

**2016 ECR Plan Status Update Report
Quarterly Report – Update #15
April 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 first quarter of 2020.

The overall 2016 ECR Plan safety performance through the first 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 \$890.2 million (net)¹ last quarter to \$943.7 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 the delay in receiving the revised KPDES permit from the State. Once the permit was received, it included a requirement to implement a temporary physical/chemical water treatment system to treat the effluent from the Auxiliary Pond dewatering efforts. At Ghent, the Companies reached resolution on outstanding scope clarification changes on the Process Water System ("PWS") project with Burns & McDonnell ("B&McD") to reconcile scope differences between their bid and the final scope. The Companies also increased the forecasted cost to close the Ash Treatment Basin ("ATB") #2 based on competitively bid awards to date, as well as updated the estimates for the PWS balance of plant projects not awarded to B&McD. On the Trimble County projects, the cost estimates for the closure of the BAP and 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 \$696.9 million (net) last quarter to \$772.4 million (net) through March 31, 2020.

The Companies are currently monitoring the COVID-19 global pandemic and are working with all contractors to minimize the impact to the projects. To date, there has been no execution impacts to the work covered in this quarterly report although there have been several minor cost increase claims submitted by the contractors that the Companies are reviewing.

¹ 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.

CCR Compliance (CCR Rule and State CCR Pond Closures)

Safety performance through the first quarter is excellent with a year-to-date OSHA Recordable Incident Rate of 0.0 and an inception-to-date Recordable Incident Rate of 0.52, 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 \$862.9 million (net) last quarter to \$913.5 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 the delay in receiving the revised KPDES permit from the State. Once the permit was received, it included a requirement to implement a temporary physical/chemical water treatment system to treat the effluent from the Auxiliary Pond dewatering efforts. The permit delays and requirement to treat the dewatering effluent increased the project cost by approximately \$6.0 million. At Ghent, the Companies reached resolution on outstanding scope clarification changes on the PWS project with B&McD to reconcile scope differences between their bid and the final scope. The increase to B&McD was approximately \$10.0 million. The Companies also increased the forecasted cost to close the Ash Treatment Basin (“ATB”) #2 based on competitively bid awards to date, as well as updated the estimates for the PWS balance of plant projects not awarded to B&McD. The increase to the CCR closures at Ghent totaled approximately \$23.1 million to account for weather delays, execution changes to account for operational impacts, and award of Phase III. On the Trimble County projects, the cost estimates for the closure of the BAP and GSP were updated with an increase of approximately \$11.5 million based on new information received from the Engineer of Record while taking into account the awards to date by the Companies on all CCR impoundment closure projects. 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 through March 31, 2020 has increased from \$668.8 million (net) last quarter to \$694.0 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, the development of the RFQ documents for the closure scopes for the Trimble County Bottom Ash and Gypsum Storage Ponds, as well as completing the negotiations of Phase III impoundment closures at Ghent’s ATB #2.

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 5 feet of separation from groundwater. The Companies have not made 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 5 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 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, hauling of CCR material from the Coal Combustion Residual Treatment area, as well as the utilization of filter cake from the PWS into ATB #1 grading activities. In addition to the hauling activity indicated above, work is ongoing to rerouting process inflows, installation of dewatering wells, and construction of access/haul roads throughout ATB #1. Overall, Tetra Tech is progressing the Ghent projects very well with no compliance issues forecasted. Discussions are nearing a favorable conclusion with Tetra Tech relative to Phase III closure of ATB #2.
- E.W. Brown – With the new KPDES Permit having become effective in November 2019, Thalle Construction Company (“Thalle”) began removing free water from the Auxiliary Ash Pond along with excavation and regrading of CCRs. Thalle completed installation of the deep dewatering wells within the Auxiliary Ash Pond. The temporary dewatering physical/chemical treatment system was installed and commissioned in December 2019 and began treatment of interstitial waters in January 2020 at an additional cost of approximately \$7.2 million and was partially included in the previous forecast. The permit delay combined with weather impacts has pushed the completion date to May 2021. This delay due to weather and permit delay does not pose any operational issues.
- Green River – As reported last quarter, all work associated with closure of the Main Ash Pond, the SO₂ Pond and ATB #2 have been completed. Warranty work related to final seeding and minor earthwork will continue into spring 2020; however, the site CCR closure work is considered in service and completed. Trans Ash has demobilized from the site. This project will not be included in the body of the next report as it is considered complete; however, it will continue to be included in the financials.
- Mill Creek – Tetra Tech has made significant progress in the Main Ash Pond closure. Dredging of CCR from the south end of the pond to the north to normalize the CCR elevations under the surface of the water has been completed. Tetra Tech has begun hauling CCR material within the Main Ash Pond to achieve the contours for the new process pond and cap system, continues with construction of access/haul roads throughout the Ash Pond, and dewatering well installation activities are ongoing.
- Pineville – Thalle achieved substantial completion in late 2019. During the first quarter of 2020, Thalle focused on completing remaining punch-list work and demobilized from the site. This

