

# MONTHLY PROGRESS REPORT

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

Submitted:  
August 8th, 2017  
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**EXECUTIVE SUMMARY**

ProEnergy is pleased to report two (2) Major Milestones were completed this month. The scheduled dates below are based on the October 26<sup>th</sup> Baseline Schedule. The two (2) completed milestones are:

- SCR 6 Rough Set on Foundation (Mile 3.30) – The SCR 6 was rough set on July 20<sup>th</sup>. This was 27 days ahead of the August 16<sup>th</sup> scheduled date.
- SCR 7 Rough Set on Foundation (Mile 3.30) – The SCR 6 was rough set on July 20<sup>th</sup>. This was 27 days ahead of the August 16<sup>th</sup> scheduled date.

The Substantial Completion of the project is still holding to the 27 November 2017 date. PES did not see the electrical progress we had planned for due to labor issues with finding Connecticut Licensed Electricians.

The current critical path flows through completing electrical work cable pulls and terminations. The control system is close behind and is directly impacted by the electrical work. 95% of the piping and the civil work is complete. The SCR and Stack for both units will be set by the end of next month. This leaves the critical path for the project going through the electrical work.

PES is working to improve the Substantial Completion date. PES has increased the up to 30-35 electricians to expedite the electrical work. PES is staffing electricians through a local Union Electrical Contractor, two (2) staffing agencies, and local advertisements.

We now have 95% of the cable tray and cable bus installation finished. Most all of the large diameter 15KV cable has been pulled. These were time consuming and the most difficult cable pulls. Now with them almost complete the next few weeks will see significant increase in the cables pulled and terminations completed per week. The control and power cables are much shorter runs and smaller allowing multiple cables to be pulled at one time.

The power and control terminations will be conducted on a system basis by system basis. As soon as construction completes each system commissioning will begin. To aid in commissioning activities, PES will rent a temporary diesel generator to power the MCC. The goal is to start lube oil flushes by mid-August and the loop checks by the 4<sup>th</sup> week of August.

PES hired NEI to complete the MCC I/O design, turbine controls, BOP integration and system checkouts. Their work will be completed next month and the control system will be ready to start shooting loops by the 3<sup>rd</sup> week of August.



PES hired CEG to complete the engineering and fabrication of the GSU and Generator Relay panels. They were also tasked with providing the backfeed procedure for the September 9th Outage. This outage was scheduled for August 19<sup>th</sup> but was pushed out at the request of Wallingford Electric. All of the high voltage testing and relay testing will be completed by the end of August.

The site was visited by the Connecticut Department of Consumer Protection. They conducted an onsite audit of the craft personnel. The inspector will be issuing PES and LS Power a report of her findings. Of note, since the visit last month by the Department of Labor all the electricians on site are Connecticut licensed.

Weekly review meetings are 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**

1.2.1 The SCR (PES131003) was delivered on site

### **1.3 FABRICATION / SHOP WORK**

1.3.1 SB 205 (vent system modification) the kits have been received and the final balance of the kit will be installed during installation of the package.

1.3.2. The GSU Protection Panel is being fabricated in the CEG Shop

### **1.4 CONSTRUCTION**

#### **1.4.1. MECHANICAL**

##### #6 CTG Equipment

- Installed the instrument air line to the CTG.
- Completed the grout on the TG base.
- Installed CTG access platform & ladder supports
- Installed inner & outer doors.
- Received and installed the filter house pre-filters.



#6 Auxiliary Skid

- Installed spacer block & hydraulic start high pressure hose.
- Fabricated & installed pipe supports.
- Hydro tested the pipes.
- Pneumatically tested of hydraulic start heat exchanger.

#6 Sprint Skid

- Continued working on the drain and instrument air piping
- Hydro tested the pipes.

#6 Fuel Gas System

- Continued fabricating and installing underground pipe sleeve for the fuel gas piping stub-ups and backfilled.
- Installed most of the 3" fuel gas line the CTG from the Fuel Gas Filter Skid.
- Started installing the pipe supports along the turbine for the 3" Fuel Gas line Completed piping air blows and pressure tested at 1050 lbs. for 15 min.
- Started fabricating & welding fuel gas piping vents and pipe supports.

#6 Ammonia Injection Skid

- Continued above ground piping fabrication and pipe supports.
- Set the skid on the foundation

#6 Evap System

- Reworked the evaporator cooler header (supply/drain).
- Continue working on evaporative cooling system piping supports.
- Finished installing the evaporator circulating pumps.
- Performed the pre-alignment of the evaporator pumps A & B.
- Finished installing evaporator media.

#6 Fin Fan Lube Oil Cooler Skid

- Finished installing the galvanized pipe supports.
- Finished installing the lube oil piping

#6 LP Water Injection Skid



- Continued working on drains.
- Performed Hydro test.

#6 CO2 Rack Skid – No scheduled work

#6 Oily Water Drains

- Installed cleanout covers and lids.

#6 Wash Water Drains

- Installed piping drain and supports.
- Installed cleanout covers and lid.

#6 SCR

- Ammonia injection skid was set and ready for grout.
- Completed alignment, welds and rough set on foundation of unit #6 SCR modules.
- Installed instrumentation on the unit.

#6 Stack – No scheduled work

#7 CTG Equipment

- Completed the grout on the TG base.
- Continued assembly of CTG catwalks.
- Installing CTG platform 2 (generator package).
- Continue fabricating instrument air lines to the package.
- Finished platform ladder support for Filter House.
- Installed inner & outer doors.
- Received and installed filter house pre-filters.
- Fabricated & installed the unit drain line.

#7 Auxiliary Skid

- Installed the grout on the base.
- Installed spacer block & hydraulic start high pressure hose.
- Fabricated & installed pipe supports.
- Hydro tested the pipes.
- Pneumatically tested of hydraulic start heat exchanger.

#7 Sprint Skid

- Continue installing the demin water supply pipe.
- Continue installing the instrument air pipe.
- Continue fabricating and installing the drain piping.



- Installed the grout on the base.

#### #7 Evap System

- Continue working on evaporative cooling system piping supports.
- Finished installing the evaporator circulating pumps.
- Performed the pre-alignment of the evaporator pumps A & B.
- Finished installing evaporator media.

#### #7 Ammonia Injection Skid

- Continued fabricating above ground piping.
- Set the skid on the foundation

#### #7 Fuel Gas System

- Continued fabricating and installing underground pipe sleeve for the fuel gas piping stub-ups and backfilled.
- Installed most of the 3" fuel gas line the CTG from the Fuel Gas Filter Skid.
- Started installing the pipe supports along the turbine for the 3" Fuel Gas line Completed piping air blows and pressure tested at 1050 lbs. for 15 min.
- Started fabricating & welding fuel gas piping vents and pipe supports
- Installed Fuel Gas Coalescer.

#### #7 Fin Fan Lube Oil Cooler Skid

- Installed pipe supports.

#### #7 LP Water Injection Skid

- Started fabrication and installation of the above ground demin water to the skid

#### #7 CO2 Rack Skid – No scheduled work

#### #7 Oily Water Drains – No scheduled work

#### #7 Wash Water Drains

- Backfilled.
- Sold 16 hydro tests to LS power on process piping.
- Fabricated & installed unit & skid drains w/supports.



- Installed DR-2-343.

#### #7 Water Injection Skid

- Fabricated & installed unit & skid drains w/supports. Installed DR-2-343.

#### #7 SCR

- Completed alinement, welds and rough set on foundation of unit #6 SCR modules.
- Unit #7 Ammonia injection skid is Set and ready for grout.
- Installed instrumentation on unit and tubing on Unit #7.

#### #7 Stack – No scheduled work

#### Fuel Gas Pipeline Installation

- Finished blowdown and started preparation for pressure test.
- High pressure regulator and hose on site.
- Set up piping for pressure test. 6" above ground & 4" underground.
- Pressure test and sold to LS Power at 1050 lbs. for 15 min. Still has 50 lbs. of pressure in header.
- Pressure tested fuel/gas line on the North Access road- lines: 00FG-6-203-AC2-1.5/06FG-4-203-AC2—0/06FG-4-203-AC2-1/07FG-4-203-AC2-0/FG07-4-203-AC2-1.

