

**2016 ECR Plan Status Update Report  
Quarterly Report – Update #16  
July 30, 2020**

**Executive Summary:**

**General**

This report covers LG&E and KU's ("Companies") progress on the 2016 Environmental Cost Recovery ("ECR") Plan through the second quarter of 2020.

The overall 2016 ECR Plan safety performance through the second quarter of 2020 remains excellent with a year-to-date OSHA Recordable Incident Rate of 0.0 and an inception-to-date OSHA Recordable Incident Rate of 0.49, compared to the industry average of 3.2.

The total 2016 ECR Plan projected cost increased from \$943.7 million (net)<sup>1</sup> last quarter to \$949.6 million (net), compared to the filed total of \$996.4 million as provided in Case Nos. 2016-00026, 2016-00027, and 2017-00483. The overall forecasted Plan spend has increased to reflect resolving commercial and scope issues on several projects. On the E. W. Brown projects, change orders have been issued to Thalle to address extension to the execution calendar related to adverse weather impacts. At Ghent, projected costs decreased to align with the work awarded to Tetra Tech for closure of all the impoundments, including Phase III scope. At Mill Creek, projected costs have been updated to account for change orders issued to Tetra Tech due to unplanned minor scope additions as well as modifications to the bottom ash piping. Modifications to the bottom ash piping account for the majority of the cost increase at Mill Creek. On the Trimble County projects, projected costs for the closure of the Bottom Ash Pond ("BAP") and Gypsum Storage Pond ("GSP") were updated based on new information received from the Engineer of Record. These changes to the Trimble County closure projects have not been competitively bid yet; therefore, the final forecast may increase or decrease once the contract is executed for their closure. Total spend to date increased from \$722.4 million (net) last quarter to \$743.0 million (net) through June 30, 2020.

The Companies continue to monitor the COVID-19 pandemic situation as well as work with all contractors to minimize the impact to the projects. To date, there have been no execution impacts to the work. During the quarter, there were several minor cost increase claims submitted by the contractors due to COVID-19; however, the Companies reviewed all claims with the contractors and subsequently rejected them.

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<sup>1</sup> 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 shares are not included in the costs provided in this report.

## **CCR Compliance (CCR Rule and State CCR Pond Closures)**

Safety performance through the second quarter is excellent with a year-to-date OSHA Recordable Incident Rate of 0.0 and an inception-to-date Recordable Incident Rate of 0.49, compared to an industry average Recordable Incident Rate of 3.2.

The total projected costs for the Coal Combustion Residual (“CCR”) Closure Program increased from \$913.5 million (net) last quarter to \$919.5 million (net). The overall forecasted Plan spend has increased to reflect resolving commercial and scope issues on several projects. On the E.W. Brown projects, change orders have been issued to Thalle to address extension to the execution calendar related to adverse weather impacts. At Ghent, projected costs decreased to align with the work awarded to Tetra Tech for closure of all the impoundments at Ghent, including the Phase III scope. At Mill Creek, projected costs have been updated to account for change orders issued to Tetra Tech due to unplanned minor scope additions as well as modifications to the bottom ash piping. Modifications to the bottom ash piping account for the majority of the cost increase at Mill Creek. On the Trimble County projects, projected costs for the BAP and GSP closure projects were updated based on new information received from the Engineer of Record. These changes to the Trimble County closure projects have not been competitively bid yet; therefore, the final forecast may increase or decrease once the contract is competitively bid and executed. Total spend to date through June 30, 2020 has increased from \$694.0 million (net) last quarter to \$714.2 million (net).

The remaining engineering activities primarily consist of corrections for “as-built” field changes during construction on the projects completed or under construction. Remaining procurement activities are associated with contract maintenance of all awarded contracts through completion of the work and warranty periods, and the finalization of the RFQ documents for the closure scopes for the Trimble County BAP and GSP.

The Companies continue to monitor and evaluate changes to the CCR Rule proposed by the U.S. Environmental Protection Agency (“EPA”). Lawsuits filed by the Sierra Club challenging the EPA’s Phase I, Part I Rule have been settled. The Phase I, Part I Rule has been remanded without vacatur of the October 31, 2020 requirement for CCR impoundments to cease operation if they fail a Groundwater Protection Standard (“GPS”) or if the bottom of the impoundment has less than five feet of separation from groundwater. The Companies have not made any, nor anticipate any, design or construction changes to their compliance plan as a result of the EPA’s Rule and subsequent resolution of litigation related to the Phase I, Part I Rule.

The EPA issued additional proposals to revise the CCR Rule on August 14, 2019, December 2, 2019, February 20, 2020, and March 3, 2020. None of these proposals have resulted in any design or construction changes by the Companies. It should be noted that one of the proposals requires the initiation of closure of CCR impoundments which fail a GPS or cannot demonstrate five feet of separation from groundwater by August 31, 2020 (61 days earlier than was identified in the Phase I, Part I Rule). While this modification has not been finalized, the Companies expect to be able to initiate closure for all affected CCR impoundments by the proposed deadline of August 31, 2020.