project will not be included in the body of the next report as it is considered complete; however, it will continue to be included in the financials.

- Trimble County – Work has begun with interviewing potential bidders for the clean closure of the Gypsum Storage Pond and the closure-in-place of the Bottom Ash Pond. Project Engineering’s commercial group and project team have begun developing the project specification and contract documents that will be issued for bid to the market in the second quarter of 2020.
- Tyrone – During the first quarter of 2020, Thalle focused on completing remaining punch-list work items. This project will not be included in the body of the next report as it is considered complete; however, it will continue to be included in the financials.

The CCR Impoundment Closure Program is on schedule to be completed on or before the CCR Rule regulatory deadlines.² 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 – AMEC achieved Commercial Operation in October 2019 and Final Completion in February 2020. Remaining work involves warranty items and drawing turnover. MAC Construction has completed Process Pond project work. This project will not be included in the body of the next report as it is considered complete; however, it will continue to be included in the financials.
- Mill Creek – AMEC achieved Commercial Operation in October 2019 and is nearing completion of the punch-list items. This project will not be included in the body of the next report as it is considered complete; however, it will continue to be included in the financials.
- Ghent – B&McD continues to address punch-list items in an effort to achieve Commercial Operations. During the first quarter of 2020, B&McD passed the performance testing of Train A and Train B. Commercial Operation will likely be given to B&McD in the second quarter upon receipt of all project documentation.
- E. W. Brown – Bowen completed the construction of the PWS treatment system in the Fall of 2019. Bowen was unable to tune or complete the performance test due to a Station outage that extended

² EPA has committed to revising various portions of the CCR Rule. While they have proposed many changes to the 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 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 track revisions to the Rule and to ongoing litigation and will update the Commission relative to issues that may affect construction schedules and activities.

into mid-December. A restart of the system began in mid-January 2020 but encountered issues that required modifications to the system. The modifications were addressed during March such that the system would be ready to be restarted and tuned in early April. The two-week performance test is scheduled to begin in mid-April. If the test is successful, Bowen would look to demobilize from the site in May.

Schedules

CCR Rule and State CCR Impoundment Closures

<u>Project</u>	<u>Project #</u>	<u>EPC Status³</u>	<u>Planned In-Service Date⁴</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	Issue RFQ 4Q 2019	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	Awarded July 28, 2017	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	Awarded December 27, 2017	Clean Closure Completed and area structurally backfilled
Pineville Ash Pond	KU Project 39	Awarded December 7, 2017	Cap and Closure Completed
Trimble County Bottom Ash Pond	KU Project 41, LG&E Project 30	Issue RFQ 2Q 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	Awarded December 7, 2017	Cap and Closure Completed

PWS Projects

<u>Project</u>	<u>Project #</u>	<u>EPC Status³</u>	<u>Planned In-Service Date⁴</u>
E.W. Brown PWS	KU Project 42	Awarded June 14, 2018	2Q 2020
Ghent PWS	KU Project 40	Awarded August 1, 2017	Placed in Service April 2020
Mill Creek PWS	LG&E Project 29	Awarded July 19, 2017	Placed in Service October 2019
Trimble County PWS	KU Project 41, LG&E Project 30	Awarded July 7, 2017	Placed in Service October 2019

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

⁴ 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 installation of the liner system of Phase II of the landfill in the fourth quarter of 2019 but began to experience water infiltration under the liner. The water hydrated the geo-composite clay liner. An engineering solution has been developed to address the water impacts. Thalle has been granted additional time to implement the remediation plan through the spring of 2020 to allow time for more favorable weather. Upon completion of the liner repair work, Thalle will work to complete the remaining leachate piping, gypsum cover, and installation of surrounding gravel roads and rip-rap lined channel and slopes.