### **1.4.2. ELECTRICAL**

#### 15KV System

- Routed 12 Cables (15k feet of 750 KCML) into 15KV switchgear.
- Installed 14 stress cones at 15KV switchgear.
- Installed 4 Stress Cones at the Line side cubical.
- Installed 12 CT's in the 15 KV switchgear
- Installed supports for cable tray from Line Interrupter Switch to the 15KV Switchgear.
- Installed 30' Feet 12" inch Cable Tray.

#### 480 Auxiliary Switchgear and Transformer

- Worked on tray supports and installing cable trays.



- Completed Hipot testing of the cables from the switchgear to the #6 & #7 Generators and to the Aux Transformers.
- Pulled 13,650 feet of Control Cables.

#### 480V System

- Installed 120' Feet 24" inch Cable Tray.
- Installed 160' Feet 12" inch Cable Tray.
- Finished installation of cable tray supports at unit 7 Aux skid.

#### Control, Instrument and Power Cables

- Started pulling control and power cables from #6 MGTB to the PDC.
- Started pulling cables to the #6 MTTB from the PDC.
- Started pulling power cables to the #6 CTG Aux skids.

#### PDC Building

- Rerouted MCC and TCP control wires to new panel.
- Worked on bus supports at PDC waterfall.

#### Lighting – No scheduled work

#### Grounding

- Installed 50 feet of Ground Rod.
- Installed 60 feet 4/0 Bare Ground Wire.
- Made 8 Terminations.

#### Underground Conduit & Temp power

- Checked Amp Draw daily on temp power to the Gen. Heaters (9.4 amps.)

### **1.4.3. CONTROLS**

- PES hired NEI to complete the MCC I/O design, turbine controls, BOP integration and system checkouts. NEI started work on the following tasks:

#### 1. BOP Integration

- Create one-line, Balance-Of-Plant control system integration topology drawing.
- Define communication requirements between the PEECC and facility control room.



- Define Unit T6 and Unit T7 remote monitoring and control requirements for the facility control room.

2. Motor Control Center

- Complete engineering design of the Motor Control Center (MCC) monitoring and control system.
- Create device interconnect drawing
- Create Bill-Of-Material (BOM).

3. Wonderware HMI

- Review existing display screens for Unit T6 and Unit T7. Modify existing Wonderware HMI screens as required

**1.4.4. CIVIL**

- Set forms and rebar on the gas filter foundation.
- Civil making rebar and forms for pedestals.
- Continued compact & backfill around the site
- Poured concrete on pipe support & cable trays supports foundations
- Continue with the final grade with 3/4" gravel on the GSU and cable tray supports.
- Back fill with gravel on the east sound wall.

**1.4.5. STRUCTURAL**

GSU Sound Wall & H-Frame

- Caulk Horizontal & Vertical Precast Joints.
- O&G, Complete Bolt-up.

CTG Sound Wall

- All the remaining sound wall panels were installed.

**2. PLANNED ACTIVITIES FOR NEXT PERIOD**

**2.1. ENGINEERING**

**2.1.1. Controls**

- NEI to create MCC interconnect drawing.
- NEI to finalize the Mark VI and 9070 Controls Integration.
- NEI to create online-line topology diagram.



**2.2. PROCUREMENT LOOK AHEAD**

2.2.1. Continue with Procurement as outlined in the schedule.

**2.3. FABRICATION / SHOP WORK**

2.3.1. Complete the GSU Relay Protection Panel by CEG.

**2.4. CONSTRUCTION****2.4.1. MECHANICAL****#6 CTG Equipment**

- Start Generator Lube Oil Flush.
- Start Turbine Lube Oil Flush.
- Start Hydraulic Start Oil Flush.

**#6 Auxiliary Skid**

- Complete all remaining piping & pipe supports

**#6 Sprint Skid**

- Complete all remaining piping & pipe supports
- Flush Piping

**#6 Fuel Gas System**

- Install the 3" pipe & pipe supports from the fuel gas filter to the turbine compartment.
- Install the system vents.
- Complete air blows

**#6 Ammonia Injection Skid**

- Complete all remaining piping & pipe supports
- Flush Piping

**#6 Evap System**

- Complete all remaining piping & pipe supports
- Flush piping

**#6 De-Icing System**

- Complete piping & pipe supports
- Flush piping

**#6 Fin Fan Lube Oil Cooler Skid**

- Start TLO and GLO circuit flush.



#6 LP Water Injection Skid

- Complete all remaining piping & pipe supports
- Flush piping

#6 CO2 Rack Skid – No Work Scheduled

#6 Oily Water Drains –

- Complete all remaining piping & pipe supports

#6 Wash Water Drains

- Install Waste Water Drain Tank
- Complete installation of the lift Station pump and control wiring.

#6 SCR

- Complete installation

#6 Stack

- Complete installation

#7 CTG Equipment

- Start Generator Lube Oil Flush.
- Start Turbine Lube Oil Flush.
- Start Hydraulic Start Oil Flush.

#7 Auxiliary Skid

- Complete all remaining piping & pipe supports

#7 Sprint Skid

- Complete all remaining piping & pipe supports
- Flush Piping

#7 Fuel Gas System

- Install the 3" pipe & pipe supports from the fuel gas filter to the turbine compartment.
- Install the system vents.
- Complete air blows

#7 Ammonia Injection Skid

- Complete all remaining piping & pipe supports
- Flush Piping



#7 Evap System

- Complete all remaining piping & pipe supports
- Flush piping

#7 De-Icing System

- Complete piping & pipe supports
- Flush piping

#7 Fin Fan Lube Oil Cooler Skid

- Start TLO and GLO circuit flush.

#7 LP Water Injection Skid

- Complete all remaining piping & pipe supports
- Flush piping

#7 CO2 Rack Skid – No Work Scheduled#7 Oily Water Drains –

- Complete all remaining piping & pipe supports

#7 Wash Water Drains

- Complete all remaining piping & pipe supports

#7 SCR

- Complete installation

#7 Stack

- Complete installation
- Install the system vents.

**2.4.2. ELECTRICAL**15KV System

- Continue pulling power and instrumentation cable.
- Complete Hi Pot Testing
- Complete terminations

480 Auxiliary Switchgear and Transformer

- Continue pulling power and instrumentation cable
- Complete Hi Pot Testing
- Complete terminations



480V MCC

- Continue pulling power and instrumentation cable.

Control, Instrument and Power Cables

- Complete pulling control and power cables from #6 MGTB to the PDC.
- Complete pulling cables to the #6 MTTB from the PDC.
- Complete pulling power cables to the #6 CTG Aux skids.
- Complete pulling control and power cables from #7 MGTB to the PDC.
- Complete pulling cables to the #7 MTTB from the PDC.
- Complete pulling power cables to the #7 CTG Aux skids.
- Start terminating power and instrument cables to both units.

PDC Building

- Install the air conditioner

Grounding – No work scheduledTemp power

- Hook up a temporary diesel generator for 480V power to the MCC

**2.4.3. CONTROLS**

- BOP Integration

- Create one-line, Balance-Of-Plant control system integration topology drawing.
- Define communication requirements between the PEECC and facility control room.
- Define Unit T6 and Unit T7 remote monitoring and control requirements for the facility control room.
- Define device IP Addresses

- Motor Control Center

- Complete engineering design of the Motor Control Center (MCC) monitoring and control system.
- Create device interconnect drawing
- Create Bill-Of-Material (BOM).
- Install hardware; RX3i, Input/Output Modules & terminal blocks



- Review Mk VI Sequencer program to determine correct MCC monitoring and control is implemented.
  - Modify Sequencer program if necessary.
- Program new PLC.
- Integrate new PLC into respective Mk VI control system.
- Functional test MCC I/O to Mk VI control system.
- Wonderware HMI
  - Review existing display screens for Unit T6 and Unit T7.
  - Modify existing Wonderware HMI screens as required.
  - Install Annex1 (Unit T6)
  - Annex2 (Unit T7) HMI's in PEECC.
  - 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.
    - Down load program.
    - 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**

- Grout the #6 Stack
- Grout the #7 Stack
- Remove grass on the north side of the fuel gas pipe and lay down crushed stone.

#### **2.4.5. STRUCTURAL**

##### GSU Sound Wall & H-Frame

- Complete caulking and installation of the door

##### CTG Sound Wall

- Complete caulking



**3. PROCUREMENT STATUS**

The following purchase orders have been issued.

