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May 31, 2018

NHPUC 1JUN18PM3:42

By Electronic Delivery & USPS

Debra A. Howland
Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street
Concord, NH 03301

**RE: Public Service Company of New Hampshire d/b/a Eversource Energy
Mercury Boiler Removal Project Monthly Status Update**

Dear Director Howland:

Pursuant to Order No. 25,956 issued on October 21, 2016, I enclose Eversource Energy's monthly update on the cost and progress for the Schiller Station mercury boiler removal project for the month of April 2018. If you have any questions, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in black ink, appearing to read "Chris Goulding", written over a horizontal line.

Christopher J. Goulding
Manager
NH Revenue Requirements

Enclosures

cc : Service List, Docket No. DE 16-817 (by electronic mail only)

Eversource

Units 1 & 2 Mercury Boiler Removal

Schiller Station

Monthly Status Report

April 2018

Date: May 31, 2018
Subject: Schiller Station Units 1 & 2 Mercury Boiler Removal
Monthly Status Report # 18 – April 2018

Summary

In late January 2018, the revised cost and schedule were completed by the demolition contractor Manafort Brothers Inc. (“MBI”), as new productivity levels could be quantified at that time. As a result, the new estimated completion date is December 2018. As discussed with NHPUC Staff and its counsel, an updated cost estimate was communicated, and subsequently provided in writing. The written response was provided to NHPUC during March 2018 in response to formal written questions submitted by the commission during early March 2018.

As previously discussed, system characterization and demolition by MBI began during November 2016. As demolition work progressed, residual amounts of mercury were found in concentrations higher than originally anticipated. During June 2017, MBI stopped work to address worker exposure issues. At the same time, U.S. OSHA began investigating MBI’s safety procedures. As a result, new rigorous and comprehensive work procedures were developed. In addition, new air emissions controls were implemented to achieve “above & beyond” compliance. With the implementation of these new, critical safety procedures, additional time and cost was added to the project. Since then, demolition work productivity has ramped up using significantly modified procedures developed by MBI.

Actual expenses on a monthly basis align with the latest project cash flow projections. However, a budget increase as previously discussed with NHPUC Staff is now required due to modified work practices to complete the project, focusing on enhanced worker health and safety and reduced project air emissions. No new environmental concerns have been raised beyond those currently expected and typical at this time. The potential safety issue noted above was resolved as discussed in previous reports.

As a result of the 2017 work-stoppage due to the need for modified work practices, the expected project completion date has been revised to December 2018. The revised schedule reflects the work stoppage for safety re-evaluation, a work transition to orientate several new contractor employees as well as to institute revised procedures that allowed a safe return to work during September 2017. At that time, the schedule and final project costs went under review based on the new work procedures and altered productivity due to greater safety controls.

Background

On October 21, 2016 in Order No. 25,956 the Commission approved Eversource's removal of two mercury boilers and associated equipment located at Schiller generating station as recommended by the Commission's auction advisor, J.P. Morgan

The Order noted:

"The immediate launching of the Schiller abatement effort offers several advantages within this framework. Eversource has intimate, operationally-developed knowledge of Schiller Station conditions that would enhance the efficiency of the remediation effort. Prompt remediation of the conditions at Schiller Station will tend to make the asset a more attractive acquisition target, and protect potential operational synergies among the Schiller, Newington, and Merrimack Station facilities."

And the Commission concluded:

"We are also satisfied that the cost-review checks called for by the terms of the Stipulation will enable the Commission, Staff, and the other parties to monitor the effort for cost overruns and other potential issues. We will require that Eversource provide monthly updates on the cost and progress of the removal to Staff and we will require Staff to bring any substantial variances to our attention. We therefore find that undertaking the proposed removal of the two mercury boilers and related equipment from the Schiller generation station is prudent within the framework of the divestiture auction. We will monitor the manner in which Eversource conducts the removal to ensure that the removal is prudently managed."

Status

1.0 Cost

As previously discussed, the initial project cost estimate was based on project bid responses to the Request For Proposal. These bids were generated on information available at the time. A component of the work estimated by bidders was characterization of mercury impacts in the system to determine appropriate disposal of demolished components as well as safety. Once a bidder was selected and work began it was determined that residual historic mercury concentrations remaining in the system were greater than originally anticipated. During the first seven months of the project, the demolition contractor (MBI) made very good progress. In June 2017, however, all work stopped due to MBI worker mercury exposure issues and a subsequent investigation by U.S. OSHA. As a result, worker safety procedures were amended by MBI. Work then began again during early September 2017. Accordingly, both the nature of the project and the associated costs of completing the project increased.