Quarterly Status Update:

State Division of Waste Closure Projects:

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

- Green River: Trans-Ash has completed the installation of the process pond, main ash pond closure, clean closure of the SO₂ pond, and closure of ATB #2. Trans-Ash has demobilized from the site. This project will not be included in the body of the next report as it is considered complete; however, it will continue to be included in the financials.



Green River CCR Impoundments – Site View – December 2019



Green River CCR Impoundments – Site View – March 2020

- Pineville: Thalle achieved substantial completion in late 2019. During the first quarter of 2020, Thalle focused on completing remaining punch-list work and demobilized from the site. This project will not be included in the body of the next report as it is considered complete; however, it will continue to be included in the financials.



Pineville Ash Pond – December 2019 – No Change for March 2020

- Tyrone: Thalle focused on completing remaining punch-list work items. This project will not be included in the body of the next report as it is considered complete; however, it will continue to be included in the financials.



Tyrone Ash Pond – December 2019 – No Change for March 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, hauling of CCR material from the Coal Combustion Residual Treatment area, as well as the hauling of filter cake from the PWS to ATB #1 for grading activities. In addition to the hauling activity indicated above, work is ongoing to rerouting process inflows, installation of dewatering wells, and construction of access/haul roads throughout ATB #1. Overall, Tetra Tech is progressing the Ghent projects very well with no compliance issues forecasted. Discussions have been very favorable with Tetra Tech relative to closure of ATB #2. KU intends to amend the contract with Tetra Tech for Phase I and Phase II and add Phase III during the second quarter of 2020.

With regards to the PWS, B&McD's engineering activities are focused on picking up field construction changes. B&McD continues to work on completing punch-list items in an effort to attain Commercial Operation. During the first quarter of 2020, B&McD passed the performance testing of Train A and Train B.



Ghent Gypsum Stack – Looking East – December 2019



Ghent Gypsum Stack – Looking East – March 2020



Ghent ATB #1 Cooling Channel – Looking East – December 2019



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



Ghent PWS Facility – Site View – October 2019 – No Change in March 2020



Ghent PWS Tank Farm – Site View – October 2019 – No Change in March 2020

KU Project 41 and LG&E Project 30⁵ – Trimble County (TC) Station CCR Rule Compliance Construction and New PWS

The Companies met with the EPA in April 2019 in Washington D.C. to discuss the Bottom Ash Pond (“BAP”) dewatering options and review the aforementioned reports. The Companies held additional meetings with the EPA and provided additional water chemistry information to support the proposed dewatering method. In September, the EPA granted approval to move forward with preparing a KPDES permit modification application to allow BAP water to continue to be used as Wet Flue Gas Desulfurization (“WFGD”) makeup water and then treat the chloride purge stream through the new gypsum dewatering facility and then through the new state-of-the-art PWS. The Companies submitted the KPDES water permit modification application in November 2019 and have received a response from the KDOW that they want to proceed through an Agreed Order instead of the permit route. The Companies have held several meetings with the KDOW and plan to submit a draft Agreed Order in the second quarter of 2020 on how best to dewater the BAP.

AMEC achieved Final Completion in February 2020 and has completed outstanding punch-list items on the PWS. Remaining work includes warranty items and turnover of the Project documentation and drawings to the Plant. Black & Veatch (“B&V”) has completed its OE services on the Trimble County PWS project. This PWS project will not be included in the body of the next report as it is considered complete; however, it will continue to be included in the financials.



*Trimble County PWS Facility –
Site View Looking Southwest – December 2019 – No Change for March 2020*

⁵ KU and LG&E’s net costs are split 48% and 52%, respectively.

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

Thalle will continue CCR excavation and regrading work in the Auxiliary Ash Pond during the first half of 2020, with continued dewatering of free water and removal of interstitial water through use of the deep wells. The remaining deep wells were installed during the first quarter of 2020 which will aid in further dewatering the impoundment for safe construction. As the excavation and grading work progresses, Thalle plans to begin to deploy liners late in the second quarter. Work to restore the borrow areas will begin during the second quarter and be completed by the Fall of 2020. Thalle completed the lining of the Unit 3 Blowdown Channel and the Main Ash Pond Discharge Channel with a geomembrane and fabric-formed concrete.

