

Status Update Report Phase I Trimble County Landfill & CCRT Project Quarterly Report – Update #8 January 30, 2018

Executive Summary

This report covers LG&E and KU's ("Companies") progress on the Phase I Trimble County Landfill and CCRT¹ project through the fourth quarter of 2017.

Safety performance to date remains very good with a year-to-date Recordable Incident Rate of 1.05 and an inception-to-date Recordable Incident Rate of 1.00 compared to the industry average of 3.20. Two OSHA recordable accidents occurred during the fourth quarter of 2017. The first occurred when a bolt being used to align equipment broke, thus causing the rigging equipment to contact a contractor in the face resulting in a fracture. The second accident resulted in a laceration to the head of a track loader operator when his head contacted the top of the cab while the loader was exiting a trench.

The project's total projected cost remains 301.9 million (net)² as reported last quarter, which reflects a reduction from 321.9 million (net) as provided in Case 2015-00194. The updated forecast reflects all Engineering, Procurement and Construction ("EPC") contracts signed to date, including the last major EPC signed with Charah in August 2017 for construction of Phase I of the Landfill.³ Total spend to date has increased from \$163.9 million (net) to \$182.1 million (net) through December 31, 2017.

The Unit 1 Bottom Ash Subproject to the CCRT scope was successfully completed and placed into operation as planned during the Unit 1 Fall 2017 outage. The forecasted completion date for the CCRT Fly Ash and Gypsum Subprojects remains planned for the summer of 2018.

As reported last quarter, the US Army Corps of Engineers ("COE") issued the 404 landfill permit in June 2017. This was the last permit the Companies needed to receive in order to begin constructing the Landfill. With receipt of the COE 404 permit, the Companies remitted payment of the required COE landfill permitting mitigation In Lieu of Fees in July 2017. Upon confirmation from the COE of receipt of the Companies' payment, AMEC was released in July 2017 to perform the Transport subproject (road to landfill, bridge, and pipe conveyor) with completion planned to occur in November 2019. The Project background information (i.e., scope, contract awards, conceptual design layouts, and permitting status) is located in the Appendix.

¹ The Coal Combustion Residuals Treatment ("CCRT") Project scope is described in detail in the Appendix found on page 9.

² Co-Owners of the Trimble County plant: Illinois Municipal Electric Agency (IMEA) and Indiana Municipal Power Agency (IMPA) are responsible for 25%. IMEA owns 12.12% and IMPA owns 12.88%. Co-owner share is not included in the costs provided in this report.

³ Phase I's footprint has decreased from the approximately 52 acres in the filing to approximately 34 acres to account for the use of Coal Combustion Residuals ("CCR") to be used in construction of the closures of the Bottom Ash Pond and Gypsum Storage Ponds per the Federal CCR Rule. The closure work is being performed under the approved 2016 ECR Plans in Case Nos. 2016-00026 and 2016-00027.



Construction on the Transport subproject scope has consisted of rock blasting and major earthmoving efforts for the roadway corridor from the generating station to the future landfill site. AMEC's subcontractor, Louisville Paving, a local company, has also begun installing pile foundations for the bridge over KY 1838.

Construction on the Landfill subproject scope was awarded last quarter to Charah, a local company. Charah has completed site erosion control measures, continues clearing trees and has begun stripping and grading slopes associated with landfill sediment and storm-water basins.

CCRT & Transport Quarterly Status Update

Companies continue to hold monthly project review meetings with AMEC. Activities at weekly project engineering meetings include the review of general arrangements, model reviews and final equipment sizing. The ongoing engineering and design work is nearly complete for the following equipment:

Equipment	Awarded Contractor	Status	
Unit 1 bottom ash		Equipment placed into service in	
submerged chain	United Conveyor Corporation	November 2017 as planned	
conveyor			
Fly ash conditioner		Equipment Delivered	
and conveying	United Conveyor Corporation	Construction in progress	
system			
Gypsum		Equipment Delivered	
dewatering vacuum	FLSmidth	Construction in progress	
belt filter system			
Gypsum portal	Ameco (same vendor as Ghent's portal	Equipment Delivered	
scraper reclaimer	reclaimer commissioned in December 2014)	Construction in progress	
Dina convoyor	Beumer Group (same vendor as Ghent's pipe	Equipment ordered. Construction of	
r ipe conveyor	conveyor commissioned in December 2014)	support foundations in progress	

AMEC, with involvement from the Companies, continues to procure equipment, receive materials, and perform the electrical control design/programming subcontract work. Ongoing construction, equipment installation and design activities include erection of various CCRT buildings, construction of underground electrical duct banks, installation of miscellaneous concrete foundations for conveyor belts, construction of the fly ash silos and review of distributed controls system remote input and output logic and graphic descriptions. Installation of site construction power continues. Installation of Trimble County Unit 1's bottom ash equipment was completed as planned during the 2017 Fall outage and placed into service in November 2017.

The CCR Transport scope is progressing well. During the reporting period, AMEC and their subcontractors completed the clearing of trees in the bridge and haul road corridors, as well as performed major earthwork activities. AMEC's subcontractor, Louisville Paving, began installing pile foundations for the bridge over KY 1838 and continued blasting operations for rock excavation through the future access road corridor. AMEC has placed the pipe conveyor order with Beumer. Site photographs for the CCRT and Transport systems are provided below:





CCRT Project Area Looking North - Photo from the October 2017 Report



CCRT Project Area Looking North - Current





CCRT Project Area Looking South - Photo from the October 2017 Report



CCRT Project Area Looking South - Current





CCR Transport Corridor - View to Bridge over KY 1838 and Station (Looking West) - Current



CCR Transport Corridor - View to Landfill from Station (Looking East) - Current



Landfill Quarterly Status Update

Charah completed mobilization to the site and continues to receive deliveries of landfill infrastructure components including concrete culverts, storm water PVC piping and rock. Charah and its subcontractors continue clearing trees and have begun major excavation and construction of the access road to the ravine landfill lower work area (i.e., sediment pond, storm-water pond, leachate pond). Through this reporting period, Charah has cleared approximately 35 acres of trees.

The Companies' Transmission department continues progressing the relocation of the 345kV transmission line over the landfill area as planned.

The Companies issued a Request for Quotation for the Construction Quality Assurance for the landfill. AMEC Foster Wheeler Environment & Infrastructure was awarded the contract in December 2017. The work includes visual inspections, attending meetings and state inspections, issuance of reports, lab and concrete testing, oversight of the liner installation, and reviewing as built drawings.



Financials

The project's total projected cost remains \$301.9 million (net) as reported last quarter, which reflects a reduction from \$321.9 million (net) as provided in Case 2015-00194. The updated forecast reflects all EPC contracts signed to date, including the last major EPC signed with Charah in August 2017 for construction of Phase I of the Landfill. Total spend to date has increased from \$163.9 million (net) to \$182.1 million (net) (KU \$83.4M / LG&E \$98.7M) through December 31, 2017. Note for the graph below: (1) the chart reflects the awarded EPC contract for the CCRT that was awarded to AMEC, as well as the EPC contract awarded to Charah for the Landfill Phase I construction; (2) the chart includes a symbol () to show the current forecast to completion; and (3) Inception-to-Date (ITD) Spend is shown in the upper left corner.





Planned Activities for Next Quarter

CCRT

In coordination with the Companies' Owner's Engineer ("OE"), Burns & McDonnell ("B&McD"), review of AMEC's engineering and procurement documents will continue. AMEC will continue releases of purchase orders for equipment and material during the first quarter of 2018. AMEC's site activities will include construction of underground electrical duct banks, concrete foundations, structural steel for buildings and equipment, and assembling and setting equipment. The subcontractor to AMEC that is responsible for constructing the fly ash silos will continue with construction of interior silo components.