- 3.1.** CTG 1 & 2 Stack – Upper Stack on site 8/2/17
- 3.2.** CEM System in single shelter (NO<sub>x</sub>, O<sub>2</sub>, CO, NH<sub>3</sub>) – (PES134525) – On transit to be in site 9/15/2017



### 4. DELIVERY STATUS

GREEN ON SITE	IFB	PO	RTS	Shipping	Critical @ Site Date	Notes
GSU 1 & Bushings			5-Jun	at site 6/20	21-Jun	Complete
480V SWGR 1	14-Dec	18-Jan	26-Apr	at site 5/2	14-Aug	Complete
480V SWGR 2	14-Dec	18-Jan	26-Apr	at site 5/2	18-Aug	Complete
480V Aux XFMR 1	14-Dec	19-Jan	9-Jun	19-Jun	28-Jun	Complete
480V Aux XFMR 2	14-Dec	19-Jan	9-Jun	19-Jun	20-Jul	Complete
13.8kV SWGR / GCB	5-Dec	31-Jan	2-Jun	6-Jun	19-Jul	Complete
Dead End Structure w/ Disconnect	18-Aug	22-Nov	4-May	at site 5/12	15-May	Complete
PDC Enclosure			21-Apr	load 5/30 at	at site 6/8	Complete
Gen Protection Panels x 2	31-Jan	7-Apr	31-Jul	6-Jul	9-Aug	material on order to build panel out
GSU Protection Panel x 1	31-Jan		31-Jul	at site 8/3	27-Sep	CEG fabricating
Cable Bus	14-Dec	13-Apr	9-Jun	at site 6/14	2-Aug	Complete
CTG 1 Package		Packaging	27-Jun	at site 4/4	22-May	Complete
CTG 2 Package		Packaging	27-Jun	at site 4/5	25-May	Complete
CT 1		Aero	30-Dec		8-Aug	In Sedalia storage
CT 2		Aero	30-Dec		8-Aug	In Sedalia storage
Gen 1		Packaging	24-Feb	at site 4/6	29-May	Complete
Gen 2		Packaging	11-Feb	at site 3/30	1-Jun	Complete
LO Fin Fan 1		12-Oct	21-Apr		4-Aug	Complete
LO Fin Fan 2		12-Oct	21-Apr		4-Aug	Complete
WI LP Skid 1		Packaging	30-Dec		21-Aug	Complete
WI LP Skid 2		Packaging	30-Dec		21-Aug	Complete
Aux Skid 1		Packaging	1-Feb		21-Aug	Complete
Aux Skid 2		Packaging	1-Feb		21-Aug	Complete
SPRINT Skid 1		Packaging	3-Feb		21-Aug	Complete
SPRINT Skid 2		Packaging	3-Feb		21-Aug	Complete
Final FG Coalescer 1	12-Dec	10-Jan	21-Jun		5-Sep	Complete
Final FG Coalescer 2	12-Dec	10-Jan	21-Jun		5-Sep	Complete
CTG 1 SCR / Stack		29-Aug	1-Jun		2-Aug	first 4 sections on site, more material in transit
CTG 2 SCR / Stack		29-Aug	1-Jun		2-Aug	first 4 sections on site, more material in transit
CEMS	7-Dec	24-Jan	30-Jun	1 day	15-Sep	FAT 7/13
Filter House 1		Packaging	19-May		12-Jul	Complete
Filter House 2		Packaging	19-May		12-Jul	Complete
Fire Protection Cabinet 1		Packaging	2-Dec		27-Sep	Complete
Fire Protection Cabinet 2		Packaging	2-Dec		27-Sep	Complete
CTG 1 Controls			31-Aug		25-Jul	NEI Performing Work
CTG 1 Rebuild Server / HMI			31-Aug		21-Jul	NEI Performing Work
CTG 2 Controls			31-Aug		25-Jul	NEI Performing Work
CTG 2 Rebuild Server / HMI			31-Aug		21-Jul	NEI Performing Work
BOP Controls			31-Aug		27-Jul	NEI Performing Work
Waste Water Tank / Assembly	4-Jan		10-Jul	at site 8/3	24-Oct	Heater Pads delivery slipped
Manhole / Lift Station	4-Jan		5-May		19-Sep	Complete
CTG Sound Wall	6-Feb		19-Jun	at site 7/10	29-Jun	
GSU Sound Wall	6-Feb		26-Jun	at site 7/10	9-Aug	



**5. SCHEDULE****5.1. CRITICAL PATH ANALYSIS**

The current critical path flows through the installation of the electrical system including, cable pulls, terminations, equipment testing and equipment energizing. Some pieces of equipment and specific cables are not shown below due to their float path being slightly less critical than the ones shown, but most electrical equipment and cables are considered priority. Changes have been made, such as working multiple fronts and using an outside contractor, to the work plan and a larger electrical crew is on site currently to help keep the completion date from slipping out. The changes to the work plan and their effect to the schedule can be seen below in the 'Notable Changes' section.

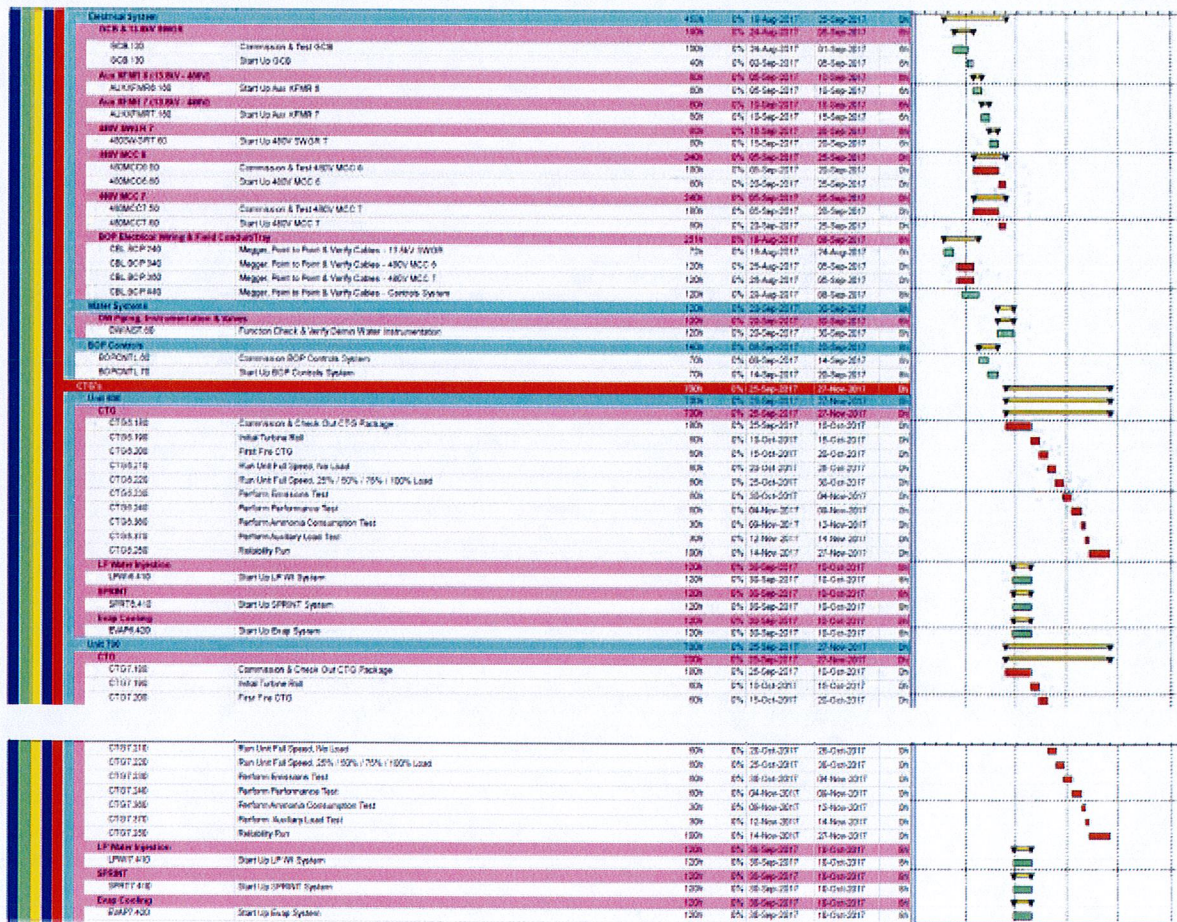
It is worth pointing out that the work front for electrical also directly impacts the controls installation and testing to allow for loop checks to be performed. Controls was previously the primary critical path and has improved due to NEI's ability to quickly perform the work scope, but will be impacted by when the wiring is installed by the electrical team. Because of this close relationship, below in the schedule screen shot, the controls system work has been included.