Bowen completed the construction of the PWS treatment system in the Fall of 2019 but was unable to tune or complete the performance test due to a Station outage that extended into mid-December. A restart of the system began in mid-January 2020 but encountered issues that required modifications to the system. The modifications were addressed during March such that the system would be ready to be restarted and tuned in early April. The two-week performance test is scheduled to begin in mid-April. If the test is successful, Bowen would look to demobilize from the site in May.



E.W. Brown Aux Pond – December 2019



E.W. Brown Aux Pond – March 2020



E.W. Brown Landfill Phase II and Closure – December 2019



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



E.W. Brown Toe Drain and Coal Pile Runoff Treatment System – December 2019



E.W. Brown Toe Drain and Coal Pile Runoff Treatment System – March 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. Dredging of CCR from the south end of the pond to the north to normalize the CCR elevations under the surface of the water has been completed. Tetra Tech has started hauling of CCR material within the Main Ash Pond to achieve the contours for the new process pond and cap system, continues with construction of access/haul roads throughout the Ash Pond, and dewatering well installation activities are ongoing. AMEC is performing CQA services while AECOM continues to provide OE services on the Mill Creek closure projects.



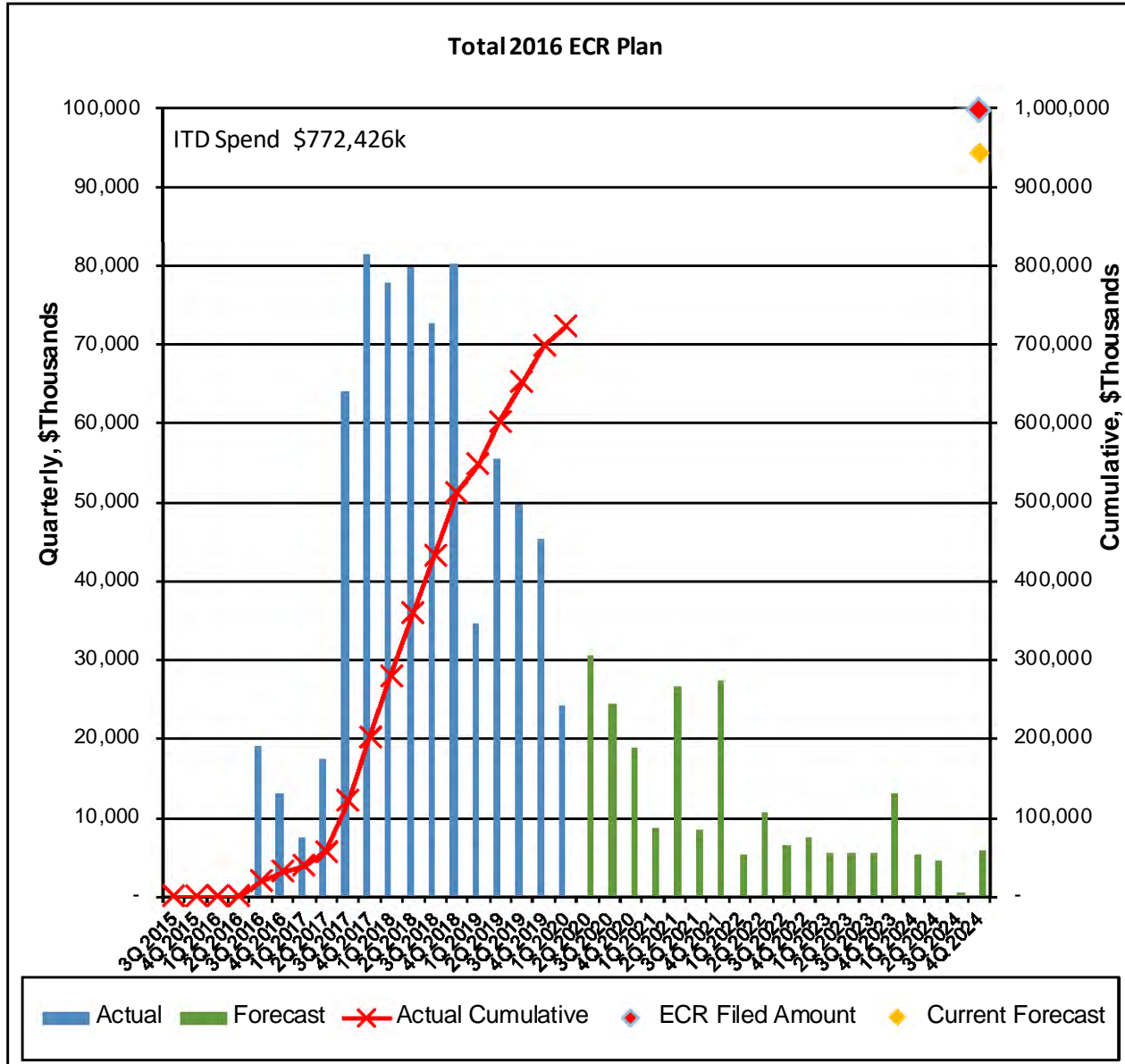
Mill Creek Main Ash Pond Closure – December 2019