## CCR Impoundment Closures

- Ghent – Tetra Tech’s Phase II scope (construction of the South Cooling Pond and closure of Ash Treatment Basin (“ATB”) #1) is currently in closure as of January 9, 2020. Work includes but is not limited to hauling of gypsum from the Gypsum Stack and hauling of CCR material from the Coal Combustion Residual Treatment area, utilization of filter cake from the Process Water System (“PWS”) into ATB #1 grading activities, installation of a geo-synthetic liner system, and preparation of borrow site for the soil cover. Overall, Tetra Tech continues to progress the Ghent projects very well with no compliance issues forecasted. The Phase III closure of ATB #2 was awarded to Tetra Tech during the second quarter. Work to date on the Phase III scope has been limited to preliminary site investigations and purchase of geo-synthetic materials.
- E.W. Brown – Thalle continues to progress with the dewatering of the Auxiliary Ash Pond. Using deep well and well point (shallow) dewatering systems, the interstitial water level has been lowered significantly. Water removed from the impoundment continues to be sent through the temporary water treatment system prior to discharging through the permitted discharge point. The removal of interstitial water and subsequent compaction of CCRs has resulted in a deficit of CCRs required to meet the design elevations for closure. CCRs generated at the station will be used to address this deficit while avoiding the need to place that CCR into the CCR landfill. Excavation and regrading of CCRs within the impoundment has progressed to the point that one quarter of the impoundment has reached final subgrade elevations such that the liner has begun to be deployed.
- Green River – Project completed in the second quarter of 2020.
- Mill Creek – Tetra Tech continues to make significant progress in the Main Ash Pond closure. Tetra Tech continues hauling CCR material within the Main Ash Pond to achieve the contours for the new process pond and cap system and continues with construction of access/haul roads throughout the Main Ash Pond. Dewatering activities are ongoing and installation of the geo-synthetic liner system has begun.
- Pineville – Project completed in the second quarter of 2020.
- Trimble County – Work has been limited to interviewing potential bidders for the clean closure of the GSP and the closure-in-place of the BAP. Project Engineering’s commercial group and project team have completed developing the majority of the project specifications and contract documents that will be issued for bid to the market in the third quarter of 2020 but are waiting on a response from the KDOW to the Companies’ draft Agreed Order prior to finalizing a small portion of the bid documents.
- Tyrone – Project completed in the second quarter of 2020.

The CCR Impoundment Closure Program is on schedule to be completed on or before the CCR Rule regulatory deadlines.<sup>2</sup> To ensure the Companies' CCR Compliance projects comply with the regulations and to share best practices and lessons learned, the Companies continue to hold program-wide meetings with internal project management teams and affected stations to provide opportunities for all parties to deliver updates and to ensure the contractors are providing similar deliverables across the projects.

### Process Water System Projects

- Trimble County – Project has been placed into Commercial Operation. AMEC was granted Final Completion.
- Mill Creek – Project has been placed into Commercial Operation. AMEC was granted Final Completion. Planning continues for warranty work and modifications to the dry bottom ash transport piping on all four units scheduled for the fall of 2020.
- Ghent – Commercial Operation was issued to Burns & McDonnell (“B&McD”), on April 13, 2020. B&McD continues to address punch-list items in an effort to achieve Final Completion. It is anticipated that Final Completion will likely be given to B&McD in the third quarter of 2020 upon achievement of all obligations outlined in the Agreement.
- E.W. Brown – Bowen Engineering successfully completed the PWS performance test on May 2, 2020 and was subsequently awarded Commercial Operation on May 19, 2020. Work continues on a few remaining punch-list and warranty issues that will be completed in the third quarter of 2020.

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<sup>2</sup> EPA has committed to revising various portions of the CCR Rule. While they have proposed many changes to the CCR Rule, EPA has indicated that there are still other additional proposals under development. The scope of these changes, the interest they have generated, and COVID-19 re-prioritization of government resources have substantially extended EPA's anticipated timeline for revisions beyond their original “end-of-2019” window. However, the Companies' strategies have so far been resilient and CCR Rule changes anticipated will not force any major re-evaluations of our plans. LG&E and KU remain well positioned to comply with the evolving CCR Rule. The Companies will continue to closely monitor revisions to the CCR Rule and to ongoing litigation and will update the Commission relative to issues that may affect construction schedules and activities.

Schedules

CCR Rule and State CCR Impoundment Closures

<u>Project</u>	<u>Project #</u>	<u>EPC Status<sup>3</sup></u>	<u>Planned In-Service Date<sup>4</sup></u>
E.W. Brown Aux Pond	KU Project 42	Awarded July 9, 2018	May 2021
E.W. Brown Main Ash Pond (Deleted Phase III of Landfill)	KU Project 36	Awarded July 9, 2018	August 2020
Ghent ATB #1	KU Project 40	Awarded September 7, 2018	December 2021
Ghent ATB #2	KU Project 40	Awarded May 22, 2020	December 2024
Ghent Gypsum Stack	KU Project 40	Amended Sept. 7, 2018	December 2020
Green River Main Pond	KU Project 39	Completed	Cap and Closure Completed
Green River ATB #2	KU Project 39	Completed	Cap and Closure Completed
Green River SO2 Pond	KU Project 39	Completed	Clean Closure Completed
Mill Creek Ash Pond	LG&E Project 29	Awarded April 4, 2019	December 2021
Mill Creek Clearwell Pond	LG&E Project 29	Completed	Clean Closure Completed & New Pond in Service
Mill Creek Construction Runoff Pond	LG&E Project 29	Completed	Clean Closure Completed and New Pond in Service
Mill Creek Emergency Pond	LG&E Project 29	Completed	Clean Closure Completed and area structurally backfilled.
Mill Creek Dead Storage Pond	LG&E Project 29	Completed	Clean Closure Completed and area structurally backfilled
Pineville Ash Pond	KU Project 39	Completed	Cap and Closure Completed
Trimble County Bottom Ash Pond	KU Project 41, LG&E Project 30	Issue RFQ 3Q 2020	October 2024
Trimble County Gypsum Storage Pond	KU Project 41, LG&E Project 30	Issue RFQ 2Q 2020	October 2023
Tyrone Ash Pond	KU Project 39	Completed	Cap and Closure Completed