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 November 27.









Following closely behind the Controls installation for critical path are:

- Controls Testing & Start Up
- Instrumentation for all the Piping Systems
- SCR/Stack Install
- Finalizing Install & Dress Out of the Skids

The SCR/Stack crew has been able to beat durations previously set in the schedule, but there have been slips in the delivery schedule of the remaining items for the SCR/Stack. Due to the unexpected delays, durations will remain and not be changed for the remaining labor, but the speed of the crew with likely keep the SCR/Stacks from becoming a driving factor.

NEI is working to issue drawings for client review within the first part of August so that final design and engineering can be completed and the



remaining part of the controls system installed. Their work is limited by the ability to make cable terminations and the electrical crew is aware of the need.

Piping systems should be near complete the first part of August and will allow for cleaning of the piping and installation/calibration of instrumentation on the BOP systems.

## **5.2. MILESTONES COMPLETED:**

- SCR6 Rough Set on Foundation – 7/20/2017
- SCR7 Rough Set on Foundation – 7/20/2017

## **5.3. MILESTONE SLIPPAGE:**

### **5.3.1. I&C Engineering IFR Drawings Released.**

- NEI had a few items that were unexpected to finish their scope to complete the drawings. It is expected to have these complete by the first part of August.
- Slipped 27 calendar days

### **5.3.2. I&C Engineering IFC Drawings Released.**

- Slippage directly related to IFR drawing release.
- Slipped 27 calendar days.

### **5.3.3. SCR6/7 Major Assembly**

- The major assembly has pushed out due to an increased time in shipping of the materials to site. Due to the issues with shipment, the installation durations will not be reduced, but are expected to pull in based on the SCR weld out time being improved.
- Slipped 4 calendar days.

### **5.3.4. Mechanical Completion.**

- This is being driven currently by the completion of the SCR/Stack platforms and ladders. Because these are not required for a major part of the install it has not adversely changed the substantial completion of the project.
- Slipped 4 days.

### **5.3.5. CTG Units Arrive at Site.**

- It has been decided to allow the CTG engines remain at PES campus until it is necessary to have them at site to allow for safe storage and maintenance. This will cause this milestone to push accordingly until they are shipping to site near the later part of the project.

### **5.3.6. GSU Back feed.**



- The back feed was pushed out to occur after the September outage and the milestone was directly adjusted.
- Moved out 32 days

#### **5.4. Notable Changes:**

- 5.4.1. Reduced duration of CTG6CNTL.30 'Transport From Vendor to Jobsite (CTG Controls)' from 5 days to 1 day due to local vendor performing work.
- 5.4.2. Reduced duration of CTG7CNTL.30 'Transport From Vendor to Jobsite (CTG Controls)' from 5 days to 1 day due to local vendor performing work.
- 5.4.3. Updated logic between 480PR.40 'Install 480V SWGR Protective Relay' and CBL.BOP.210 'Install Cable, Conduit & Tray to 480V SWGR Protective Relay' from FS to FF. The logic change was to allow for the cables to be installed but not be terminated until the relay was installed.
- 5.4.4. Updated logic between 138PR.40 'Install 13.8kV SWGR Protective Relay' and CBL.BOP.190 'Install Cable, Conduit & Tray to 13.8kV SWGR Protective Relay' from FS to FF. The logic change was to allow for the cables to be installed but not be terminated until the relay was installed.
- 5.4.5. Updated logic between GSUPR.40 'Install GSU Protective Relay' and CBL.BOP.170 'Install Cable, Conduit & Tray to GSU Protective Relay' from FS to FF. The logic change was to allow for the cables to be installed but not be terminated until the relay was installed.
- 5.4.6. Updated logic between GPR6.40 'Install Generator Protective Relay 6' and CBL.BOP.130 'Install Cable, Conduit & Tray to Generator Protective Relay 6' from FS to FF. The logic change was to allow for the cables to be installed but not be terminated until the relay was installed.
- 5.4.7. Updated logic between GPR7.40 'Install Generator Protective Relay 7' and CBL.BOP.150 'Install Cable, Conduit & Tray to Generator Protective Relay 7' from FS to FF. The logic change was to allow for the cables to be installed but not be terminated until the relay was installed.
- 5.4.8. Remove predecessor GPR7.40 'Install Generator Protective Relay 7' from 138PR.40 'Install 13.8kV SWGR Protective Relay'
- 5.4.9. Due to update in group performing controls scope for the project the following items were modified in the schedule due to updated plan from vendor.
  - Reduced duration of BOPCNTL.60 'Commission BOP Controls System' from 2.5 weeks to 1 week. These reduced durations



are based on a work plan to start loop checks from the controls system in September.

- Reduced duration of BOPCNTL.70 'Start Up BOP Controls System' from 2.5 weeks to 1 week. These reduced durations are based on a work plan to start loop checks from the controls system in September.
  - Reduced duration of CTG6CNTL.50 'Commission CTG Controls System' from 2.5 weeks to 1 week. These reduced durations are based on a work plan to start loop checks from the controls system in September.
  - Reduced duration of CTG6CNTL.60 'Start Up CTG Controls System' from 2.5 weeks to 1 week. These reduced durations are based on a work plan to start loop checks from the controls system in September.
  - Reduced duration of CTG7CNTL.50 'Commission CTG Controls System' from 2.5 weeks to 1 week. These reduced durations are based on a work plan to start loop checks from the controls system in September.
  - Reduced duration of CTG7CNTL.60 'Start Up CTG Controls System' from 2.5 weeks to 1 week. These reduced durations are based on a work plan to start loop checks from the controls system in September.
- 5.4.10.** Removed successor 480MCC7.60 'Start Up 480V MCC 7' from 480MCC6.60 'Start Up 480V MCC 6' so the MCC's will be started up simultaneously.
- 5.4.11.** Removed successor 480SWGR7.60 'Start Up 480V SWGR 7' from 480SWGR6.60 'Start Up 480V SWGR 6' so the gear will be started up simultaneously.
- 5.4.12.** Due to the simplicity of the FG coalescers used on this site, the start up time was reduced from 10 days to 2 days for activities FGC6.420 'Start Up Fuel Gas Coalescer System' and FGC7.420 'Start Up Fuel Gas Coalescer System'
- 5.4.13.** Added successor MILE.CONST.10 'GSU Backfeed' to the following as backfeed will not occur until the equipment is ready:
- GCB.120 'Commission & Test GCB'
  - 480SWGR6.50 'Commission & Test 480V SWGR 6'
  - 480SWGR7.50 'Commission & Test 480V SWGR 7'
  - AUXXFMR6.150 'Commission & Test Aux XFMR 6'
  - AUXXFMR7.150 'Commission & Test Aux XFMR 7'
- 5.4.14.** Increased the duration of activity GSUPR.40 'Install GSU Protective Relay' from 7 days to 18 days to finalizing programing for the relay and metering.



**5.5. OVERVIEW**

5.5.1. Schedule attached.

**6. QUALITY**

- Costal on site this date performing backfill density test at various levels all test well. On CTG site and access road.
- QA/QC, performed pre-final structural walk-down with O&G on sound walls on GSU and CTG site, Noted a crack in the panel on the 3rd column, interior side (approximately 8' in length) over from the Southeast corner of the existing sound wall. O&G will contact core slab for evaluation. This walk down was for structural only, A & J Caulking continue to seal the sound wall.

**7. SAFETY**

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

**8. ISSUES/ACTION**

- 8.1. The site was visited by the Connecticut Department of Consumer Protection. They conducted an onsite audit of the craft personnel. The inspector will be issuing PES and LS Power a report of her findings. Of note, since the visit last month by the Department of Labor all the electricians on site are Connecticut licensed.

**9. CHANGE MANAGEMENT**

- 9.1. Open Change Orders – None
- 9.2. Pending Change orders
  - PES and LS Power are working on a change order to cover miscellaneous scope changes.