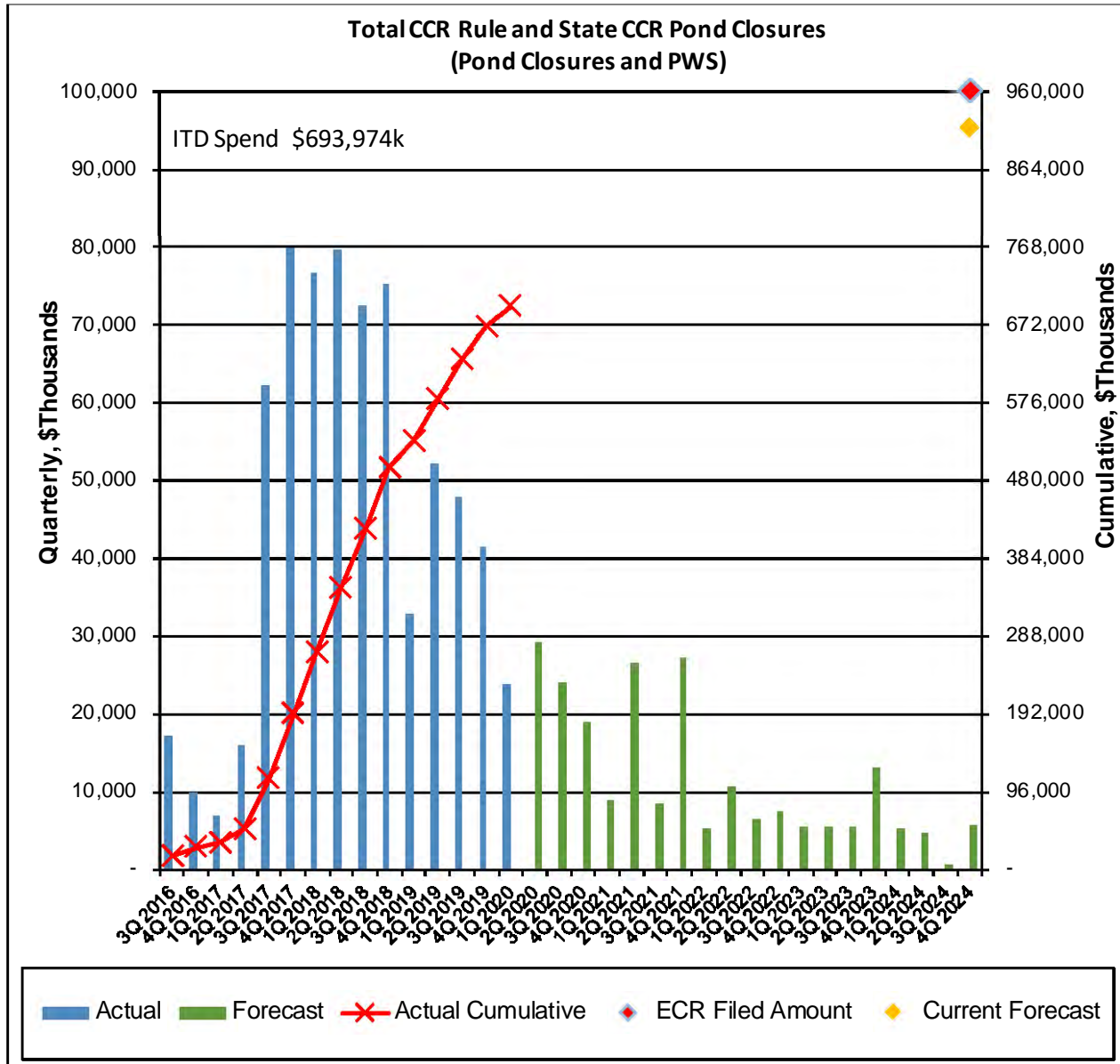
Mill Creek Main Ash Pond Closure – March 2020

