 feet of 2" conduit for heat trace disconnect.
- Installed 20 termination boxes
- Made 10 terminations on heat race boxes
- Installed 100 feet of 1" conduit

125 VDC System

- Installed 150 feet of 1" conduit
- Installed 100 feet of ¾" conduit
- Pulled 2630 feet cable
- Made 41 terminations
- Installed 40 feet 1-1/2" conduit

CEMS

- Mounted transformer
- Pulled 800 feet of cables
- Pulled umbilical cord from CEMS shack to probe port units 6 & 7.
- Installed 20 feet of 2" conduit for power CEMS building

1.4.3. CONTROLS

- PES hired NEI to complete the MCC I/O design, turbine controls, BOP integration and system checkouts. CEG is contracted to design the Generator Protection Panel. The table below shows the tasks and percent complete.

1	Create BOP integration one-line integration topology diagram. (4)	90%
2	Purchase BOP integration PLC hardware (5)	100%
3	Install, test, and commission BOP integration PLC hardware. (6)	50%
4	MCC New PLC Programming (8)	90%
5	90/70. Review current program relating to MCC monitoring, control, and protection. (10)	50%
6	Functional testing and commissioning of MCC I/O devices to new PLC. (12)	0%
7	MCC. Integrate new MCC PLC controller into BOP HMI. (13)	0%
8	CEMS: Test and commission communications between the CEMS PLC's and the new DAHS system. Determine requirements to integrate the two new CEMS data into the facility DAHS (15)	15%
9	Unit 6 & Unit 7 - Review current local Wonderware HMI screens	100%
10	Unit 6 & 7 - NEI to make necessary modifications to the Local Wonderware HMI screens. (18)	25%
11	Install local Workstation computer.	100%

12	Sega Cable List (50 to BOP Cabinet): Review Cables List with GE Numbers to determine any new I/O that needs to be added to the MCC BOP PLC. - Create point to point termination drawings for items in the Sega list & BOM. (26)	75%
13	Sega Cable List (50 to BOP Cabinet): Modify MCC BOP PLC inter-connect drawing to add additional BOP I/O based on Cables List. Create new MCC BOP PLC hardware BOM based on additional BOP I/O. (27)	90%
14	WEII - Exhibit B-1, 6.1 Balance of Plant Control System (Facility SCADA). Review, analyze, and implement required SCADA screens. (34)	10%
15	WEII - Exhibit B-1, 6.2 Combustion Turbine Generator & Auxiliaries. Review, analysis, and implementation to Integration T6 and T7 remote monitoring and control into existing facility SCADA (Cimplicity) HMI. (37)	50%
16	WEII - Exhibit B-1 - xc.pdf, 6.3 Continuous Emission Monitoring System. Review, analyze, and incorporate new CEMS shelter into existing facility CEMS server/DAHS. (40)	0%
17	SCR. Review, analyze, and incorporates stand-alone controls into existing facility BOP. (43)	0%
18	8X Transformer. Review, analyze, and incorporate monitoring into existing facility BOP. (46)	100%
19	Heat Trace. Review, analyze, and incorporate monitoring into existing facility BOP. (52)	0%
20	8X Transformer Hydrogen (Dissolved gas) Review, analyze, and incorporate monitoring into existing facility BOP. (55)	95%
21	Unit 6 & 7 10-Minute Start. Review, analyze, implement & Test (58)	0%
22	Mk VI Fuel Controller. Install Unit T6 & T7 CPU. Power up and install program. (64)	100%
23	Unit 6 & 7 90/70: Sequence modifications: Add anti-icing monitoring, control, and protection. (66)	95%
24	Unit 6 & 7 90/70: Sequence modifications: Add Evap cooler monitoring, control, and protection. (67)	95%
25	90/70: Sequence modifications: Add Fuel block and bleed, monitoring, control, and protection. (68)	95%
26	NEI Startup support: (81) Installation, Testing, and Commissioning	50%
27	Device Calibrations: LM6000 Instrumentation Calibrations. (Assumes 6, 10-hour days). Instrument Tech. ST, OT, and DT (85)	100%
28	Loop checks: (88)	90%
29	TCP LM90 Sequencer PLC (94)	100%
30	Create new MCC drawing schematics (95)	100%
31	Create 125VDC Drawing (96)	100%

32	#6 & #7 Generator Breaker Failure Indication (97)	0%
33	#6 & #7 Review "Fiber" requirement for generator protection relays SEL-2664 and SEL-700G. Define cable for PES to order if needed. (99)	50%
34	Create new Shallbetter 115KV Switchgear as-built wiring schematics (102)	80%
35	Generator Protection Panel Design and Wiring Schematics (103)	0%
36	Unit 6 and Unit 7 Aux transformer Termination drawings (105)	100%
37	U 6 and Unit 7 GE Cable Optional List Review(106)	70%
38	MCC Main Breaker Wiring Drawing (107)	90%
39	MCC Transfer Switch Restoration (108)	0%
40	Revenue / Billing Meer Telemetry	10%

1.4.4. CIVIL & PAVING

- Grouting pipe supports.
- Worked on pipe supports on the waste water lines at the waste water tank.
- Formed CO2 foundation extension set rebar, manhole & poured concrete. Unit 6 & 7
- Empire Paving, grading & paving from the tie in at Unit 2 thru to access road on the east side of the site.

2. PLANNED ACTIVITIES FOR NEXT PERIOD

2.1. ENGINEERING

2.1.1. Controls - NEI & CSE will continue to work on the BOP Integration, battery systems and SCADA screens

2.2. PROCUREMENT LOOK AHEAD

2.2.1. Continue with Procurement as outlined in the schedule.

2.3. FABRICATION / SHOP WORK - No scheduled work

2.4. CONSTRUCTION

2.4.1. MECHANICAL

#6 CTG Equipment –

➤ Continue dress out

#6 Auxiliary Skid

➤ Complete all remaining piping & pipe supports

#6 Sprint Skid – No Work Scheduled

#6 Fuel Gas System

➤ Finish installing system vents.

#6 Ammonia Injection Skid – No Work Scheduled

#6 Evap System – No Work Scheduled

#6 De-Icing System

➤ Complete internal piping

#6 LP Water Injection Skid – No Work Scheduled

#6 CO2 Rack Skid – No Work Scheduled

#6 Oily Water Drains – No Work Scheduled

#6 Wash Water Drains

➤ Complete installation of the lift Station pump and control wiring.

#6 SCR

➤ Complete punch list & Catalyst installation

#6 Stack

➤ Complete punch list

#7 CTG Equipment

➤ Install CDP piping

#7 Auxiliary Skid – No Work Scheduled

#7 Sprint Skid

➤ Complete all remaining piping & pipe supports

➤ Flush Piping

#7 Fuel Gas System

➤ Install the system vents.

#7 Ammonia Injection Skid – No Work Scheduled

#7 Evap System – No Work Scheduled

#7 De-Icing System – No Work Scheduled

#7 LP Water Injection Skid– No Work Scheduled

#7 CO2 Rack Skid

- Install cold weather enclosure

#7 Oily Water Drains – No Work Scheduled

#7 Wash Water Drains – No Work Scheduled

#7 SCR

- Complete punch list and Catalyst installation

#7 Stack

- Complete punch list

2.4.2. ELECTRICAL

15KV System– No Work Scheduled

480 Auxiliary Switchgear and Transformer – No Work Scheduled

480V MCC

- Complete Punch list

Control, Instrument and Power Cables

- Complete terminating power and instrument cables to both units.

PDC Building

- Install all fire stop cable tray penetrations
- Complete the Generator Protection Panels

Heat Trace

- Complete heat trace installation

Lighting

- Complete lighting installation

2.4.3. CONTROLS

- Complete Control Wiring Drawings
- PDC BOP Rx3I PLC
 - Complete device IP Addresses
 - Complete engineering design of the Motor Control Center (MCC) monitoring and control system.
 - Program new PLC.
- Wonderware HMI
 - Modify existing Wonderware HMI screens as required.
 - Install Annex1 (Unit T6)
 - Annex2 (Unit T7) HMI's in PDC.
 - Install Annex3 as the engineering station in the PDC
- Unit T6 and Unit T7 Specific Activities:
 - Install and power up new Mk VI fuel controller UCVD.
 - Verify proper operation.
 - Power up 90/70 PLC Sequencer.
 - Down load program.
 - Verify proper operation.
- Modify control system program to incorporate:
 - Anti-icing monitoring, control, and protection.
 - Evap cooler monitoring, control, and protection.
 - New fuel block and bleed monitoring, control, and protection.
- Review existing display screens for Unit T6 and Unit T7. Modify existing Wonderware HMI screens as required

2.4.4. CIVIL

- Build the berm on the East side of the CTG sound wall

2.4.5. STRUCTURAL

- N/A

3. STARTUP & COMMISSIONING**SUMMARY**

- Commissioning main focus has been to start and finish the L/O flushing on Unit #6 and #7 Generator L/O and Turbine L/O. We have a temporary Gen set cabled to the 480V MCC to supply the equipment required. We are also focused on conducting a status check on all equipment power cabling and all instrument wiring.