PWS Projects

<u>Project</u>	<u>Project #</u>	<u>EPC Status<sup>3</sup></u>	<u>Planned In-Service Date<sup>4</sup></u>
E.W. Brown PWS	KU Project 42	Awarded June 14, 2018	Placed in Service May 2020
Ghent PWS	KU Project 40	Awarded August 1, 2017	Placed in Service April 2020
Mill Creek PWS	LG&E Project 29	Final Completion Granted 1Q 2020	Placed in Service October 2019
Trimble County PWS	KU Project 41, LG&E Project 30	Final Completion Granted 1Q 2020	Placed in Service October 2019

<sup>3</sup> Engineering, Procurement, and Construction (“EPC”) Status – the red font signifies actuals.

<sup>4</sup> The Planned In-Service Dates reflect the executed EPCs – the red font signifies actuals. Ghent ATB #2 and Trimble County BAP was changed to 2024 to reflect a mid-point between the original rule and the proposed rule changes being litigated. Trimble County GSP completion date reflects completion of the work; however, the removal of CCR is planned to be completed in 2022.

## **E.W. Brown Landfill Phase II**

Thalle completed the repair work related to water infiltration damage to the liner system and installed the two foot protective cover layer over the landfill leachate liner system in June 2020.

### **Quarterly Status Update:**

#### **State Division of Waste Closure Projects:**

##### **KU Project 39 – Green River (GR)/Pineville (PV)/Tyrone (TY) Impoundment Closure**

- The closure projects for Green River, Pineville and Tyrone were completed in the second quarter of 2020. These projects will not have updates going forward, except for the inclusion of their cost into the financial graphs. Shown below are the photos from the last quarterly report and this reporting period.



*Green River CCR Impoundments – Site View – March 2020*



*Green River CCR Impoundments – July 2020*



*Pineville Ash Pond – March 2020*



*Pineville Ash Pond – July 2020*



*Tyrone Ash Pond – March 2020*



*Tyrone Ash Pond – June 2020*

## **Federal CCR Rule Closure Projects:**

### **KU Project 40 – Ghent (GH) Station CCR Rule Compliance Construction and New PWS**

KU continues to hold weekly and monthly project update meetings. Tetra Tech’s Phase II scope (construction of the South Cooling Pond and closure of ATB #1) is currently in closure as of January 9, 2020. Work includes, but is not limited to, hauling of gypsum from the Gypsum Stack and CCR material from the Coal Combustion Residual Treatment area to the closures, utilization of filter cake from the PWS into ATB #1 grading activities, installation of a geo-synthetic liner system, and preparation of borrow site for the soil cover. Overall, Tetra Tech continues to progress the Ghent projects very well with no compliance issues forecasted. Phase III closure of ATB #2 was awarded to Tetra Tech during the second quarter. Work to date has been limited to preliminary site investigations and purchase of geo-synthetic materials.

With regards to the PWS, Commercial Operation was issued to B&McD on April 13, 2020. B&McD continues to address punch-list items in an effort to achieve Final Completion. It is anticipated that Final Completion will likely be given to B&McD in the third quarter upon achievement of all obligations outlined in the Agreement.



*Ghent Gypsum Stack – Looking East – March 2020*



*Ghent Gypsum Stack – Looking East – July 2020*



*Ghent ATB #1 Cooling Channel – Looking East – March 2020*



*Ghent ATB #1 Cooling Channel – Looking East – July 2020*



*Ghent PWS Facility – Site View – March 2020*



*Ghent PWS Facility – Site View – July 2020*



*Ghent PWS Tank Farm – Site View – March 2020*



*Ghent PWS Tank Farm – Site View – July 2020*



## **KU Project 41 and LG&E Project 30<sup>5</sup> – Trimble County (TC) Station CCR Rule Compliance Construction and New PWS**

The Companies submitted a draft Agreed Order on how best to dewater the BAP to the KDOW in May 2020 and anticipate a response during the third quarter of 2020. On-site work has been limited to interviewing potential bidders for the clean closure of the GSP and the closure-in-place of the BAP. Project Engineering's commercial group and project team have completed developing the majority of the project specifications and contract documents that will be issued for bid to the market in the third quarter of 2020 but are waiting on the KDOW's response to the draft Agreed Order prior to finalizing a small portion of the bid documents. The PWS project has been completed and the EPC contractor was granted Final Completion.

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<sup>5</sup> KU and LG&E's net costs are split 48% and 52%, respectively.



*Trimble County PWS Facility –  
Site View Looking Southwest – March 2020*



*Trimble County PWS Facility – Site View Looking Southwest – June 2020*

## **KU Project 42 – E.W. Brown (BR) Station CCR Rule Compliance Construction and New PWS**

Thalle continues to progress with the dewatering of the Auxiliary Ash Pond. Using deep well and well point (shallow) dewatering systems, the interstitial water level has been lowered significantly. Water removed from the impoundment continues to be sent through the temporary water treatment system prior to discharging through the permitted discharge point. Excavation and regrading of CCRs within the impoundment has progressed to the point that one quarter of impoundment has reached final subgrade elevations resulting in the liner to be deployed. Thalle completed restoration of the on-site soil borrow areas. Work continues with the construction of a new permitted KPDES discharge sampling structure for the Wick Drain.