**10. DRAWING LIST**

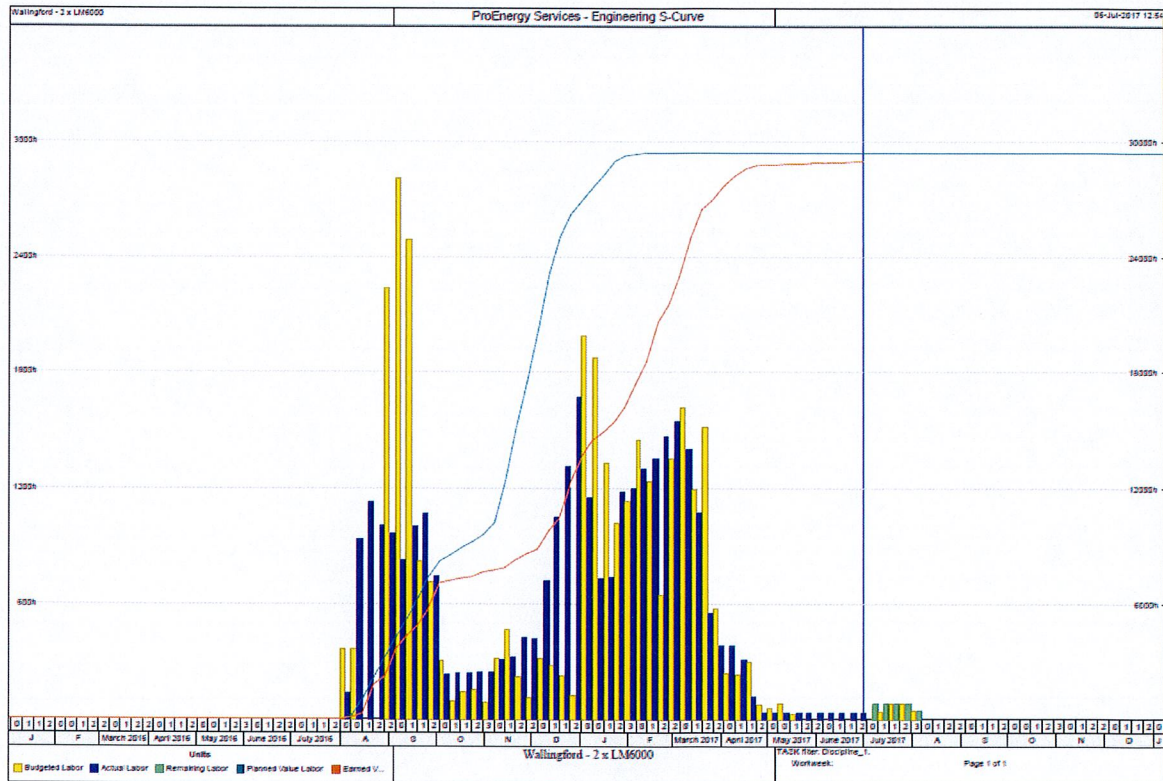
- 10.1. Schedule shows key drawing dates.

**11. ANALYTICAL**

See attached progress curves.