- Another main focus of Commissioning has been to complete the L/O flushing on Unit #6 and #7 Jacking Oil and Hydraulic Start Systems. We will also be involved in the Turbine installation. As the Turbines are installed this opens another work front for us and that is to complete all associated loops on Turbines #6 and #7. Completion of the clean and close on Unit #6 and #7 inlets and exhaust sections. Completion of the fire system checkout on both units.
- We have also been focused on all outstanding activities which need completed in order to conduct the First Fire on Unit #6 & #7.

Acceptance Testing

- Emissions Testing
 - CEMS Certification
 - Protocol Complete
 - Compliance Testing
 - Protocol Complete
- Performance Testing
 - Protocol Complete
- Reliability Testing
 - Procedure Complete
- 10 Minute Start
 - Procedure Complete
- Sound Level Test Procedure
 - Procedure Complete
- Auxiliary Load Test Procedure
 - Procedure Complete
- Ammonia Consumption Test
 - Procedure Complete

Commissioning activities

- Ran in a collected Data on all available motors
- Balanced Fan A Gen Enclosure Unit #6
- Set Engine in Unit #6
- Set Engine in Unit #7
- Cranked and False Fired Unit #7
- Systems which have been turned over from Construction to Commissioning:
 - Instrument Air
 - Service Air
 - Fuel Gas
 - Potable Water
 - Demineralized Water
 - Hydraulic Start #6 & #7
 - High Voltage

- Medium Voltage
- Low Voltage
- UPS & 125DC
- Turbine Lube Oil Units #6 & #7
- Generator Lube Oil Units #6 & #7
- NOx Injection #6 & #7
- Sprint Water #6 & #7
- Control System
- Water Wash Unit #6 & #7
- Generator #6 & #7
- Ammonia Distribution
- Turbine Unit #6 & #7
- Evap Cooler Unit #6 and #7
- Ventilation and Combustion Air Unit #6 & #7
- CEMS Unit #6 & #7
- Fire Protection Unit #6 & #7 High Voltage

3.1. **MECHANICAL**

- Started Flushing and Completed Unit #6 Generator L/O
- Started Flushing and Completed Unit #7 Generator L/O
- Started Flushing and Completed Unit #6 Turbine L/O
- Started Flushing and Completed Unit #7 Turbine L/O
- Started Flushing and Completed Unit #6 Turbine Hydraulic
- Started Flushing and Completed Unit #7 Turbine Hydraulic

3.2. **INSTRUMENTATION**

- Instrumentation Summary
- Calibration Summary
 - Unit #6 Calibrations 95% Complete
 - Unit #7 Calibrations 95% Complete
- Loop Checks
 - Unit #6 Loops shot 95% Shot
 - Unit #7 Loops Shot 96% Shot

3.3. **ELECTRICAL**

- Completed 98% of Motor Run ins
- MCC's and/or equipment which has been energized and is under commissioning jurisdiction as follows:
 - Generator L/O Unit #6 Heaters
 - Generator L/O Unit #7 Heaters

- Turbine L/O heater Unit #6
- Turbine L/O heater Unit #7
- Generator space heater #6
- Exciter space heater #6
- Generator space heater #7
- Exciter space heater #7
- Generator Enclosure lighting Unit #7
- Generator Enclosure lighting Unit #6
- 125 DC battery chargers and batteries
- 24V DV battery chargers and batteries
- Energized TCP #7
- Energized TCP #6
- Energized Sprint Skid Heaters
- Energized 15KV switch gear heaters
- 24V power supplies 1-10 energized
- Lighting Panel B
- Energized NOx skid Heater
- Energized Turbine enclosure lighting Unit #6
- Energized the UPS Inverters
- Aux Transformer #6
- Aux Transformer #7
- 480V MCC on Perm Power
- Hydraulic Oil Heater #6
- Hydraulic Oil Heater #7
- Gen. Enclosure Space Heaters #6
- Gen. Enclosure Space Heaters #7
- Aux Skid Space Heaters #6
- Aux Skid Space Heaters #7

3.4. CONTROL SYSTEM

- Installed FE and FC 6246 Unit #6
- Verified reading was checked from inside of the TCP cabinet to the HMI where the servo is located.
- Changed out the VSVO card in Slot 9. Shutdowns were still present.
- All wire connections for MTTB were good and matched the drawing.
- Changed main chassis of the Mark VI.

- Unit #6 NOx water Woodward Valves installed in Unit #7
- Removed and Shipped out both Woodward valves
 - Unit #6 Fuel Woodward removed
 - Unit #7 NOx Woodward removed

3.5. SAFETY

- Mon. Tool Box Talk
- Confined space entry to valve vault
- Brought gas into the Unit #6 and Unit #7
- No smoking and hot work implemented

3.6. PLANNED ACTIVITIES FOR NEXT PERIOD:

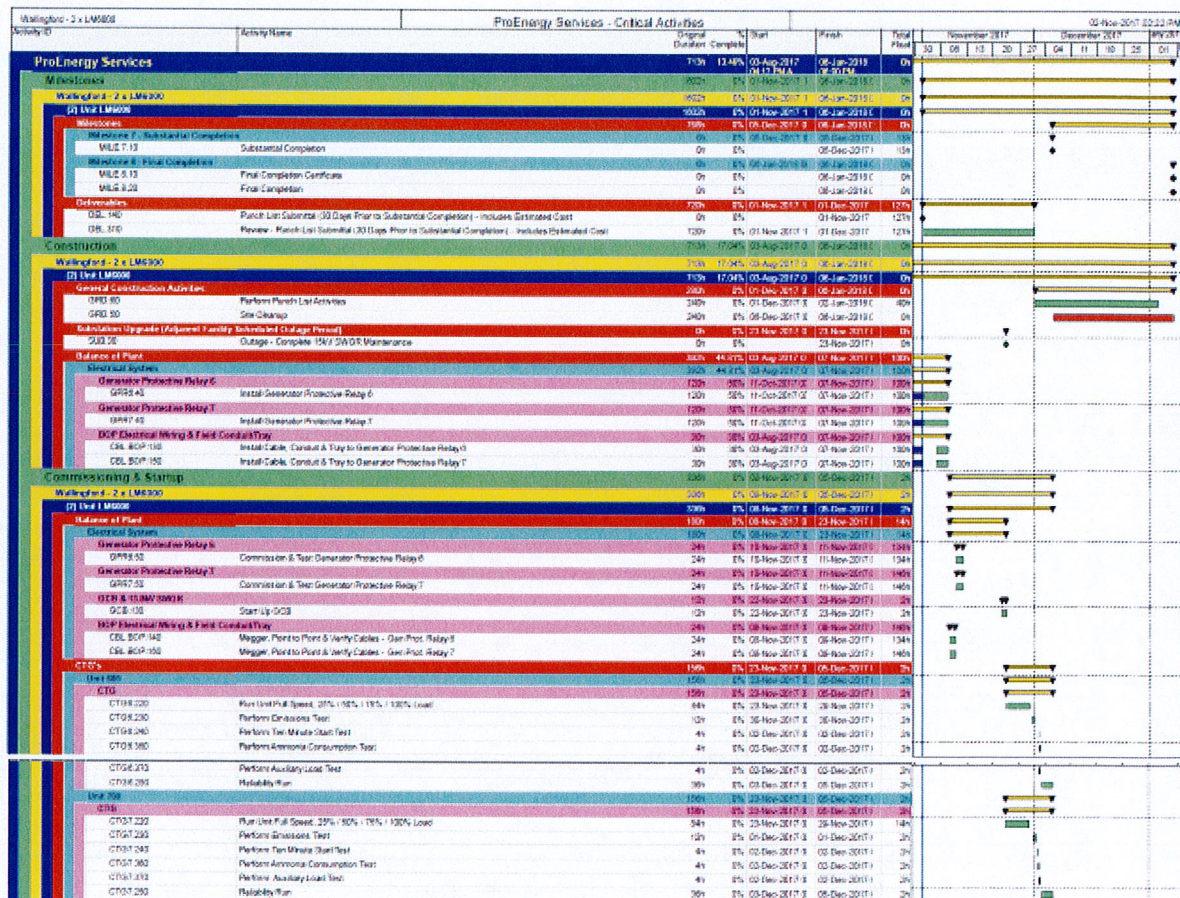
- Crank and False Fire Unit #6
- Crank and False Fire Unit #7
- First Fire Unit #6
- First Fire Unit #7
- Load Catalyst Unit #6
- Load Catalyst Unit #7
- Re-fire Unit #6
- Re-fire Unit #7

4. PROCUREMENT STATUS – None**5. DELIVERY STATUS – None****6. SCHEDULE****6.1. CRITICAL PATH ANALYSIS**

The current critical path flows through performing the needed maintenance on the 15kV SWGR and closing the GCB.