Bowen Engineering successfully completed the PWS performance test on May 2, 2020 and was subsequently awarded a Certificate of Commercial Operation on May 19, 2020. Work continues on a few remaining punch-list and warranty issues that will be completed in the third quarter of 2020.



*E.W. Brown Aux Pond – March 2020*



*E.W. Brown Aux Pond – July 2020*



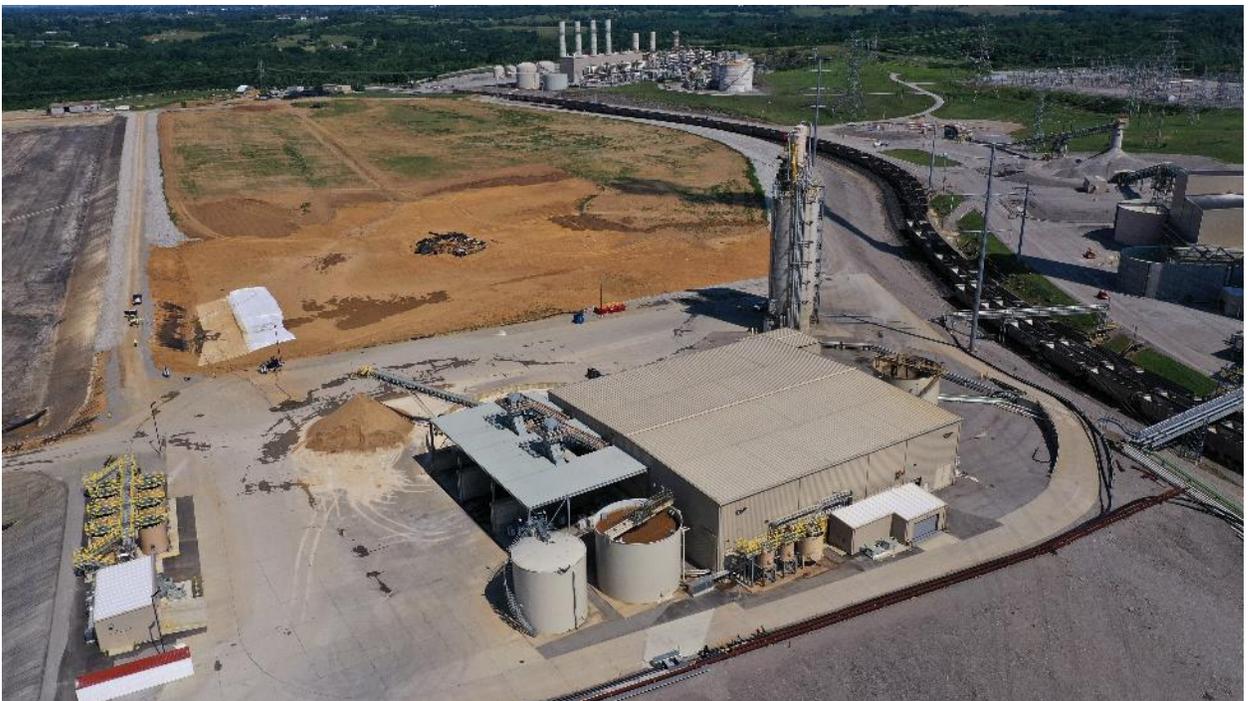
*E.W. Brown Landfill Phase II and Closure – March 2020*



*E.W. Brown Landfill Phase II and Closure – July 2020*



*E.W. Brown Toe Drain and Coal Pile Runoff Treatment System – March 2020*



*E.W. Brown Toe Drain and Coal Pile Runoff Treatment System – July 2020*

## **LG&E Project 29 – Mill Creek (MC) Station CCR Rule Compliance Construction and New PWS**

Tetra Tech has made significant progress in the Main Ash Pond closure. Tetra Tech continues hauling CCR material within the Main Ash Pond to achieve the contours for the new process pond and cap system, as well as continues with construction of access/haul roads throughout the Main Ash Pond. Dewatering activities are ongoing and installation of the geo-synthetic liner system has started. The PWS project has been completed and the EPC contractor was granted Final Completion.