Transport

AMEC's subcontractor, Louisville Paving, will continue installing pile foundations for the bridge over KY 1838, as well as continue to perform earthwork activities for the future road from the generating station to the landfill.

Landfill

Charah will continue with tree clearing, major earthwork and blasting activities associated with landfill Phase 1 construction. Work will continue on the 345kV transmission line relocation in the future landfill area. While no land purchases were made during the fourth quarter of 2017, the Companies continue to pursue the purchase of land within close proximity of the landfill. The acquisition of this additional land will facilitate future clay or soil borrowing for the long-term operation of the landfill and provide a further buffer area between local residents and landfill operations.



APPENDIX

Scope

The Trimble County Landfill and CCRT Project scopes include: CCR Treatment facilities, CCR Transport system, and Phase I of a dry CCR Landfill.

The CCR Treatment facilities include the Unit 1 bottom ash dewatering system, conversion of station fly ash transport from wet to dry conveyance, fly ash storage and treatment equipment and the station gypsum dewatering system and associated gypsum storage/reclaim system. The CCR Transport system includes a pipe conveyor (approximately 1.5 miles) from the CCR Treatment area to the landfill location, a bridge over KY 1838, and a road from the station to the new dry CCR landfill. The CCR Landfill includes Phase I of a new dry CCR landfill that is designed to receive and manage CCR generated over approximately 37 years. The Landfill will be developed in multiple phases with each fully integrated as an extension of the adjacent landfill phase or cell. Only Phase I is included in the CCRT and Landfill project with this certificate of public convenience and necessity awarded in Case Nos. 2009-00197 and -00198 and affirmed in Case No. 2015-00194.

Previously Reported Contract Awards

The CCRT Owner's Engineer contract was awarded to B&McD. B&McD has supported various projects for LG&E and KU, and recently supported the Trimble County Unit 1 PJFF capital project. B&McD assisted in the specification development for the CCRT and bottom ash scopes of work, and assisted in the bid evaluations and EPC finalization.

The Landfill Owner's Engineer contract was awarded to GAI. GAI has been the Engineer of Record through the permitting and landfill design phases, as well as the engineering firm that developed the specifications for the road and bridge work.

The CCRT and Transport portion of the project was awarded to AMEC. An EPC was executed with AMEC on April 7, 2016. AMEC has performed very well for the Companies in the recent past with completion of the E.W. Brown Unit 3 and Trimble County Unit 1 baghouse projects. AMEC has also been awarded the CCR Rule Process Water System projects for Trimble County and Mill Creek generating stations.

The Phase I Landfill portion of the project was awarded to Charah, a local company. Charah has previously completed successful projects for the Companies, such as the Ghent and E.W. Brown Landfill Phase I projects.



Conceptual Site Layout Graphics



Graphic 1 - Conceptual Layout of the CCRT and Transport System



Graphic 2 - Conceptual 3D Site Layout of the CCRT



Required Regulatory Permit	Submitted	Date Submitted	Date Received
Kentucky Division of Waste Management Landfill Permit	Yes	January 3, 2014	February 2017
US Army Corps of Engineers 404 Permit	Yes	April 25, 2014	June 28, 2017
US Army Corps of Engineers Nationwide Permit (Monitoring Wells)	Yes	September 9, 2013	September 2014
Kentucky Division of Water 401 Water Quality Certificate	Yes	April 25, 2014	<u>October 24, 2016</u>
Kentucky Division of Water Dam Safety Permit	Yes	February 15, 2016	<u>August 2016</u>
Kentucky Transportation Cabinet Bridge Permit	Yes	January 30, 2014	February 2015
Kentucky Division for Air Quality Title V Revised Air Permit	Yes	<u>October 12, 2015</u>	December 2015

Table 1 - Landfill Permitting Status

Note: The underlined dates reflect updates from Application Exhibit 3 in Case No. 2015-00156 filed on May 22, 2015, which the Commission by order later consolidated into Case No. 2015-00194.