Procurement is working with the vendor to expedite the parts and get a solid best date from the factory. In turn, an outage will be requested and pending the accepted dates for the outage will drive when the units can be synchronized and start producing power.

Please note that the system is only critical to the activities driving the substantial completion date but not past the 12/15/2017 contractual date. Currently Substantial Completion is December 5.



Items following closely behind the critical path are:

- Installing, Commissioning and Start Up of the Generator Protective Relays
- Finalizing Punch List and Completing Punch List Activities

ProEnergy's subcontractor is expecting to have finalized drawings for the Schweitzer generator protective relays by 11/4/2017. This will allow for final terminations and installation to occur and be prepared for testing.

Site currently has a draft punch list that is being added to and worked on simultaneously that will be finalized and submitted to LS Power for approval once all systems have been turned over to Start Up.

6.2 MILESTONES COMPLETED:

- CTG Units Arrive at Site – 10/17/2017

6.3 MILESTONE SLIPPAGE**6.3.1. I&C Engineering IFC Drawings Released**

- Slippage on IFC Control drawings has occurred again as more discoveries have been made and are being captured on redlined drawings being made by NEI. A full set will be issued when all red-lines are captured from the field. There is expected to be 1-2 weeks of drawing updates to be made once NEI is complete with their scope and red-lines are done from the field. Will push to have drawings issued by the end of November.
- Slipped 39 estimated days

6.3.2. CTG6 First Sync

- First sync has moved out due to work needing to be performed on the 15kV SWGR and GCB and waiting for an outage after the parts arrive to site.
- Slipped 10 days

6.3.3. CTG7 First Sync

- First sync has moved out due to work needing to be performed on the 15kV SWGR and GCB and waiting for an outage after the parts arrive to site.
- Slipped 10 days

6.3.4. Mechanical Completion

- Due to delaying the first sync of the units, mechanical completion has pushed out as well.
- Moved 7 days

6.4 NOTABLE CHANGES:

- 6.5.1.** Adjusted activity name DEL.140 'Punch List Submittal (30 Days Prior to Substantial Completion)' to 'Punch List Submittal (30 Days Prior to Substantial Completion) - Includes Estimated Cost'
- 6.5.2.** Adjusted activity name DEL.310 'Review - Punch List Submittal (30 Days Prior to Substantial Completion)' to 'Review - Punch List Submittal (30 Days Prior to Substantial Completion) - Includes Estimated Cost'
- 6.5.3.** Added milestone DEL.350 'Written Description of Training Program (90 Days Prior to Training Program)' with FS successor and added activity DEL.360 'Review - Written Description of Training Program (90 Days Prior to Training Program)' with successor MILE.6.10 'Mechanical Completion'
- 6.5.4.** Removed predecessor GCB.130 'Start Up GCB' from activities AUXXFMR6.160 'Start Up Aux XFMR 6', AUXXFMR7.160 'Start Up

- Aux XFMR 7' and 480SWGR6.60 'Start Up 480V SWGR 6' because the generator circuit breaker is not required for energizing the 480V system, but is required for synchronizing to the grid.
- 6.5.5.** Removed predecessor BOPCNTL.70 'Start Up BOP Controls System' from activity CAVLV.50 'Point to Point, Stroke, Function Check & Verify Compressed Air Valves' because there is no instrumentation or control valves in the BOP instrument air system that requires the BOP controls system.
 - 6.5.6.** Removed predecessors EVAP6.420 'Start Up Evap System', SPRT6.410 'Start Up SPRINT System', LPWI6.410 'Start Up LP WI System' & GCB.130 'Start Up GCB' from activity CTG6.190 'Initial Turbine Roll' because these activities are not required to happen until after first fire.
 - 6.5.7.** Added predecessor GCB.130 'Start Up GCB' to activity CTG6.220 'Run Unit Full Speed, 25% / 50% / 75% / 100% Load' because of the removal of the predecessors above.
 - 6.5.8.** Added predecessor EVAP6.420 'Start Up Evap System' to activity CTG6.240 'Perform Performance Test' because of the removal of the predecessors above.
 - 6.5.9.** Added predecessors LPWI6.410 'Start Up LP WI System' and SPRT6.410 'Start Up SPRINT System' to activity CTG6.230 'Perform Emissions Test' because of the removal of the predecessors above.
 - 6.5.10.** Removed predecessors EVAP7.420 'Start Up Evap System', SPRT7.410 'Start Up SPRINT System', LPWI7.410 'Start Up LP WI System' & GCB.130 'Start Up GCB' from activity CTG7.190 'Initial Turbine Roll' because these activities are not required to happen until after first fire.
 - 6.5.11.** Added predecessor GCB.130 'Start Up GCB' to activity CTG7.220 'Run Unit Full Speed, 25% / 50% / 75% / 100% Load' because of the removal of the predecessors above.
 - 6.5.12.** Added predecessor EVAP7.420 'Start Up Evap System' to activity CTG7.240 'Perform Performance Test' because of the removal of the predecessors above.
 - 6.5.13.** Added predecessors LPWI7.410 'Start Up LP WI System' and SPRT7.410 'Start Up SPRINT System' to activity CTG7.230 'Perform Emissions Test' because of the removal of the predecessors above.
 - 6.5.14.** Removed duplicate predecessor CTG7CNTL.60 'Start UP CTG Controls System' from activity CTG7.190 'Initial Turbine Roll'
 - 6.5.15.** Adjusted logic between AUXXFMR6.160 'Start Up Aux XFMR 6' and AUXXFMR7.160 'Start Up Aux XFMR 7' from FS to FF because when the LISW is closed, both transformers will be energized.

- 6.5.16.** Modified logic between CBL.BOP.440 'Megger, Point to Point & Verify Cables – Controls System' and CBL.BOP.430 'Install Cable, Conduit & Tray to Controls System' from FF with 6 day lag to FS with 0 day lag to better represent the current plan for performing testing of the Controls cables.
- 6.5.17.** Modified logic between CTG6.CBL.280 'Megger, Point to Point & Verify Cables – Unit Controls' and CTG6.CBL.270 'Install Cable, Conduit & Tray to Unit Controls System' from FF with 6 day lag to FS with 0 day lag to better represent the current plan for performing testing of the Controls cables.
- 6.5.18.** Modified logic between CTG7.CBL.280 'Megger, Point to Point & Verify Cables – Unit Controls' and CTG7.CBL.140 'Install Cable, Conduit & Tray to Unit Controls System' from FF with 6 day lag to FS with 0 day lag to better represent the current plan for performing testing of the Controls cables.
- 6.5.19.** Reduced duration for CTG7.200 'First Fire CTG' from 5 days to 1 day based on proceeding activities to first fire, should be able to fire unit the same day of attempting to ignite.
- 6.5.20.** Reduced duration for CTG7.210 'Run Unit Full Speed, No Load' from 3 days to 1 day based on proceeding activities in preparing to fire unit, should be able to reach FSNL within 1 day of first fire.
- 6.5.21.** Increased duration of CTG.STK7.1110 'Install SCR Media' from 4 days to 8 days because media for both units 6 & 7 will be installed during the same time frame so total duration to load all the catalyst is the same, but spread out longer for each unit.
- 6.5.22.** Increased duration of CTG7.220 'Run Unit Full Speed, 25% / 50% / 75% / 100% Load' from 3 days to 7 days to include tuning processes.
- 6.5.23.** Reduced duration of CTG7.230 'Perform Emissions Test' from 3 days to 1 day based on AirTox's plan.
- 6.5.24.** Reduced duration of CTG7.240 'Perform Performance Test' from 5 days to 1/3 day based on Start Up managers previous experience with LM6000's
- 6.5.25.** Renamed activity CTG7.240 'Perform Performance Test' to 'Perform Ten Minute Start Test' because all the other performance tests or acceptance tests are in separate activities.
- 6.5.26.** Reduced duration of CTG7.360 'Perform Ammonia Consumption Test' from 2 days to 1/3 day based on Start Up managers previous experience with LM6000's
- 6.5.27.** Reduced duration of CTG7.370 'Perform Auxiliary Load Test' from 1.5 days to 1/3 day based on Start Up managers previous experience with LM6000's
- 6.5.28.** Reduced duration for CTG6.190 'Initial Turbine Roll' from 3 days to ½ day based on the duration for initial rolling on CTG 7.