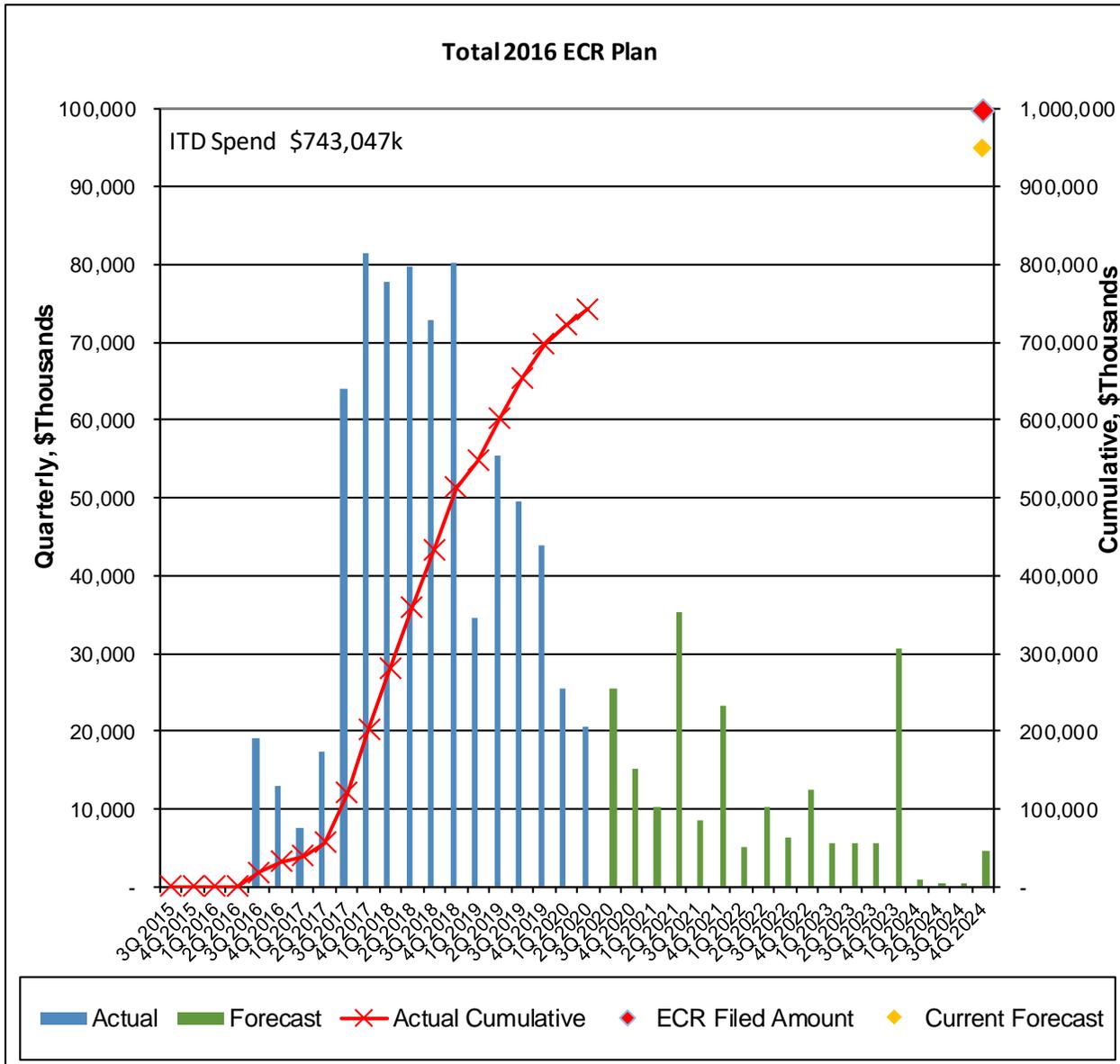
*Mill Creek Main Ash Pond Closure – March 2020*



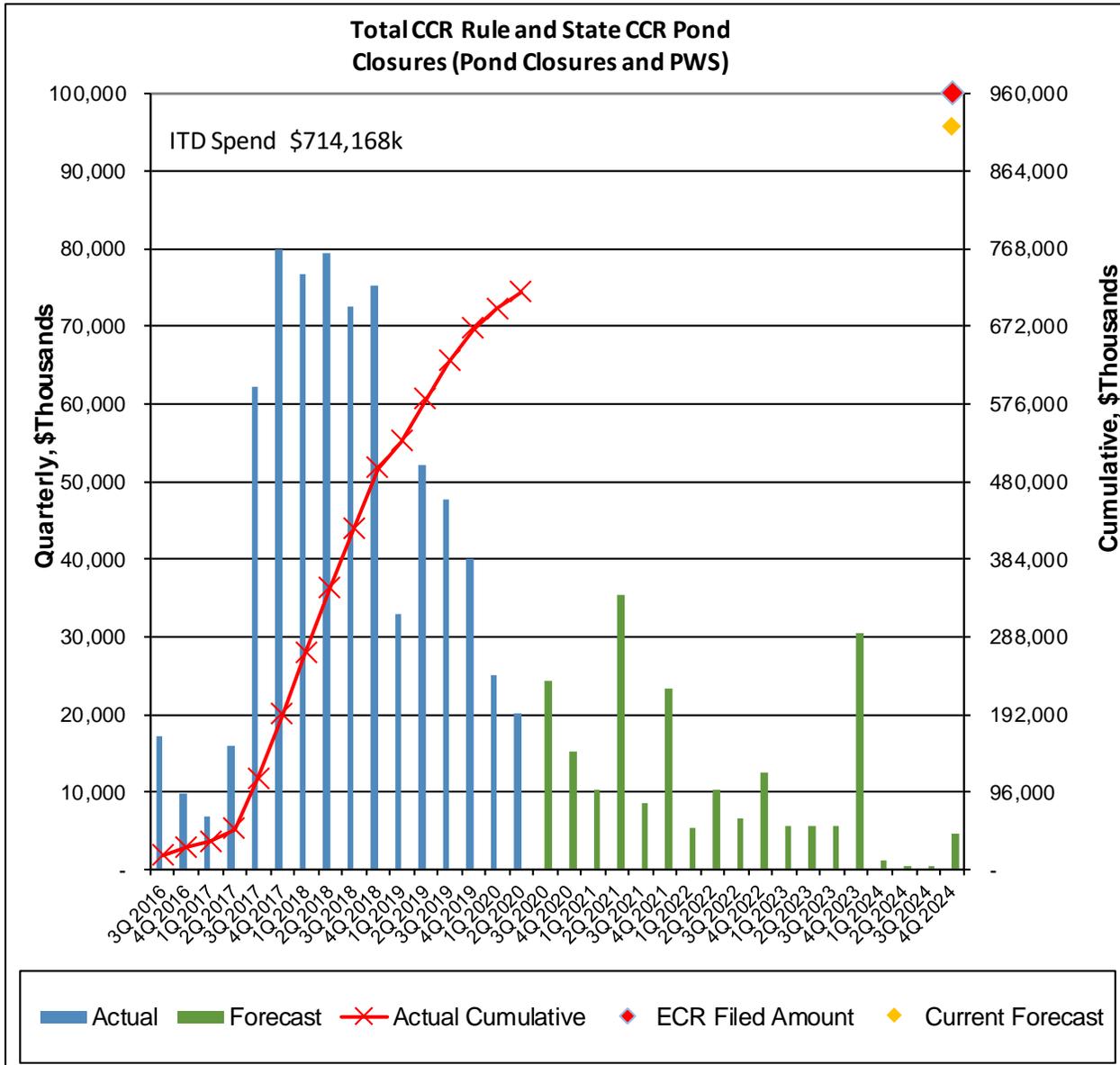
*Mill Creek Main Ash Pond Closure – June 2020*