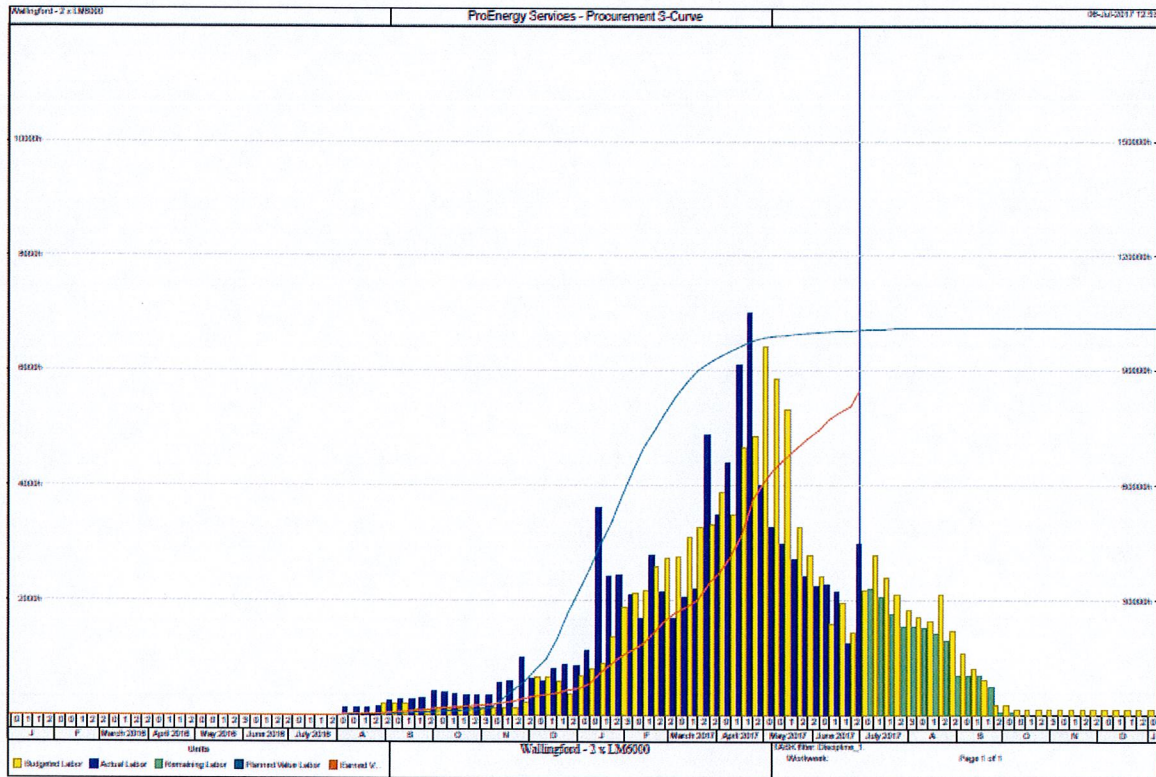


### 11.1. Engineering.



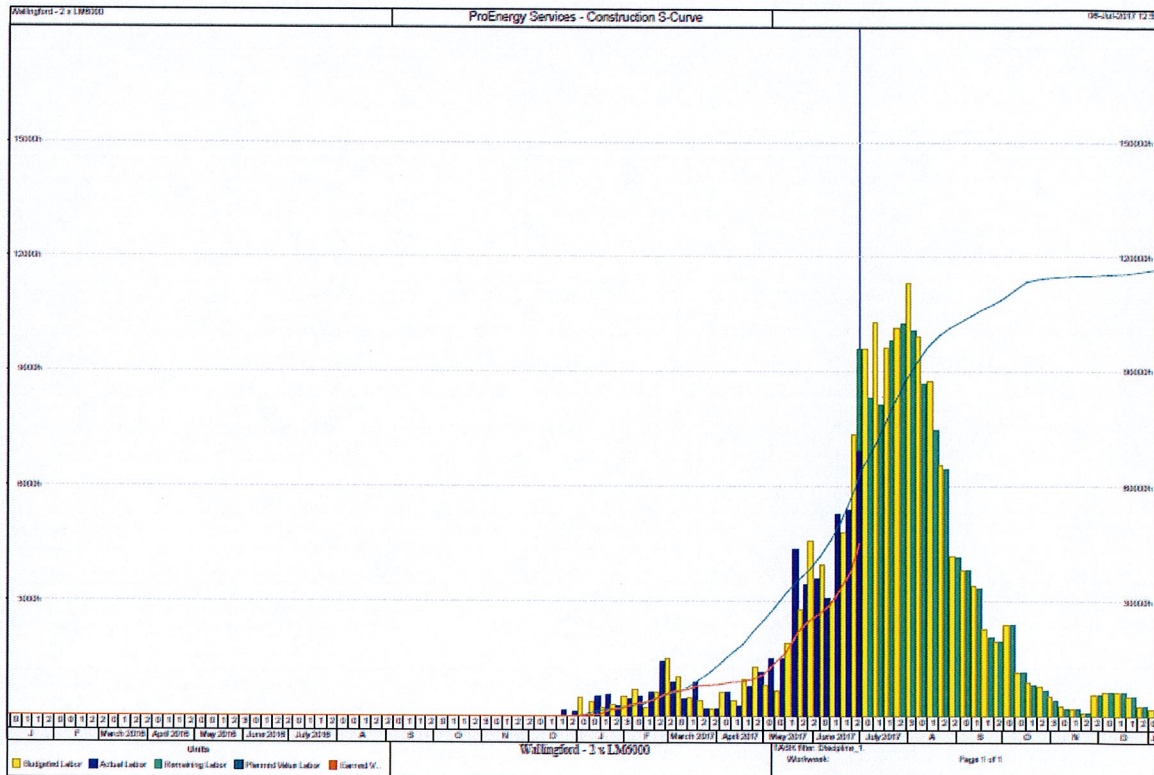


## 11.2. Procurement.



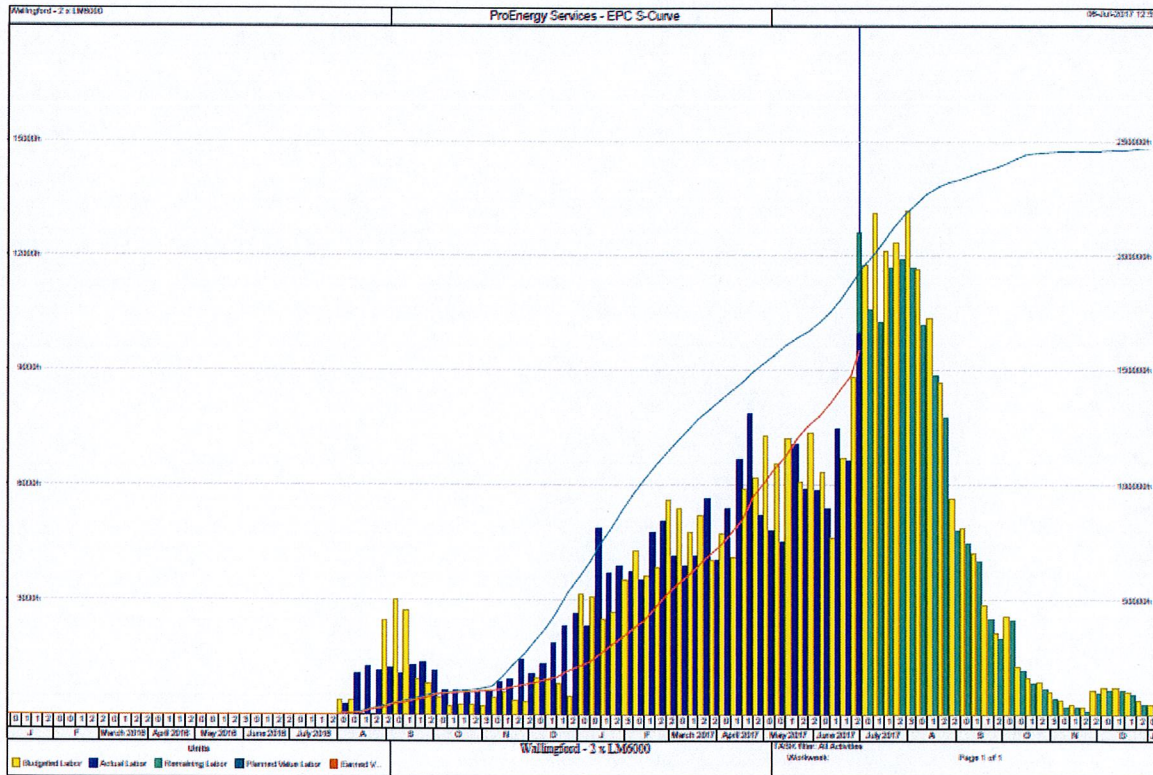


### 11.3. Construction.





### 11.4. EPC.





### 11.5. MATERIALS INSTALLED

Concrete			
Foundations	Flowable Fill	Concrete	Total c/y
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
<b>Total cubic yards installed</b>	<b>1412</b>	<b>1700</b>	<b>3112</b>
Pipe, cable, conduit, etc	Jul-17	Total installed	
Large Bore Pipe	0	788'-3"	
Small Bore Pipe	588'-10"	5,394'-4"	
Code Welds			
Cable	28,860'	33,266'	
Conduit	20'	175'	
Cable Tray	340'	2,135'	
Terminations	13	13	
Loop Checks			

### 12. LABOR STATISTICS.

#### 12.1. ProEnergy Services Safety Information for Wallingford Project

	2017 July	Project Total
Employees	86	86
Hours worked	16691	73580
Lost Workdays Incident Rate	0	0
Total Recordable Incident Rate	0	0
DART (Days away, restricted, transferred)	0	0



**13. PERMIT STATUS.**

**13.1.** ProEnergy received Connecticut Major Contractor license.

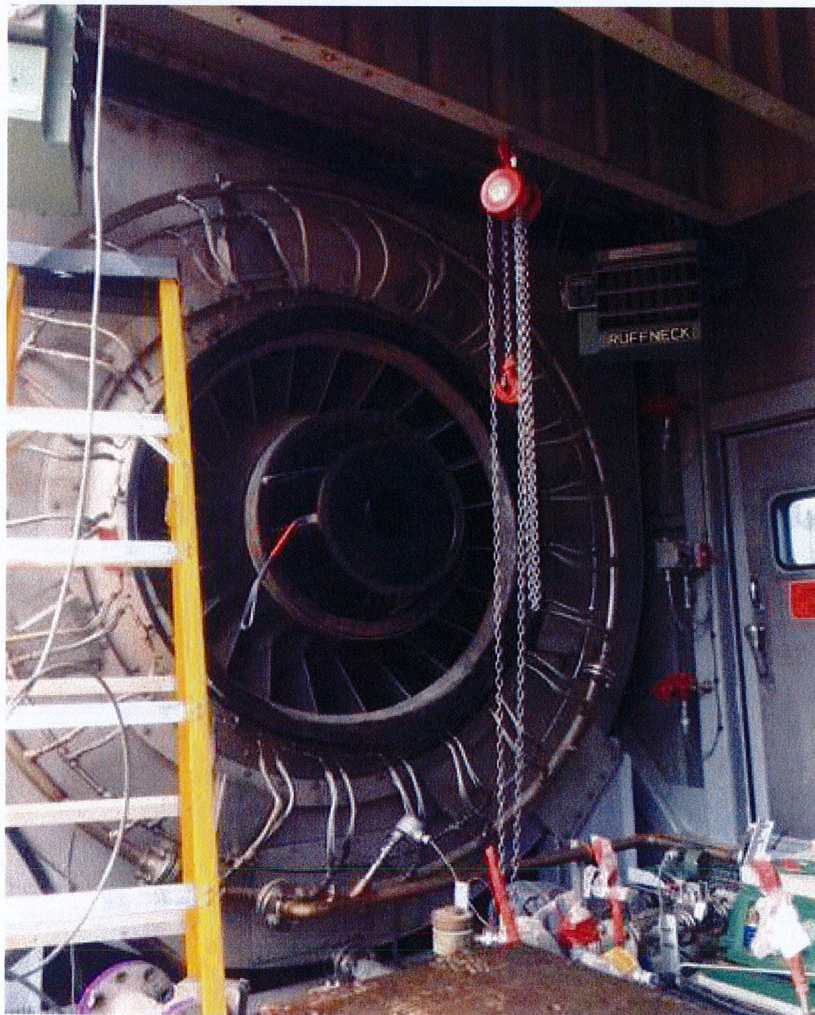
**13.1.1.** Storm Water received October 3.