- 6.5.29.** Reduced duration for CTG6.200 'First Fire CTG' from 5 days to 1 day based on proceeding activities to first fire, should be able to fire unit the same day of attempting to ignite.
- 6.5.30.** Reduced duration for CTG6.210 'Run Unit Full Speed, No Load' from 3 days to 1 day based on proceeding activities in preparing to fire unit, should be able to reach FSNL within 1 day of first fire.
- 6.5.31.** Increased duration of CTG.STK6.200 'Install SCR Media' from 4 days to 8 days because media for both units 6 & 7 will be installed during the same time frame so total duration to load all the catalyst is the same, but spread out longer for each unit.
- 6.5.32.** Increased duration of CTG6.220 'Run Unit Full Speed, 25% / 50% / 75% / 100% Load' from 3 days to 7 days to include tuning processes.
- 6.5.33.** Reduced duration of CTG6.230 'Perform Emissions Test' from 3 days to 1 day based on AirTox's plan.
- 6.5.34.** Reduced duration of CTG6.240 'Perform Performance Test' from 5 days to 1/3 day based on Start Up managers previous experience with LM6000's
- 6.5.35.** Renamed activity CTG6.240 'Perform Performance Test' to 'Perform Ten Minute Start Test' because all the other performance tests or acceptance tests are in separate activities.
- 6.5.36.** Reduced duration of CTG6.360 'Perform Ammonia Consumption Test' from 2 days to 1/3 day based on Start Up managers previous experience with LM6000's
- 6.5.37.** Reduced duration of CTG6.370 'Perform Auxiliary Load Test' from 1.5 days to 1/3 day based on Start Up managers previous experience with LM6000's
- 6.5.38.** Add successor CTG7.230 'Perform Emissions Test' with FS relationship to activity CTG6.230 'Perform Emissions Test' based on planned schedule for AirTox testing.
- 6.5.39.** Add successor CTG6.240 'Perform Ten Minute Start Test' with FS relationship to activity CTG7.230 'Perform Emissions Test' because all remaining tests will be performed after emission testing is complete on both units.
- 6.5.40.** Adjusted logic for MILE.5.10 'CTG6 First Fire' with CTG6.200 'First Fire CTG' from FS to SF because the milestone will be complete once the unit first sees fuel and successfully achieves combustion based on the contract.
- 6.5.41.** Adjusted logic for MILE.5.20 'CTG7 First Fire' with CTG7.200 'First Fire CTG' from FS to SF because the milestone will be complete once the unit first sees fuel and successfully achieves combustion based on the contract.

- 6.5.42.** Reduced duration of CTG6.250 'Reliability Run' from 4 days to 3 days because the reliability run required duration is a continuous 72 hours.
- 6.5.43.** Reduced duration of CTG7.250 'Reliability Run' from 4 days to 3 days because the reliability run required duration is a continuous 72 hours.
- 6.5.44.** Added milestone SUB.30 'Outage – Perform 15kV SWGR Maintenance' for outage to perform work on 15kV switchgear and made the following tasks predecessors as producing power will not occur until after the outage.
- 6.5.45.** CTG6.220 'Run Unit Full Speed, 25% / 50% / 75% / 100% Load'
- 6.5.46.** CTG7.220 'Run Unit Full Speed, 25% / 50% / 75% / 100% Load'
- 6.5.47.** Adjusted logic between MILE.6.10 'Mechanical Completion' and activities CTG6.220 'Run Unit Full Speed, 25% / 50% / 75% / 100% Load' and CTG7.220 'Run Unit Full Speed, 25% / 50% / 75% / 100% Load' from FS to SF relationships based on the contract which states "has been synchronized with, and is capable of transmitting electric energy to the high side of the generator step-up transformer provided by Contractor" which doesn't require running at base load.
- 6.5.48.** Added predecessor SUB.30 'Outage – Complete 15kV SWGR Maintenance' with a FF relationship to GCB.130 'Start Up GCB' because the breaker will not be closed until after the maintenance is performed of the 15kV Switchgear.
- 6.5.49.** Reduced duration of activity GRD.60 'Perform Punch List Activities' from 5 weeks to 4 weeks based of site's view of estimated length to complete activities.

6.6. OVERVIEW

- 6.6.1.** Schedule attached.

7. QUALITY -

- 7.1** Organizing documentation
- 7.2** Reviewed meggering results for low voltage checks
- 7.3** Walked down guard rail installation has been completed and inspected found to be acceptable
- 7.4** Monitored reconnection of the 6" stub spool at the 6" valve, the blind was removed and the proper gasket reinstalled and bolts tightened to manufacturer specifications.
- 7.5** Walked down the asphalt access road on the North perimeter road, slope is acceptable, water draining off to the downhill side.

8. SAFETY

- 8.1. Daily safety audits performed on PES Crafts and subcontractors working on job site. No major issues to report.
- 8.2. Provide safety orientations to new personnel and new contractors coming to the job site as per PES EHS Manual.

9. ISSUES

- 9.1. There is a delay on electrical and controls engineering. In the month of October NEI and CEG completed a large percentage of the drawings with the balance to be complete the first part of November.
- 9.2. We are continuing to find issues with parts in the 15KV switchgear. Finding replacement materials and getting them to site has also caused some delays to the project.

10. CHANGE MANAGEMENT**10.1. Open Change Orders**

- 10.1.1. Change Order NO 8 – 125VDC System
- 10.1.2. Change Order NO 9 – Temporary Diesel Generator Power
- 10.1.3. Change Order NO 10 – Past and Future Power Costs for Trailers
- 10.1.4. Change Order NO 11 – SB 270 Credit
- 10.1.5. Change Order NO 12 – Underground Fiber Optic Vault Interference / Relocation
- 10.1.6. Change Order NO 13 – Install Crushed Stone Along FG Pipe
- 10.1.7. Change Order NO 14 – H-Tower Disconnect Switch Credit
- 10.1.8. Change Order NO 15 – Billing Meter Telemetry
- 10.1.9. Change Order NO 16 – CO2 Dump Test

10.2. Pending Change orders

- PES is working on a several miscellaneous changes orders that will be issued next month.

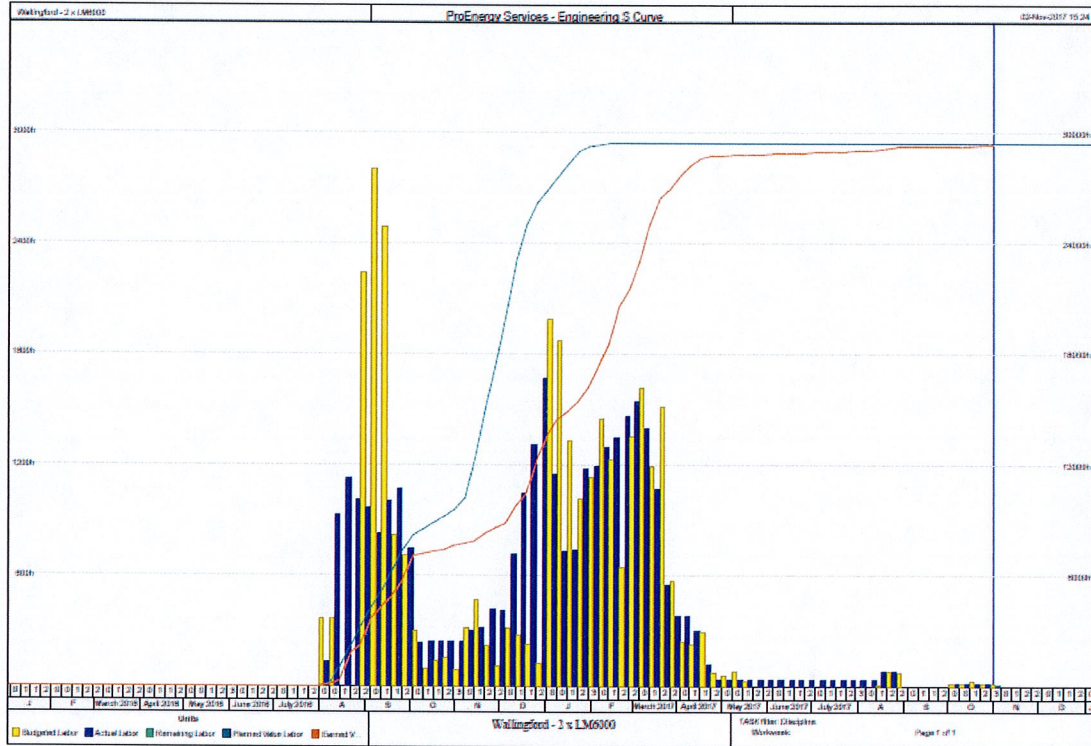
11. DRAWING LIST

- 11.1. Schedule shows key drawing dates.