**Financials:**

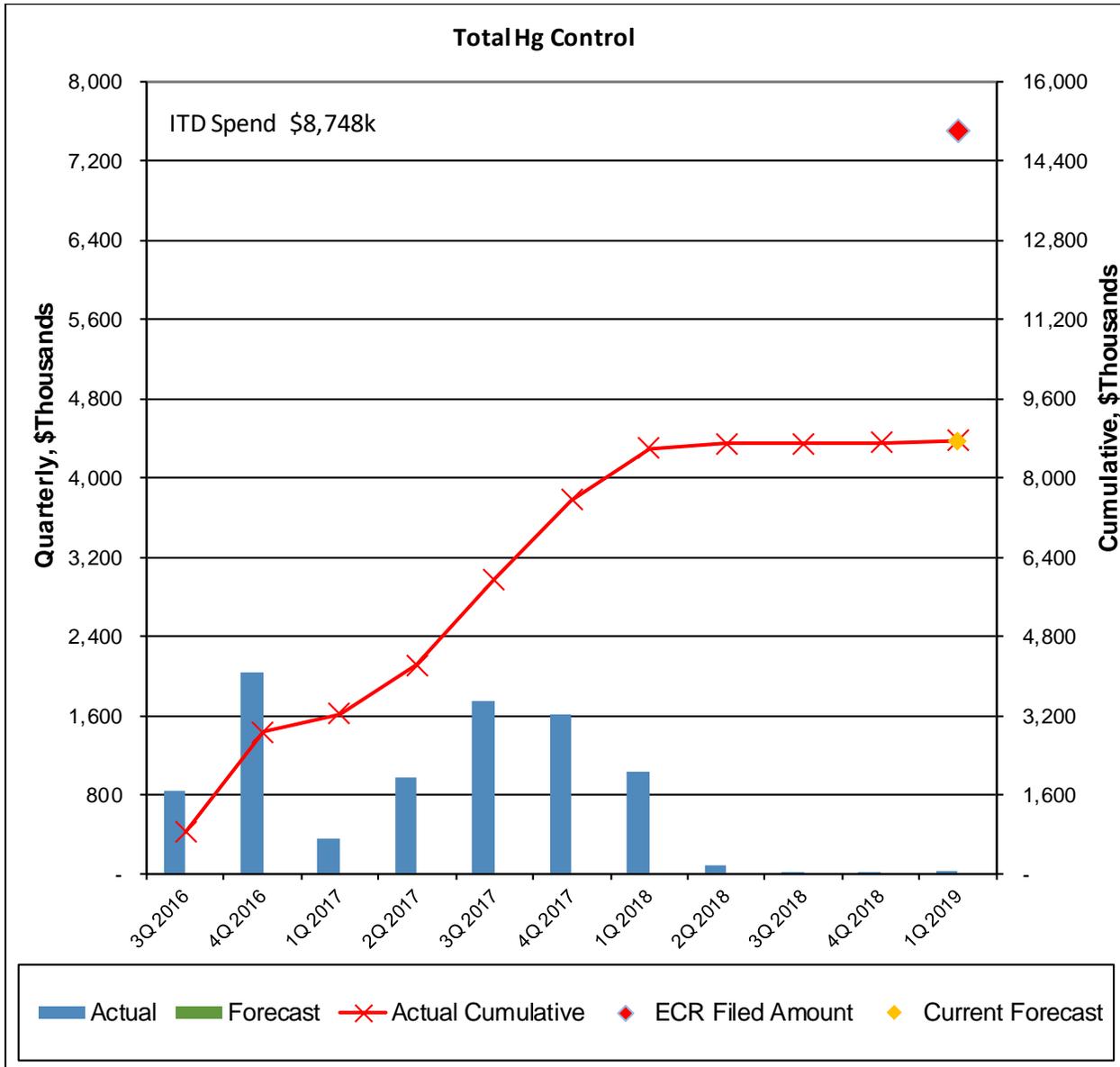
The total 2016 ECR Plan forecasted cost increased from \$943.7 million (net) last quarter to \$949.6 million (net) as explained above. Total spend through June 30, 2020 has increased from \$722.4 million (net) last quarter to \$743.0 million (net). The graph below includes 1) a symbol (◆) to show the current forecast to completion and (2) inception-to-date (“ITD”) Spend in the upper left of the chart.