**13.1.2.** D&M approval received on September 29.

**13.1.3.** None required for Change Order 2 work.

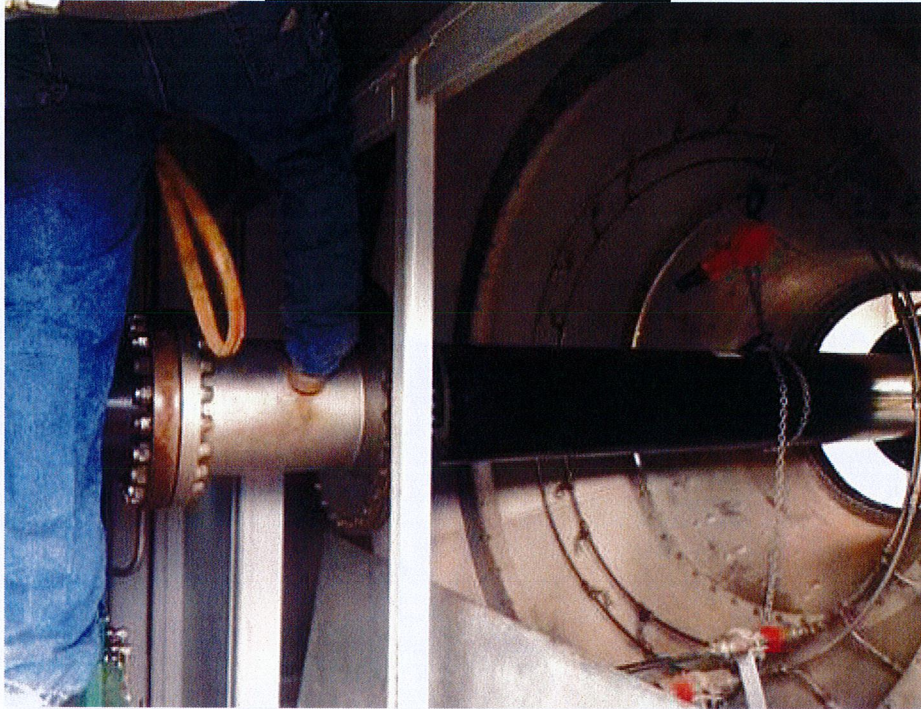
**14. PHOTOS**

**Installed load shaft coupling**





**Installed load shaft coupling**



**Assemble & install CTG access platform 1**





**Clean filter house Evap section.**



**Installing Evap Media**





**Installed load shaft coupling unit #6**



**Installed Pre-filters Unit 6&7**





Filter house platform ladder mid supports unit # 7



Backfilled southwest corner of unit #6

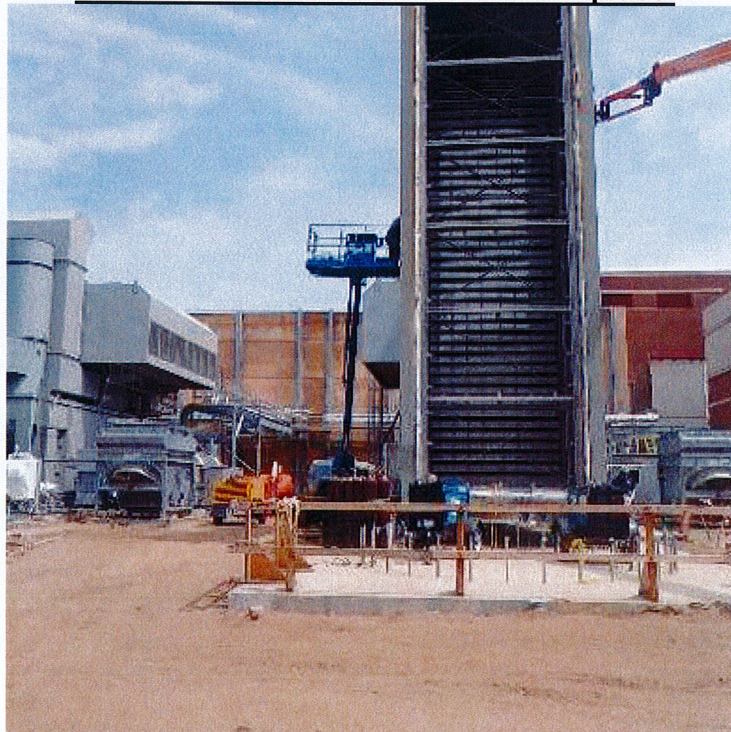




**Installing coalescing unit on #6**



**SCR view with Ammonia skid set in place.**





**Ammonia skid anchored on unit #6**



**Piping on skids for unit 7**





Installing Evap circulating pump



Continue working on LO cooling system piping.





Hydro testing pipe



Installing header on unit 7





**Gas Fuel Piping Air Blows**

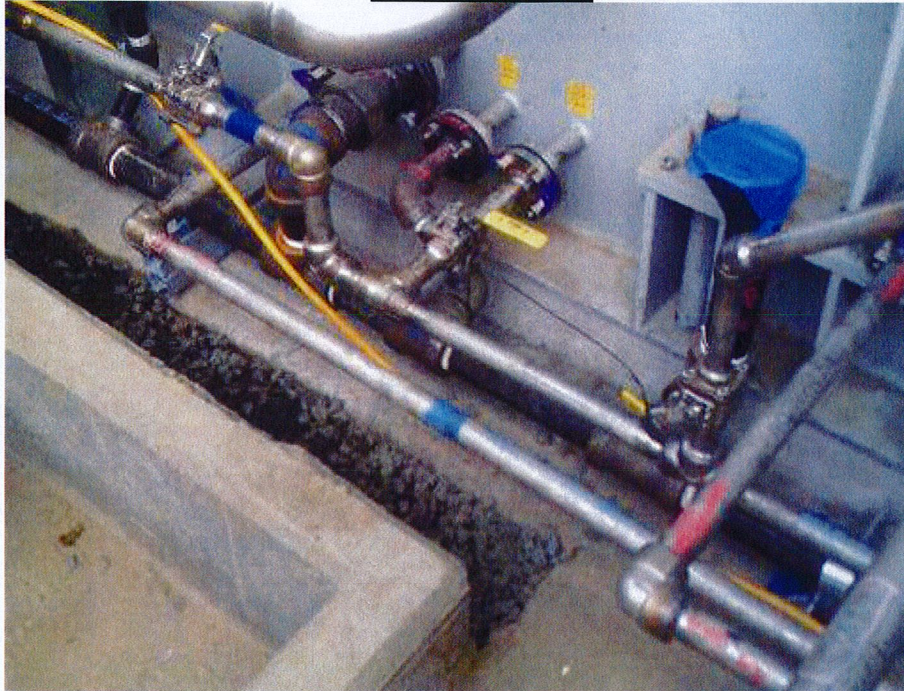


**Piping connections**





Installed Piping



The last pig is clean from debris some soot from carbon smoke but clean

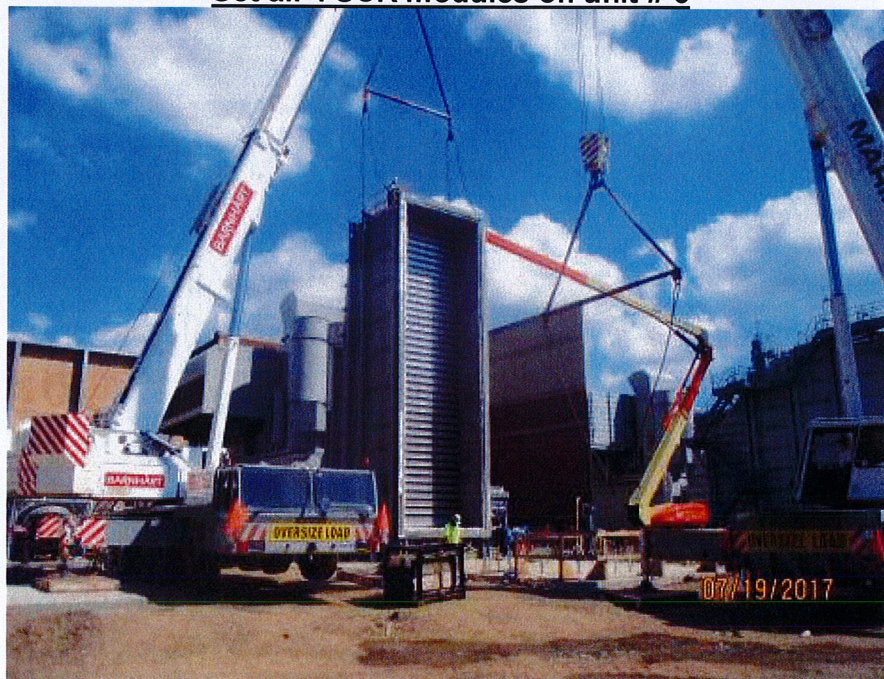




Test tree at the 6" valve block



Set all 4 SCR modules on unit # 6





Set all 4 SCR modules on unit # 6



Setting SCR Unit # 7





SCR crew member working on top of modules.