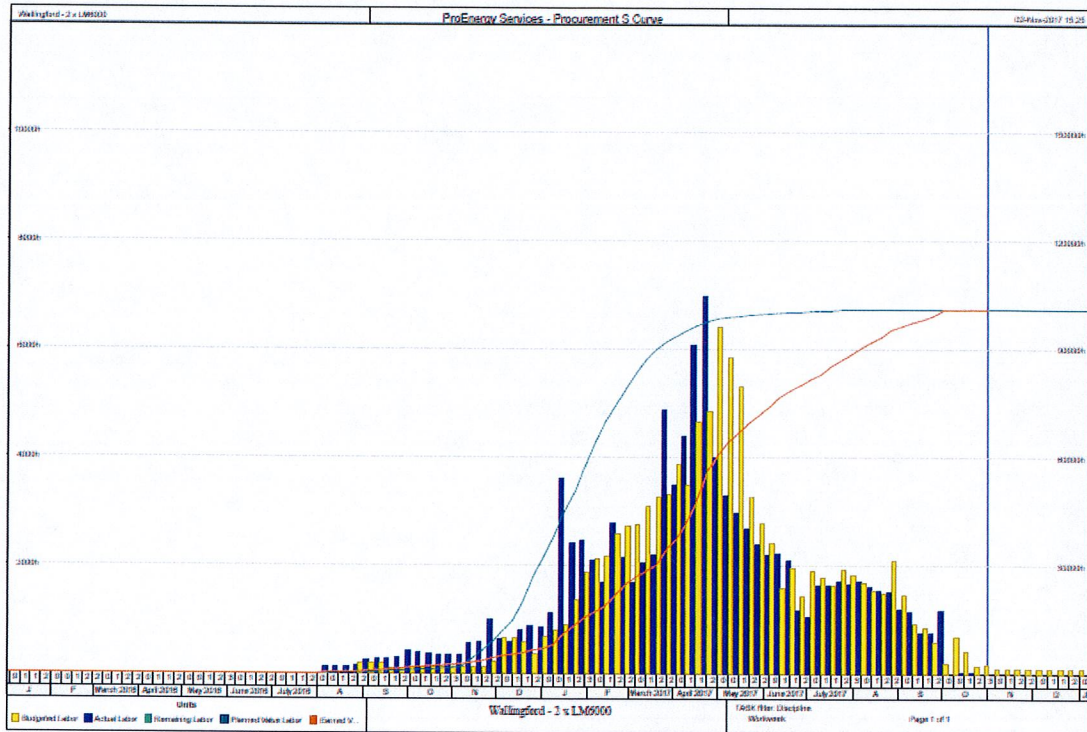
12. ANALYTICAL

See attached progress curves.

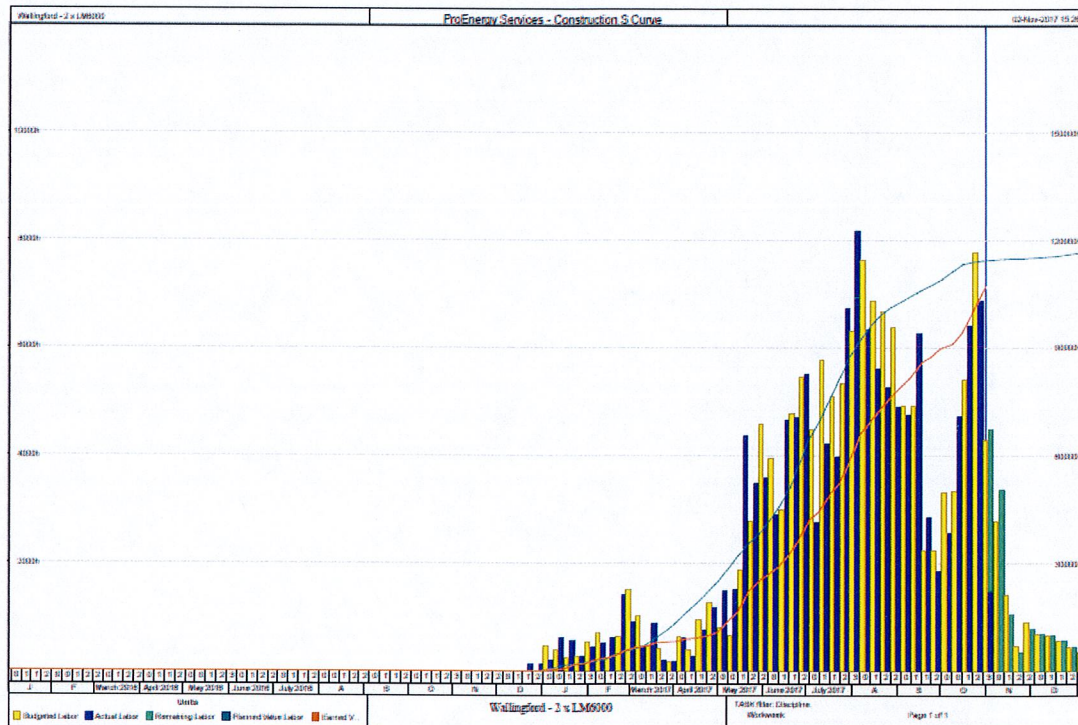
12.1. Engineering.



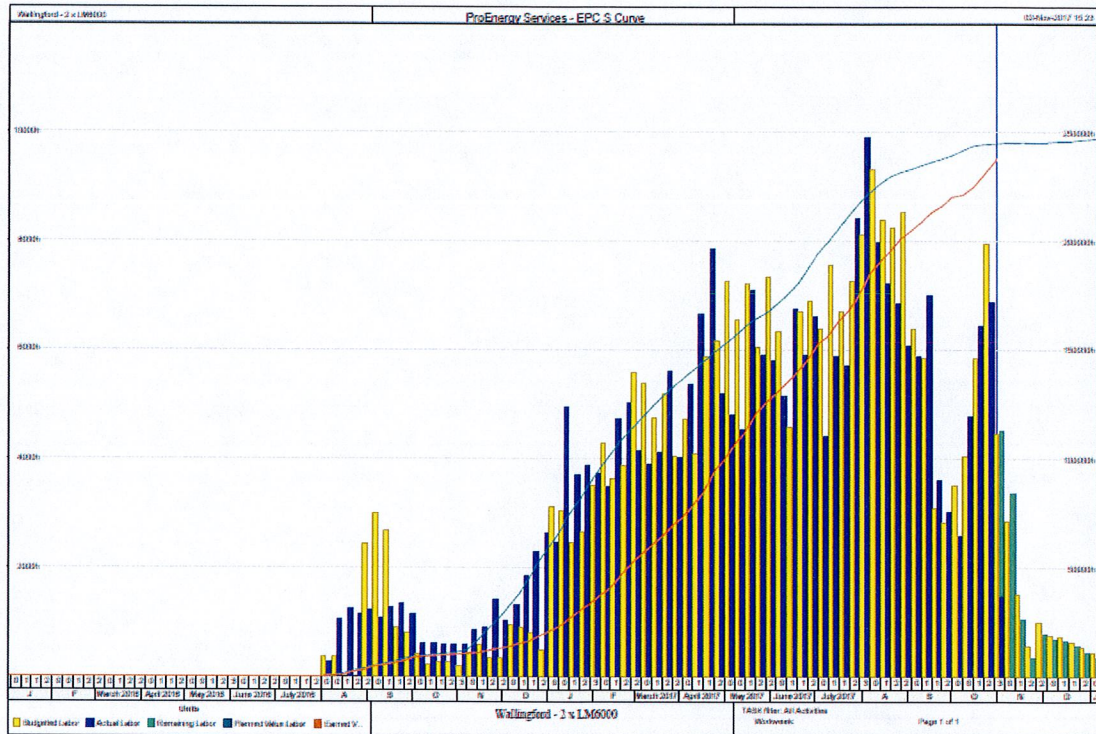
12.2. Procurement.