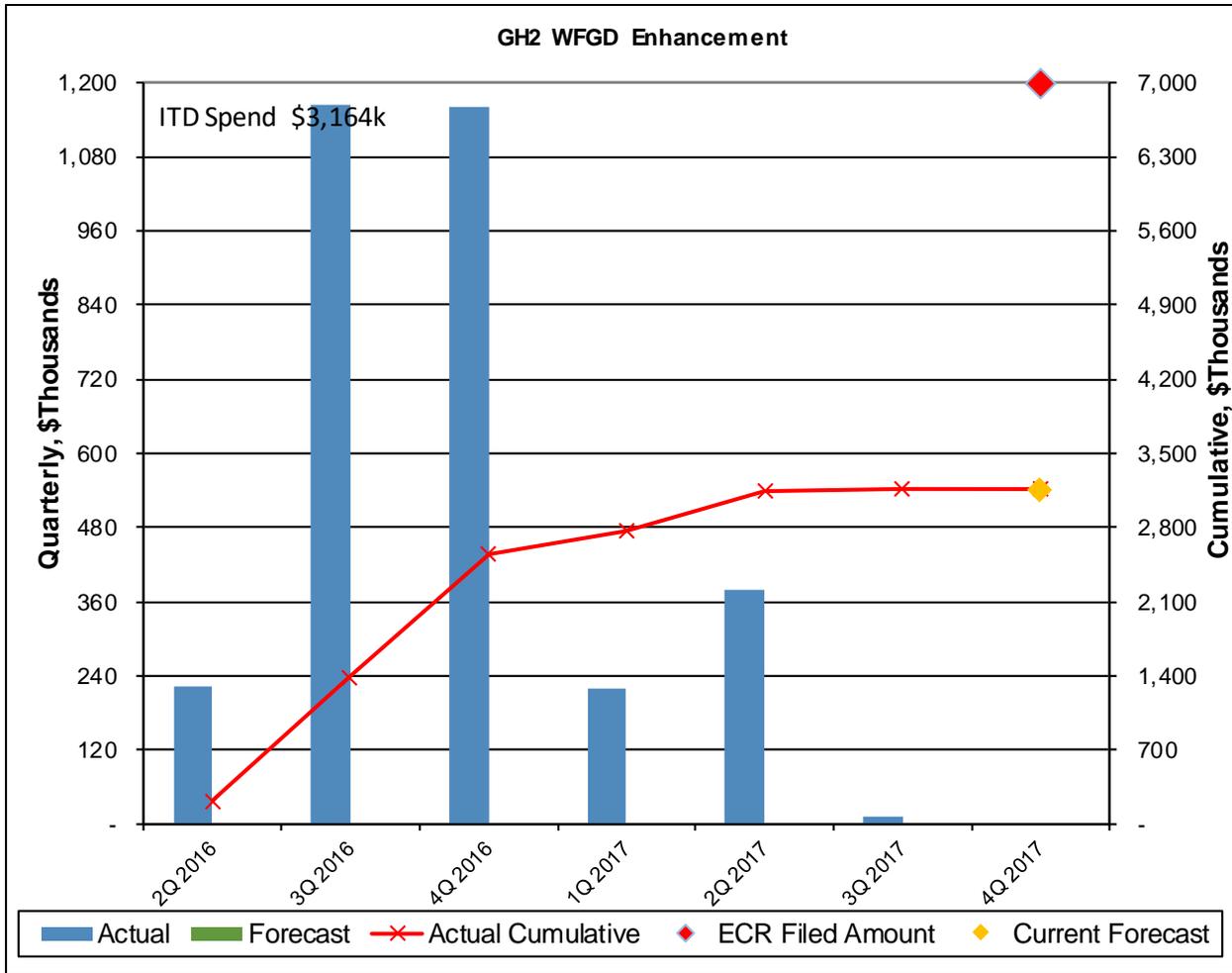
The CCR Impoundment Closure total forecasted cost increased from \$913.5 million (net) last quarter to \$919.5 million (net) as explained above. Total spend through June 30, 2020 has increased from \$694.0 million (net) last quarter to \$714.2 million (net). The graph below includes 1) a symbol (◆) to show the current forecast to completion and (2) ITD Spend in the upper left of the chart.