SCR erected on units 6 and 7





SCR crew working on Unit # 7



O&G, Install Precast Panels South Wall

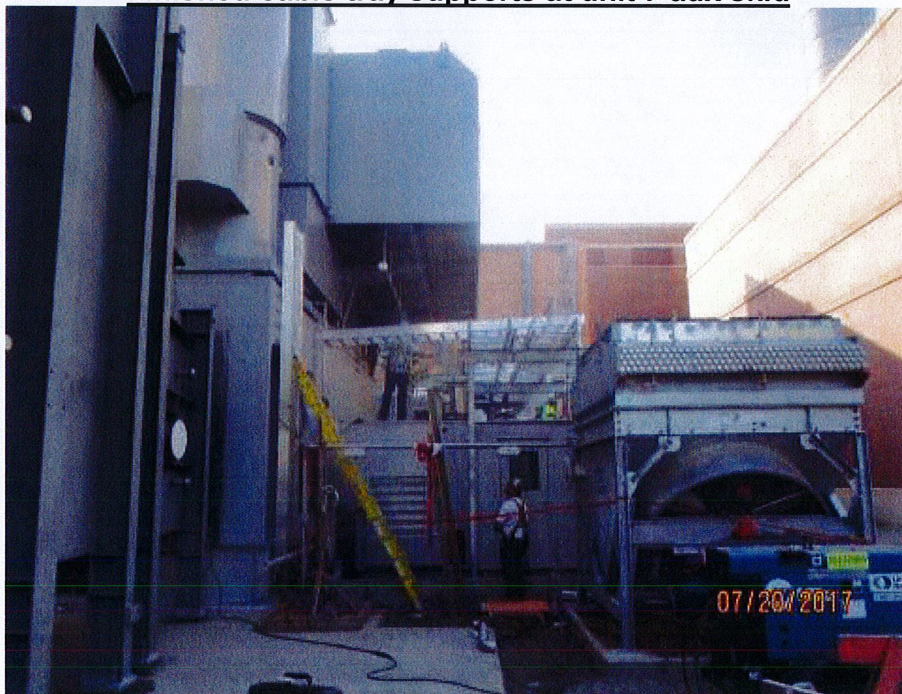




Sound wall south being erected on the South side

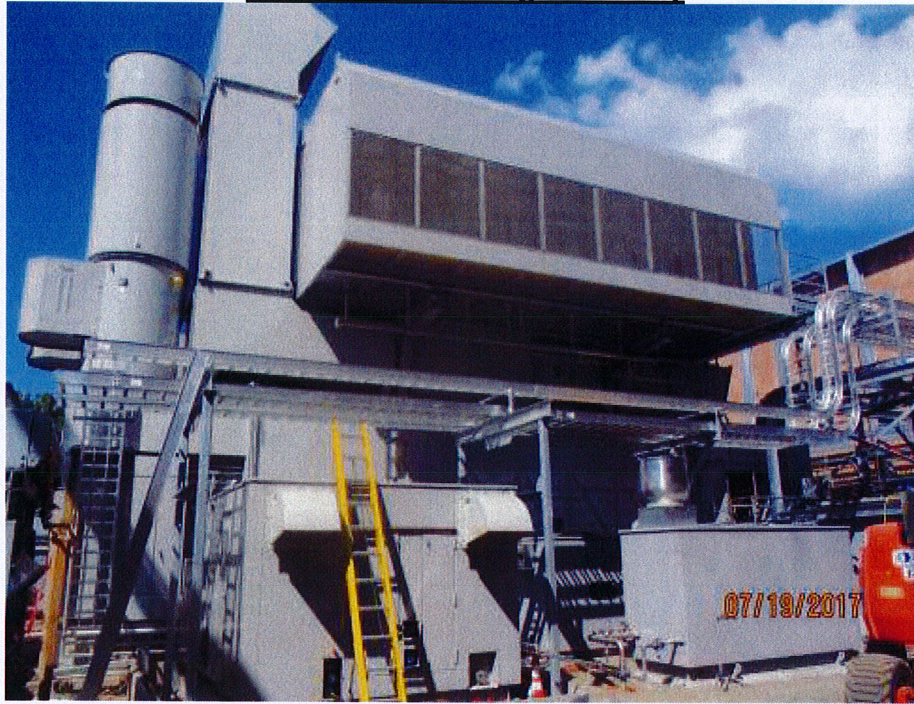


Finished cable tray supports at unit 7 aux skid





Continued Installing cable tray



Continued pulling cable





CEG on site testing equipment



CEG on site testing equipment

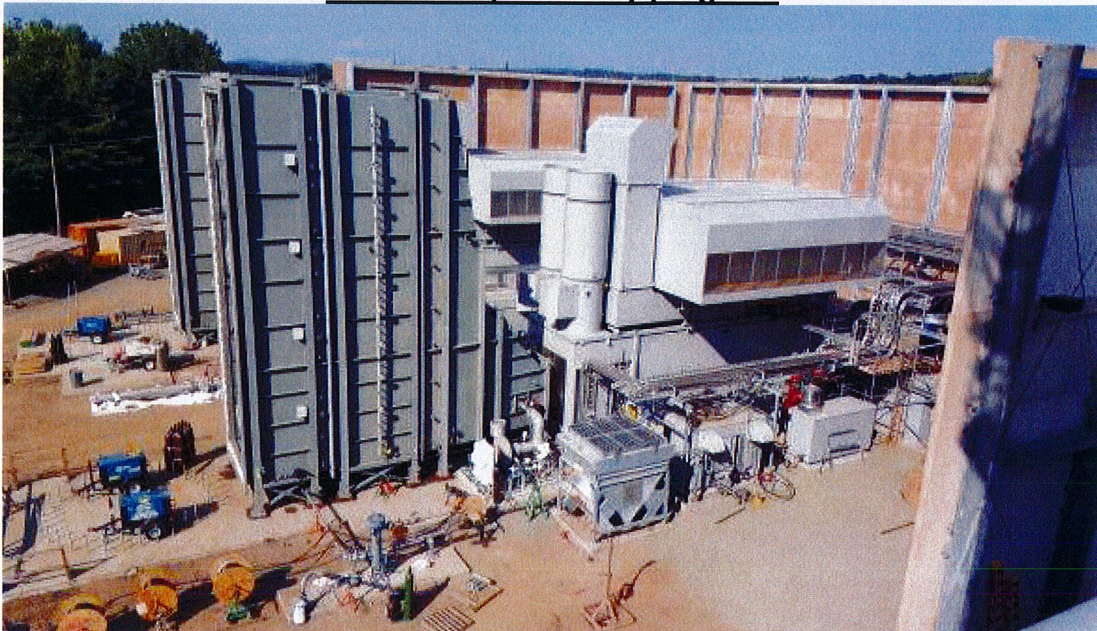




**13.8 KV SWGR Top Section 3 from U-6 Generator Torqued 7/22/17 55 ft lbs**

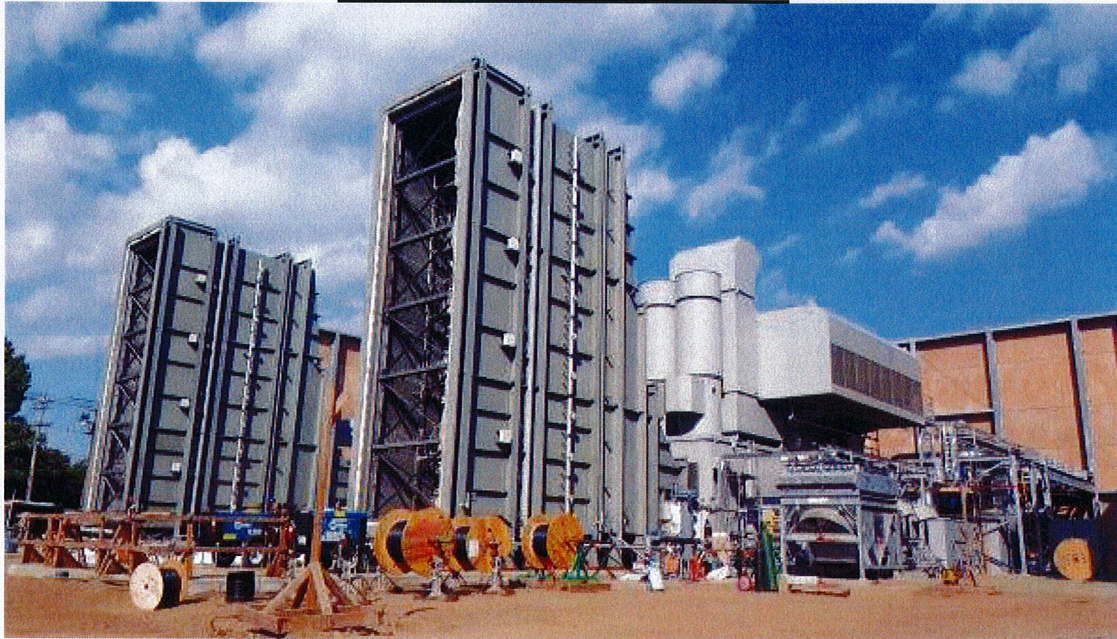


**Panoramic photo July progress**





Panoramic photo July progress



Panoramic photo July progress