12.3. Construction.



12.4. EPC.



12.5. MATERIALS INSTALLED

CIVIL

Foundations	Flowable Fill	Concrete	Total Cubic Yards
GT Generators	172	344	516
Exhaust Stack/SCR	290	420	710
Electrical / Control Building	50	75	125
GSU Transformers 13.8kV delta x 13.8kV / 230 kV	30	100	130
Fin fan lube oil, Sprint, Water Injection, CTG removal pad, CO2 rack, Auxiliary skids, Fuel Filter	250	175	425
Cable Tray & Bus foundations	54	114	168
Sound wall & Grade beams	0	472	472
Back fill underground piping	566	0	566
Total cubic yards installed	1412	1700	3112

PIPING

Pipe	Installed in October	Total installed
Large Bore Pipe	0	788'-3"
Small Bore Pipe	0	6,000'-1"

CABLES & TERMINATIONS

Total Terms	From Terms Complete	To Terms Complete	% Terms Complete	% Cables pulled	Total Cables	Total Cables Pulled
5,562	2,350	2,350	84.5%	96.00%	963	925

13. LABOR STATISTICS.

13.1. ProEnergy Services Safety Information for Wallingford Project

	2017 October	Project Total
Employees	86	86
Hours worked	9,266.50	106,532.00
Lost Workdays Incident Rate	0	0
Total Recordable Incident Rate	0	0
DART (Days away, restricted, transferred)	0	0

14. PERMIT STATUS.

14.1. ProEnergy received Connecticut Major Contractor license.

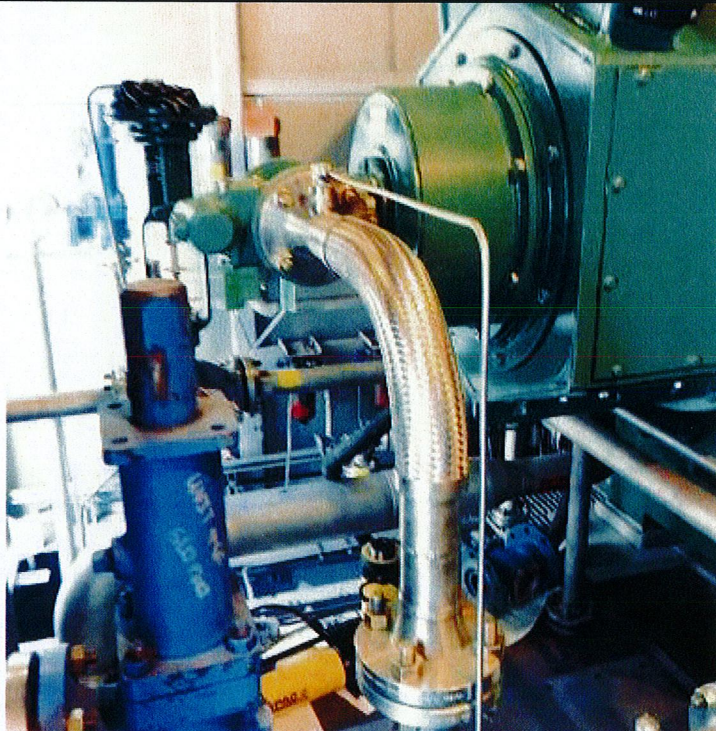
14.1.1. Storm Water received October 3.

14.1.2. D&M approval received on September 29.

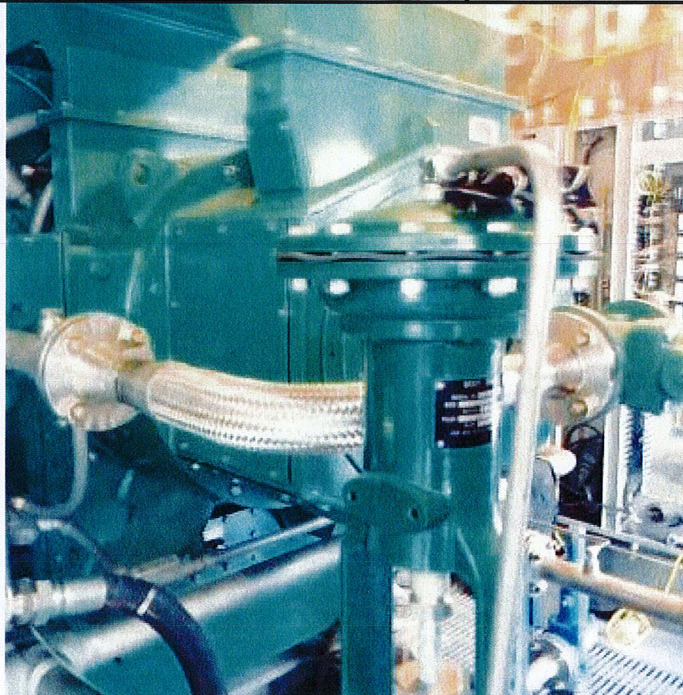
14.1.3. None required for Change Order 2 work.