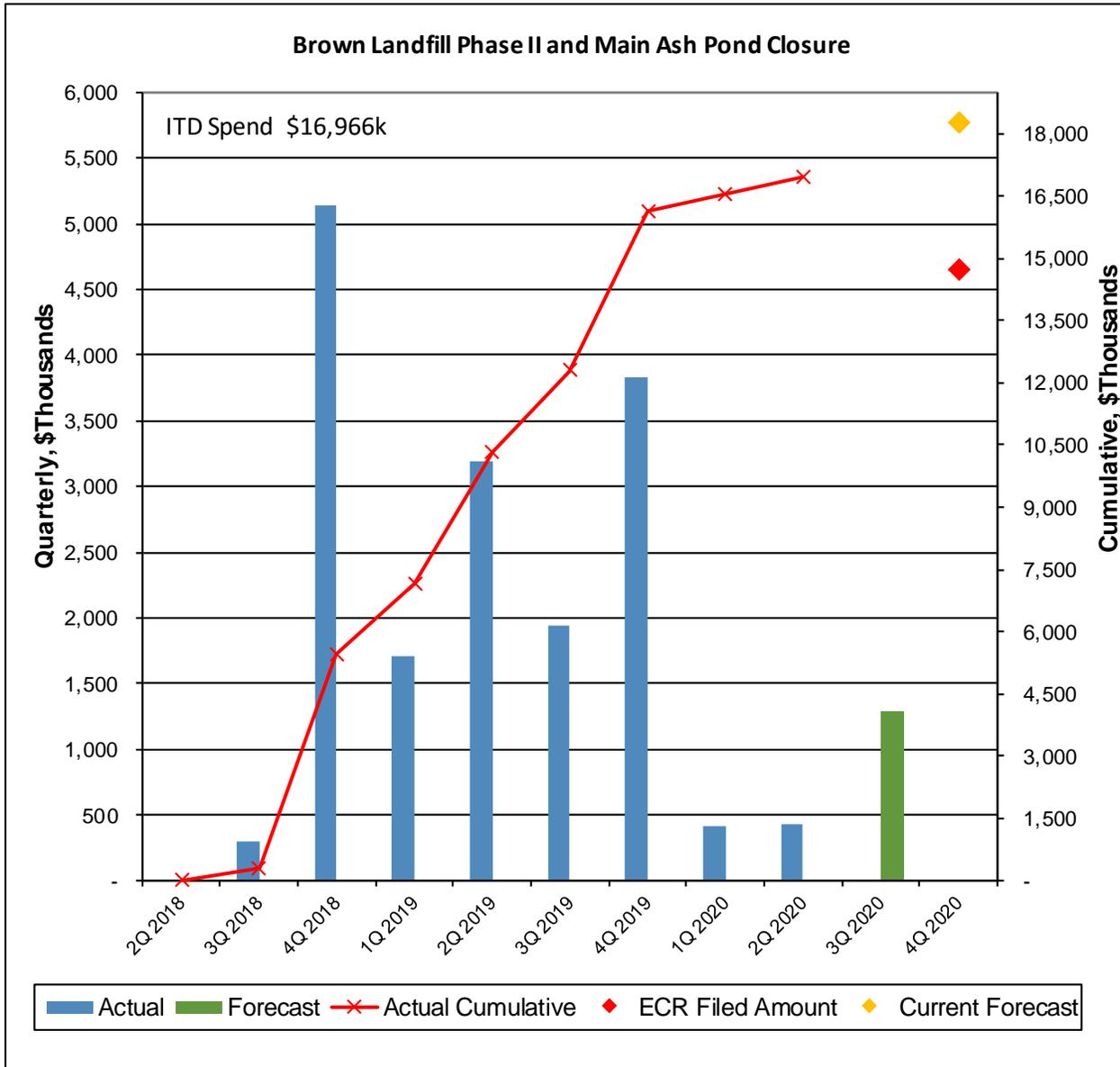
The Mercury Injection projects have been completed and commissioned. The project’s total spend was \$8.7 million compared to the filed estimate of \$15.0 million.



The Ghent Unit 2 WFGD Enhancement project has been completed. Total spend on the project was \$3.2 million compared to the filed estimate of \$7.0 million.



The E.W. Brown Landfill Phase II and Phase III Closure project forecasted cost remains \$18.3 million. Total spend through June 30, 2020 has increased from \$16.5 million last quarter to \$17.0 million. The graph below includes 1) a symbol (◆) to show the current forecast to completion and 2) ITD Spend in the upper left of the chart.



## **Planned Activities for Next Quarter:**

### **State Division of Waste Closure Projects**

No further update as these projects have been completed.

### **Federal CCR Rule Closure Projects**

#### **CCR Closures:**

Tetra Tech will continue with Phase II & III closure activities at Ghent, as well as closure activities on the Mill Creek Main Ash Pond. Construction by Thalle will continue for the E.W. Brown Auxiliary Ash Pond closure scope focused on regrading and placement of CCRs in preparation for continued liner installation and cover soil. Regarding Trimble County, the Companies will seek to reach agreement with the KDOW on an Agreed Order on the dewatering of Trimble County's BAP. The Trimble County BAP and GSP closure projects RFQ will be ready for issuance to the market but will not be issued until the Companies reach agreement with KDOW on the BAP dewatering Agreed Order to allow for incorporation of any impacts to the plan which is currently based on the draft Agreed Order the Companies sent to the KDOW.

#### **PWS Projects:**

AMEC will continue working on warranty items on both the Mill Creek and Trimble County PWS projects. B&McD will continue to work on punch list with the goal of achieving Final Completion during the third quarter on the Ghent PWS. Both AMEC and B&McD, along with the Companies and the Companies' OE, will continue reviewing warranty matters along with remaining final engineering designs, procurement activities, and the operation of Suez's PWS equipment and process at all three stations (Ghent, Mill Creek, and Trimble County).

### **E.W. Brown Landfill Phase II and Phase III Closure**

Thalle will reach Substantial and Final Completion of the Landfill Phase II and the closure of Phase III.