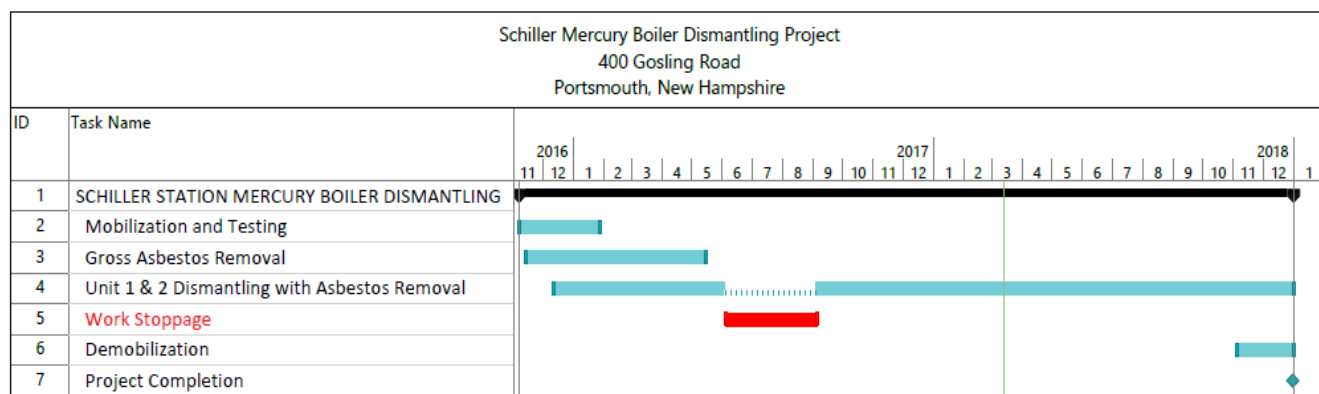
The variance between the preliminary project estimate and current project estimate is a result of: (1) Amended worker safety procedures, safety equipment and air handling equipment, (2) increased disposal costs of demolition debris, (3) the development of new work procedures that have resulted in additional time and labor to perform demolition, (4) the development of additional controls to improve air quality within containments and reduce air emissions "above

& beyond” compliance that have increased compliance costs, and (5) an associated increase to full time on-site project management oversight by the Eversource third-party demolition consultant, GZA GeoEnvironmental, Inc.

The Company has incurred cost through April 2018 of approximately \$23 million. As noted above, an updated cost estimate was generated during late January 2018 due to numerous changes in the approach to the work, requests by the NH DES to reduce air emissions further below allowable values, productivity changes, etc. Please refer to page 8, page 9 and page 10 for details of the actual cost by month through April 2018.

2.0 Schedule

The schedule and corresponding status review is now completed and reflected in the summary below.



3.0 Permitting and Notifications

The existing project permits as described in the November 2016 monthly status report are in good standing with no issues. Those are listed below.

- Demolition Permit with the City of Portsmouth
- Abatement Notification to NHDES
- Alternative Air Emissions Compliance Plan
- Hazardous Waste Generator ID issued by NHDES

4.0 Critical Path Items Completed / Underway

Asbestos Abatement – 94% complete

Dismantling/Demolition – 63% complete

Most of the asbestos abatement took place over the first 6 months of the project.

Dismantling/demolition including integrated asbestos abatement is continuing to take place and

is estimated to be completed in December 2018. The dismantling and integrated asbestos abatement involves 5 elevations in varied locations of the Unit 1 and 2 Boiler House area. The work initially began at the higher elevations and proceeded to the lower elevations. Boiler dismantling has recently been re-phased to complete boiler, condenser, and turbine dismantling on the turbine deck (El. 36') and proceed from the turbine deck up to where the boilers are currently dismantled down to at El. 82'. Where possible, work is being completed in parallel. The asbestos and dismantling work conducted during April included the following:

- Active mercury boiler system removal continued with an emphasis on cold-cutting methods to limit mercury vapors within containments. Also continued utilization of “smoke eaters” to capture mercury emissions at the source of generation during cold-cutting and hot-work activities.
- Continued maintenance of all existing containments.
- Continued utilizing additional air emissions plenum for the F-240 air movers servicing the containments on El. 36. Also continued monitoring of carbon filtration efficiency on the F-240 air movers.
- Continued removal of the north and south Turbine 1 Condenser units including outer shell and interior tubing and tube sheet within the Turbine 1 El. 36' containment.
- Continued removal of piping and valves associated with Turbine 1 within the Turbine 1 El. 36' containment.
- Continued removal of the Turbine 1 Generator components within the Turbine 1 El. 36' containment.
- Began removal of the connections between Turbine 1 and the north and south Condensers within the Turbine 1 containment.
- Continued removal of the Unit 1 and 2 Fireboxes including removal of interior asbestos insulation at El. 36' within the Boiler containment.
- Continued utilizing the VecLoader for ash removal within the Boiler containment at El. 36' and El. 59'.
- Began and completed removal of ash with visible mercury and asbestos debris at the base of the interior of the Unit 1 and 2 Boilers utilizing permit required confined space protocol with the support of a confined space rescue team.

- Completed removal of the Unit 1 and 2 Boiler sidewalls (metal skin) at El. 59', El. 49', and El. 36' within the Boiler containment.
- Completed removal of the Unit 1 and 2 Boiler sidewall asbestos insulation and refractory brick at El. 59', El. 49', and El. 36' within the Boiler containment.
- Completed removal of piping and conduits associated with Unit 1 and 2 Boiler at El. 36' and 49' within the Boiler containment.
- Began removal of the header piping and boiler tube curtain walls within the Unit 1 and 2 Boilers from the base of the Boilers to El. 36' utilizing permit required confined space protocol with the support of a confined space rescue team.
- Began and completed construction of a scaffolding "dance floor" over the Unit 1 and 2 Boilers at El. 82' to allow access for final cleaning of elevated areas within the Unit 1 and 2 El. 82' and El. 59' containment outside the footprint of the Unit 1 and 2 Boiler containment.
- Continued asbestos final cleaning of the Unit 1 and 2 Boiler El. 82' and El. 59' containment outside the footprint of the Unit 1 and 2 Boiler containment.
- Began and completed removal of the condenser cooling tubes in the Turbine #1 El. 24' containment.
- Began and completed removal of the lube oil tank in the Turbine #1 El. 24' containment.
- Completed removal of the Mercury Sump Tank, Flash Tank, and piping below Turbine 2 at El. 24' within the Turbine 2 El. 24' containment.
- Began and completed removal of piping located adjacent to the S3 Cooling Water switch at El. 11'.
- Began removal of the Turbine 2 Generator components within the Turbine 1 El. 36' containment.
- Mobilized equipment and subcontractor for wire-saw cutting and began wire-saw cutting on the Turbine 1 and 2 north and south Condenser inner drums at El. 36'.
- Mobilized a Cummins 500KW diesel generator to the site.

- Mobilized air chiller units to the site and began installation of air conditioning system to the Boiler containment at El. 36'.
- Installed fall protection around the openings of the Unit 1 and 2 Boilers within the Boiler containment.
- Disposal of approximately 12 tons of environmentally hazardous ash with asbestos.
- Disposal of approximately 9,630 gallons of hazardous waste water.
- Disposal of approximately 37.5 tons of hazardous mercury impacted metal with asbestos.
- Disposal of approximately 95 tons of hazardous mercury impacted refractory brick with asbestos.
- Disposal of approximately 42 tons of hazardous mercury impacted metal.
- Disposal of approximately 2.5 tons of general C&D debris.
- Disposal of approximately 8 tons of hazardous mercury impacted metal for retort.
- Disposal of approximately 16 tons of hazardous mercury impacted metal with asbestos for retort.
- Disposal of approximately 9 gallons of hazardous liquid mercury for retort.

5.0 Significant Issues

No new significant issues were identified during April 2018.

6.0 Cost & Schedule Impacts

The completion date remains scheduled for December 2018. The new total project cost remains at \$44M under a Time & Materials (T&M) payment approach. This increase in cost and schedule are due to modified safety procedures which have reduced productivity, increased disposal costs, and costs associated with additional controls to further reduce emissions “above & beyond” compliance. The Company is actively managing the cost and schedule to ensure that all costs are prudently incurred.