15. PHOTOS

New braided lube oil lines have been replaced on units 6 and 7



New braided lube oil lines have been replaced on units 6 and 7



Setting up H-frame for engine installation



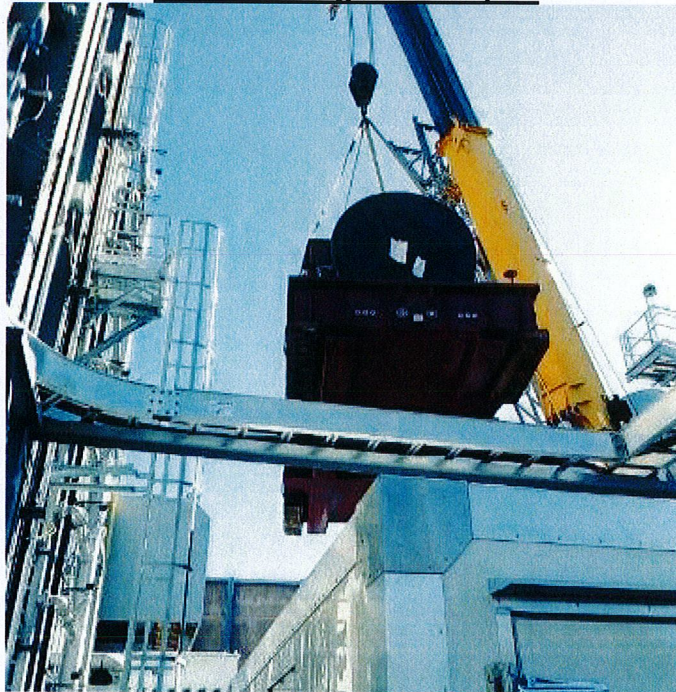
Turbines for 6 and 7 arrived on site



Prepping the turbine for relocation to pad



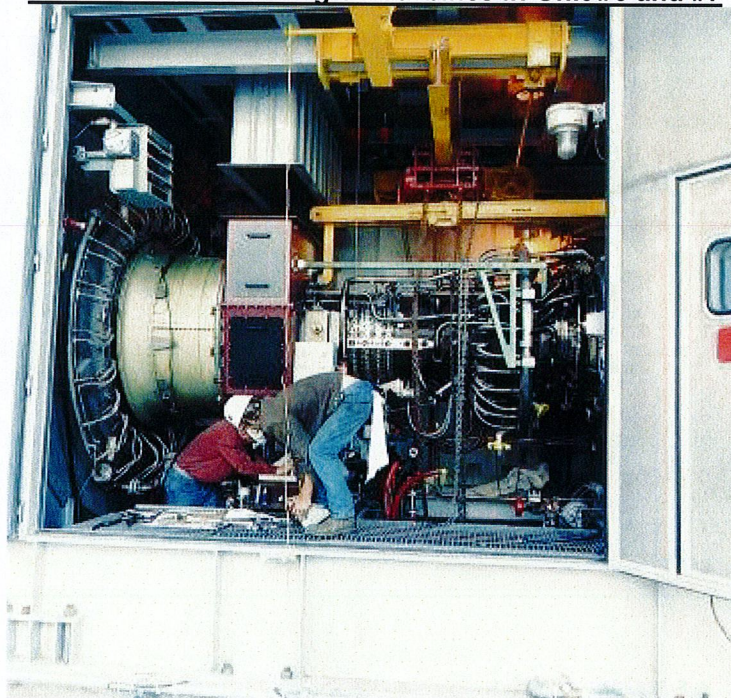
Turbine being flown to pad



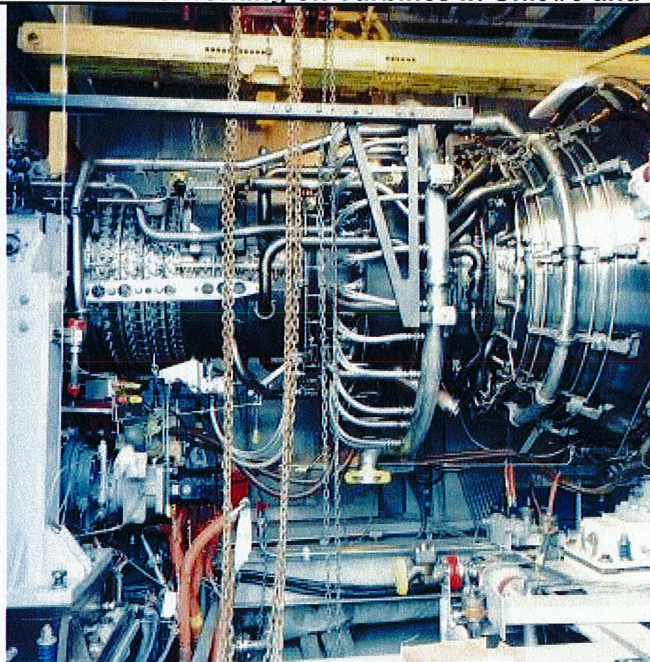
Turbine at turbine pad



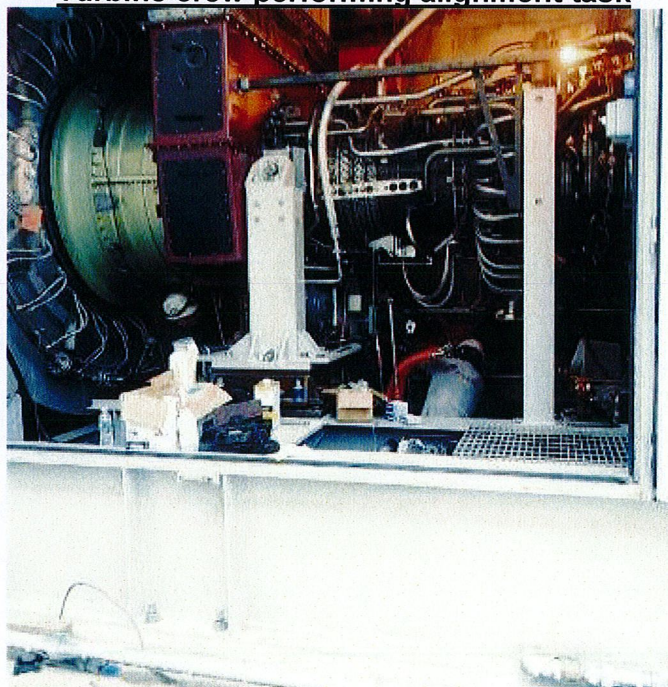
Turbine crews working on Turbines in Unit #6 and #7



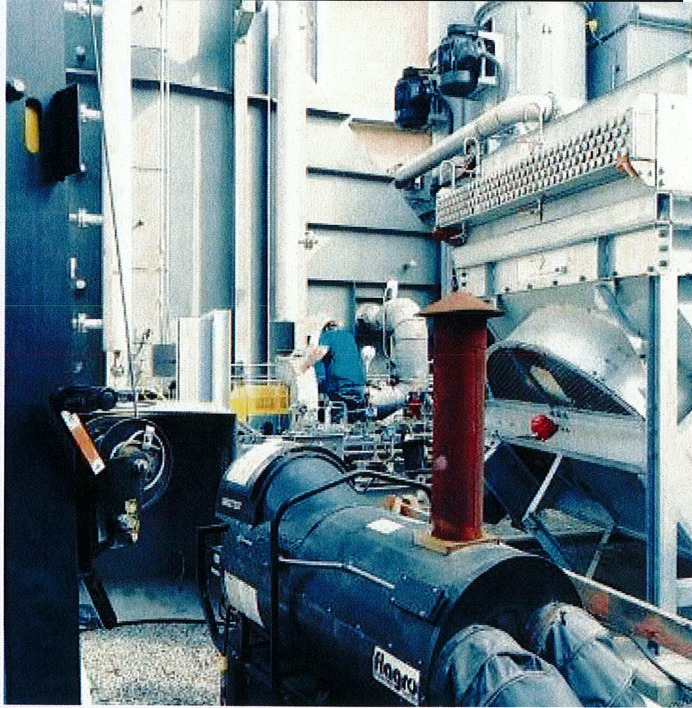
Turbine crews working on Turbines in Unit #6 and #7



Turbine crew performing alignment task



Installing expansion seal on the Ammonia line



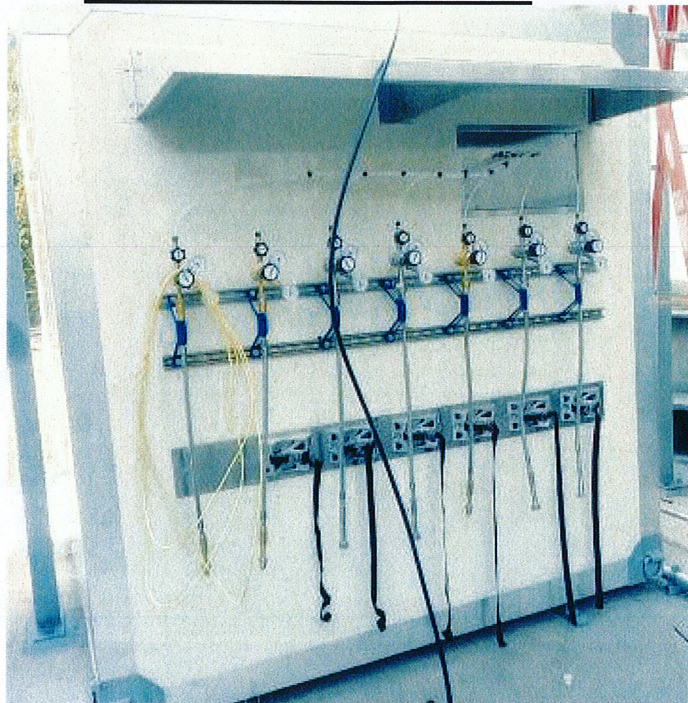
Installing CEMS umbilical cord



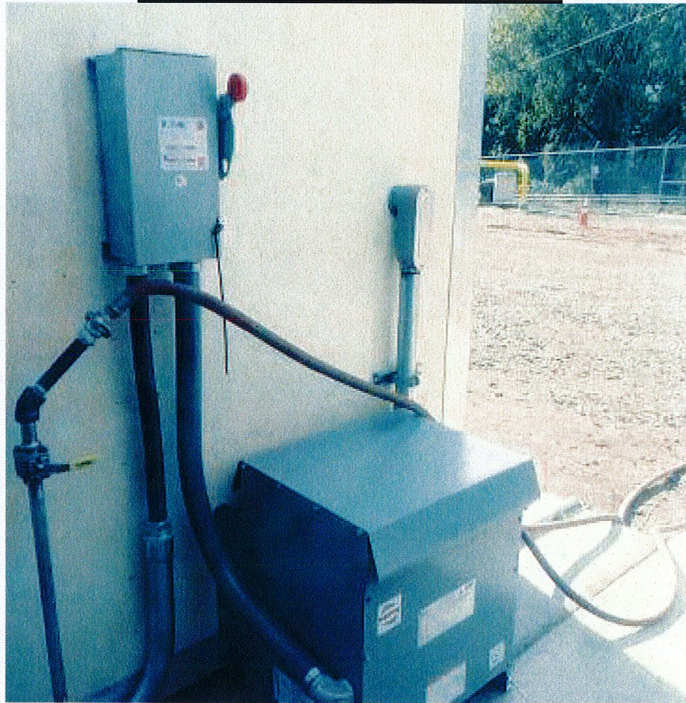
AirTox installing instrumentation for CEMS



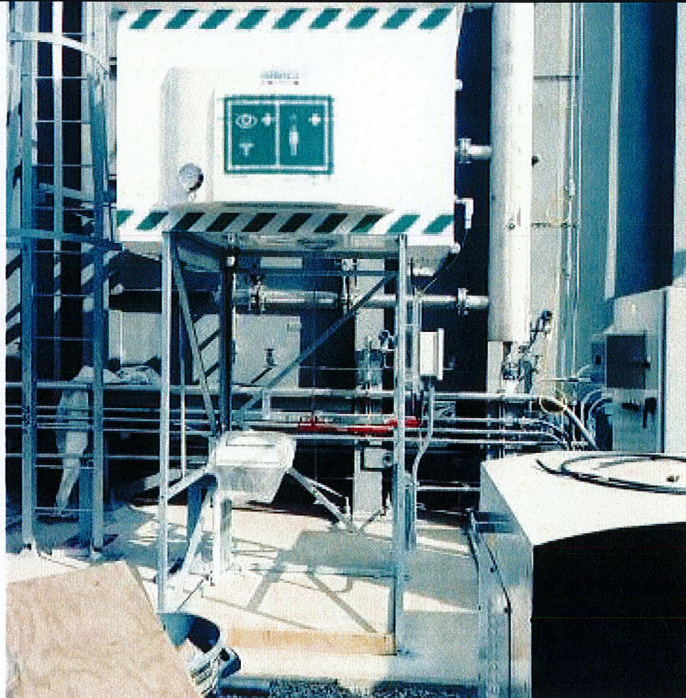
Southside of the CEMS module



Eastside of the CEMS module



New shower/eyewash stations installed on units 6 and 7



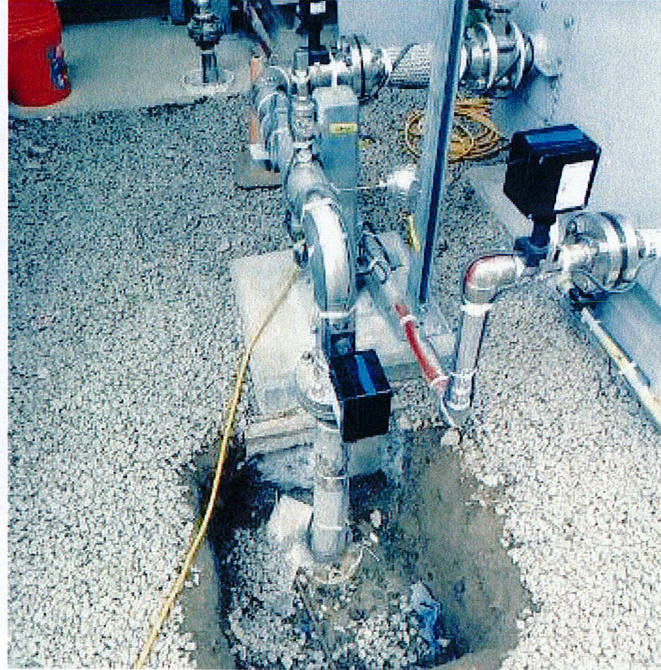
New CO2 cabinet has been installed at unit 7



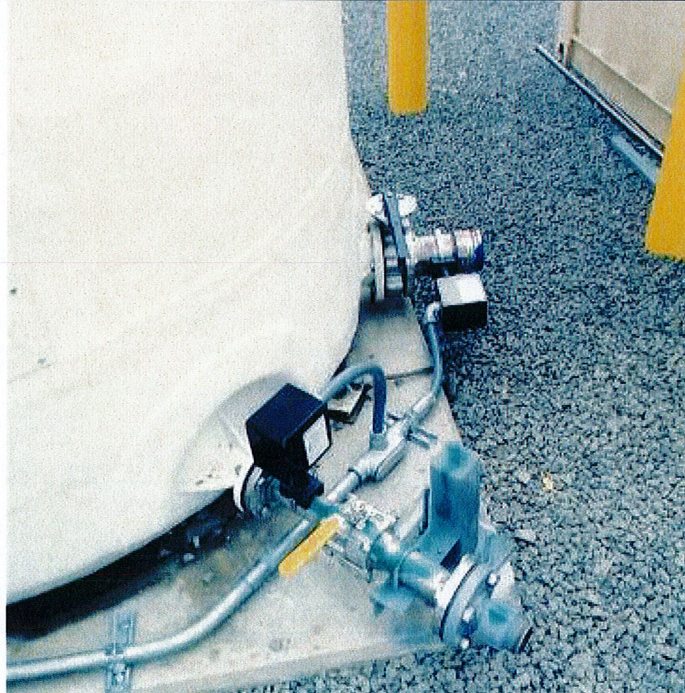
Wiring up the new CO2 cabinet on unit 6



Heat Trace application on unit 7 work in progress



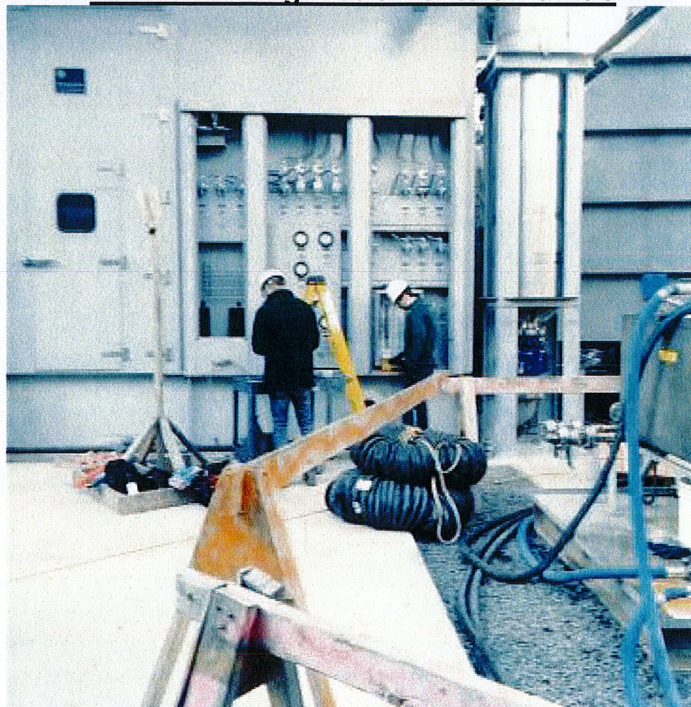
Heat tracing on waste water storage tank work in progress



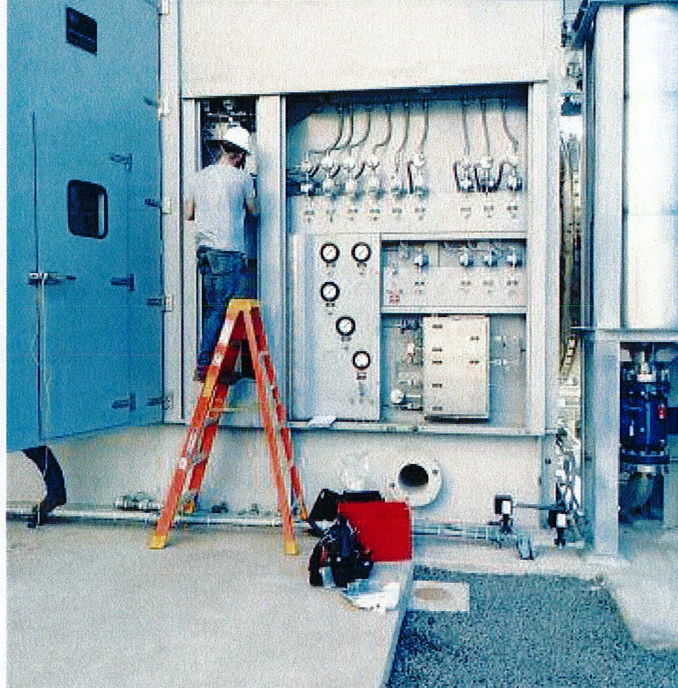
Electricians working on wiring conduit on stack #7



NEI calibrating instruments on unit 6



I & C and Electrician's checking circuits and instruments



Electricians working on switchgear



I&C Inspector verifying panel box



Continued wiring in junction boxes on the SCR



Bollards placed around the fire hydrant on the Northeast quad.



Placed grout at supports on the waste water.



Finished installing guard rail



Contractor marked lanes for placement



Bottom lift of asphalt being placed and rolled on the south lane



Reviewed Asphalt road after placement. Slope of the road is acceptable.



Changing filters on the unit 6 and 7 flushing operations



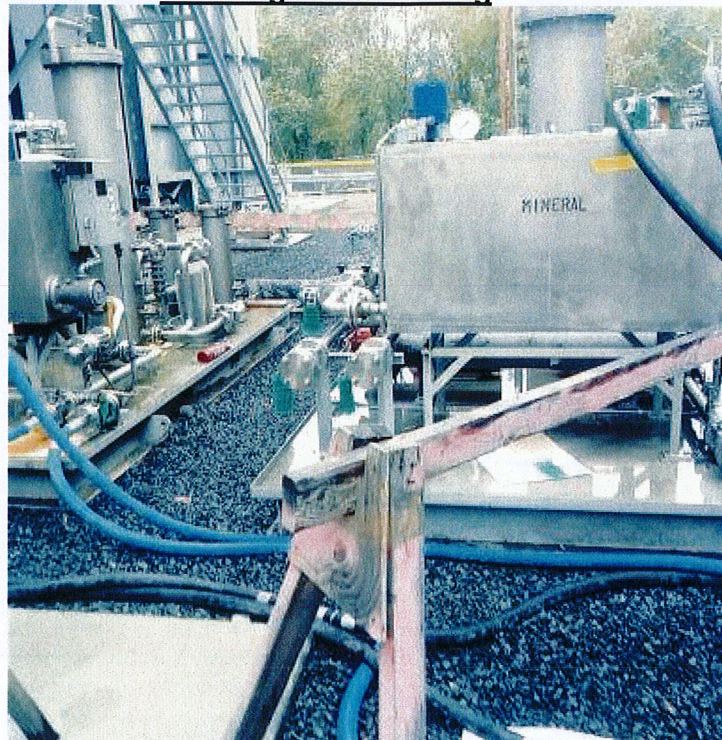
Monitoring blown down of fuel/gas system



Flushing on the Fin Fan coolers



Flushing skids running



October panoramic pics



October panoramic pics



October panoramic pics