7.0 Agency Visits, Inspections & Audits

No agency visits occurred during this period.

8.0 Next Report Due

The next monthly report will be submitted to the Commission by June 30, 2018.

Public Service Company of New Hampshire d/b/a Eversource Energy
Removal of Mercury Boilers Deferred Costs
Monthly Status Report for April 2018

Line #	Description	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Total 2018
1	Internal Cost:													
2	-Employee Labor	\$ 22,655	\$ 18,168	\$ 22,076	\$ 21,383									\$ 84,282
3	-Employee Misc. Expense	335	335	334	801									1,806
4	-Materials & Supplies	-	-	-	-									-
5														
6	Vendor Cost:													
7	-O'Connor Corp.	\$ -	\$ -	\$ -	\$ -									\$ -
8	-William Scotsman Inc.	2,430	1,510	1,510	1,510									6,960
9	-Mohlin & Company	-	-	-	-									-
10	-GZA GEO Environmental Inc.	66,463	70,502	66,736	70,200									273,901
11	-Ayer Electric Inc.	-	-	-	-									-
12	-Manafort Brothers	296,130	2,361,416	2,018,560	5,669,199									10,345,305
13	-Other	-	1,980	-	-									1,980
14	Monthly Total	388,013	2,453,911	2,109,217	5,763,093	-	-	-	-	-	-	-	-	10,714,234
15														
16	Balance	\$ 12,509,069	\$ 14,962,980	\$ 17,072,197	\$ 22,835,290	\$ 22,835,290	\$ 22,835,290	\$ 22,835,290	\$ 22,835,290	\$ 22,835,290	\$ 22,835,290	\$ 22,835,290	\$ 22,835,290	
17														
18	Average Balance	\$ 12,315,062	\$ 13,736,024	\$ 16,017,588	\$ 19,953,743	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
19	Tax Impact @ 27.241%*	(4,941,271)	(5,328,355)	(5,949,876)	(7,022,124)	-	-	-	-	-	-	-	-	
20	Average Investment	\$ 7,373,791	\$ 8,407,669	\$ 10,067,712	\$ 12,931,619	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
21	Stipulated Rate of Return	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	
22	Interest	\$ 43,312	\$ 49,385	\$ 59,136	\$ 76,192	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 228,024
23														
24	Monthly Total Including Interest	431,325	2,503,296	2,168,352	5,839,285	-	-	-	-	-	-	-	-	
25														
26	Cumulative Total Including Interest	12,931,912	15,435,208	17,603,560	23,442,845	23,442,845	23,442,845	23,442,845	23,442,845	23,442,845	23,442,845	23,442,845	23,442,845	

*Includes Excess ADIT from Tax Change

Public Service Company of New Hampshire d/b/a Eversource Energy
Removal of Mercury Boilers Deferred Costs
Monthly Status Report for 2017

Line #	Description	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Total 2017
1	Internal Cost:													
2	-Employee Labor	\$ 34,463	\$ 31,022	\$ 32,376	\$ 32,105	\$ 35,099	\$ 34,447	\$ 43,593	\$ 36,304	\$ 27,789	\$ 33,501	\$ 31,868	\$ 41,218	\$ 413,784
3	-Employee Misc. Expense	105	225	254	142	386	248	254	229	370	175	140	260	2,788
4	-Materials & Supplies	-	-	-	-	-	-	-	-	-	-	-	-	-
5														
6	Vendor Cost:													
7	-O'Connor Corp.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8	-William Scotsman Inc.	1,510	1,510	1,510	834	2,430	590	2,430	1,510	1,510	1,510	1,510	590	17,444
9	-Mohlin & Company	12	-	-	-	-	-	-	-	-	-	-	-	12
10	-GZA GEO Environmental Inc.	51,358	39,130	59,349	49,738	51,517	55,687	30,903	94,612	7,725	39,601	50,726	40,846	571,193
11	-Ayer Electric Inc.	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-Manafort Brothers	1,065,685	240,929	2,065,674	969,690	2,242,510	(471,604)	97,743	625,126	532,282	886,322	874,768	174,029	9,303,155
13														
14	Monthly Total	1,153,133	312,817	2,159,162	1,052,509	2,331,942	(380,631)	174,923	757,781	569,677	961,109	959,012	256,943	10,308,376
15														
16	Balance	\$ 2,965,812	\$ 3,278,629	\$ 5,437,791	\$ 6,490,300	\$ 8,822,241	\$ 8,441,610	\$ 8,616,533	\$ 9,374,314	\$ 9,943,991	\$ 10,905,100	\$ 11,864,112	\$ 12,121,056	\$ 12,121,056
17														
18	Average Balance	\$ 2,389,246	\$ 3,122,221	\$ 4,358,210	\$ 5,964,045	\$ 7,656,270	\$ 8,631,926	\$ 8,529,071	\$ 8,995,423	\$ 9,659,153	\$ 10,424,546	\$ 11,384,606	\$ 11,992,584	
19	Tax Impact @ 40.330%	(963,583)	(1,259,192)	(1,757,666)	(2,405,299)	(3,087,774)	(3,481,256)	(3,439,774)	(3,627,854)	(3,895,536)	(4,204,219)	(4,591,412)	(4,836,609)	
20	Average Investment	\$ 1,425,663	\$ 1,863,029	\$ 2,600,544	\$ 3,558,746	\$ 4,568,497	\$ 5,150,670	\$ 5,089,297	\$ 5,367,569	\$ 5,763,616	\$ 6,220,326	\$ 6,793,195	\$ 7,155,975	
21	Stipulated Rate of Return	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	
22	Interest	\$ 9,546	\$ 12,475	\$ 17,413	\$ 23,877	\$ 30,652	\$ 34,558	\$ 34,216	\$ 36,087	\$ 38,750	\$ 41,568	\$ 45,396	\$ 47,821	\$ 372,360
23														
24	Monthly Total Including Interest	1,162,679	325,291	2,176,575	1,076,386	2,362,594	(346,073)	209,139	793,868	608,427	1,002,677	1,004,409	304,764	
25														
26	Cumulative Total Including Interest	2,982,530	3,307,821	5,484,395	6,560,782	8,923,375	8,577,303	8,786,441	9,580,310	10,188,737	11,191,414	12,195,823	12,500,587	

Public Service Company of New Hampshire d/b/a Eversource Energy
Removal of Mercury Boilers Deferred Costs
Monthly Status Report for 2016

Line #	Description	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016	Total 2016
1	Internal Cost:													
2	-Employee Labor	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 34,510	\$ 34,490	\$ 69,001
3	-Employee Misc. Expense	-	-	-	-	-	-	-	-	-	-	230	243	473
4	-Materials & Supplies	-	-	-	-	-	-	-	-	-	-	9,889	183	10,072
5														
6	Vendor Cost:													
7	-O'Connor Corp.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 23,000	\$ 33,058	\$ (149)	\$ 55,909
8	-William Scotsman Inc.	-	-	-	-	-	-	-	-	-	-	4,993	1,510	6,503
9	-Mohlin & Company	-	-	-	-	-	-	-	-	-	-	10,100	1,838	11,938
10	-GZA GEO Environmental Inc.	-	-	-	-	-	-	-	-	-	-	23,000	33,809	56,809
11	-Ayer Electric Inc.	-	-	-	-	-	-	-	-	-	-	46,941	(11,238)	35,703
12	-Manafort Brothers	-	-	-	-	-	-	-	-	-	-	680,010	886,262	1,566,272
13														
14	Monthly Total	-	-	-	-	-	-	-	-	-	23,000	842,732	946,948	1,812,679
15														
16	Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 23,000	\$ 865,732	\$ 1,812,679	\$ 1,812,679
17														
18	Average Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 11,500	\$ 444,366	\$ 1,339,206	
19	Tax Impact @ 40.330%	-	-	-	-	-	-	-	-	-	(4,638)	(179,213)	(540,102)	
20	Average Investment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,862	\$ 265,153	\$ 799,104	
21	Stipulated Rate of Return	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%	0.67%
22	Interest	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 46	\$ 1,775	\$ 5,350	\$ 7,171
23														
24	Monthly Total Including Interest	-	-	-	-	-	-	-	-	-	23,046	844,507	952,298	
25														
26	Cumulative Total Including Interest	-	-	-	-	-	-	-	-	-	23,046	867,553	1,819,851	