Financials:

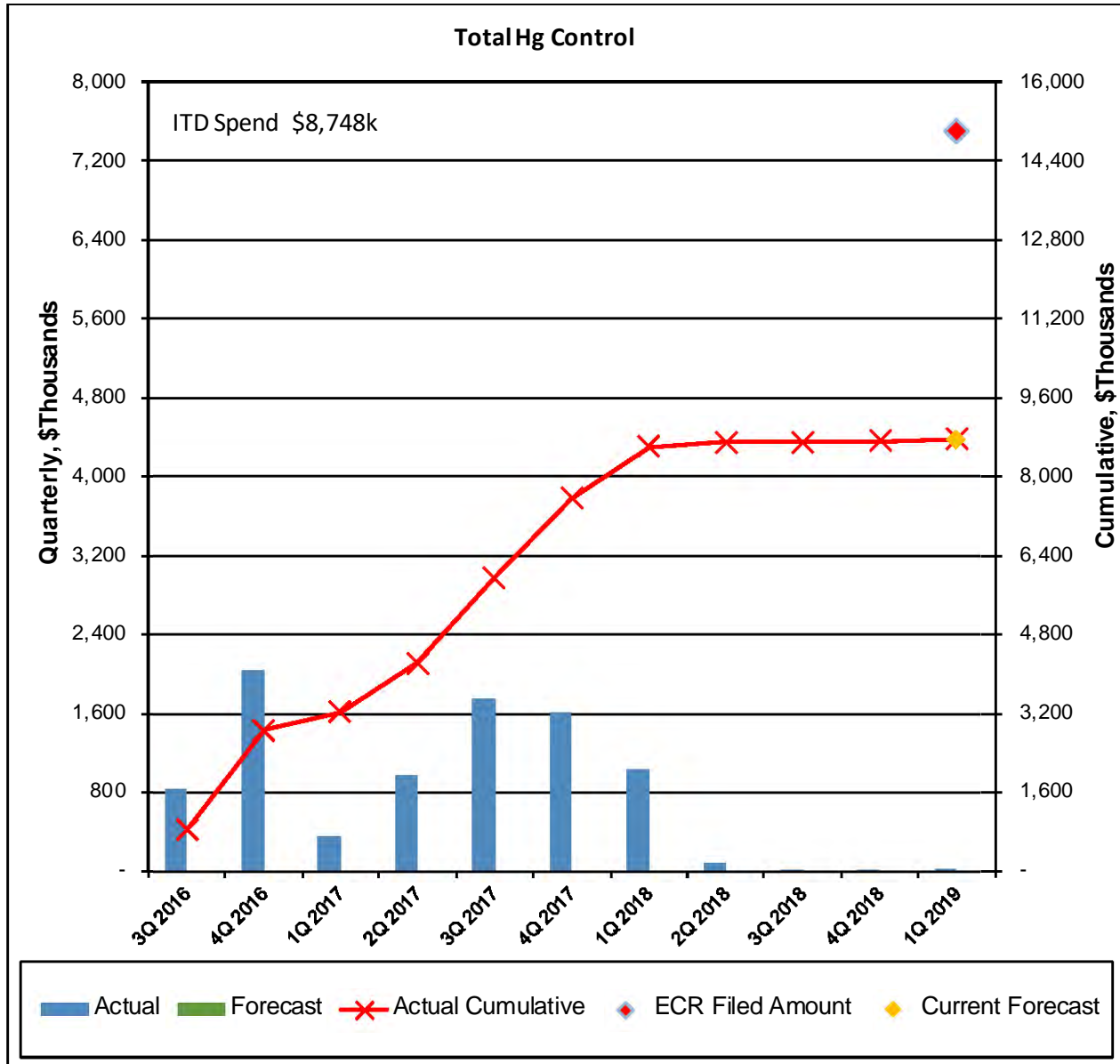
The total 2016 ECR Plan forecasted cost increased from \$890.2 million (net) last quarter to \$943.7 million (net) as explained above. Total spend through March 31, 2020 has increased from \$696.9 million (net) last quarter to \$772.4 million (net). For the graph below: 1) the chart includes a symbol (◆) to show the current forecast to completion and an (2) inception-to-date (“ITD”) Spend shown in the upper left of the chart.



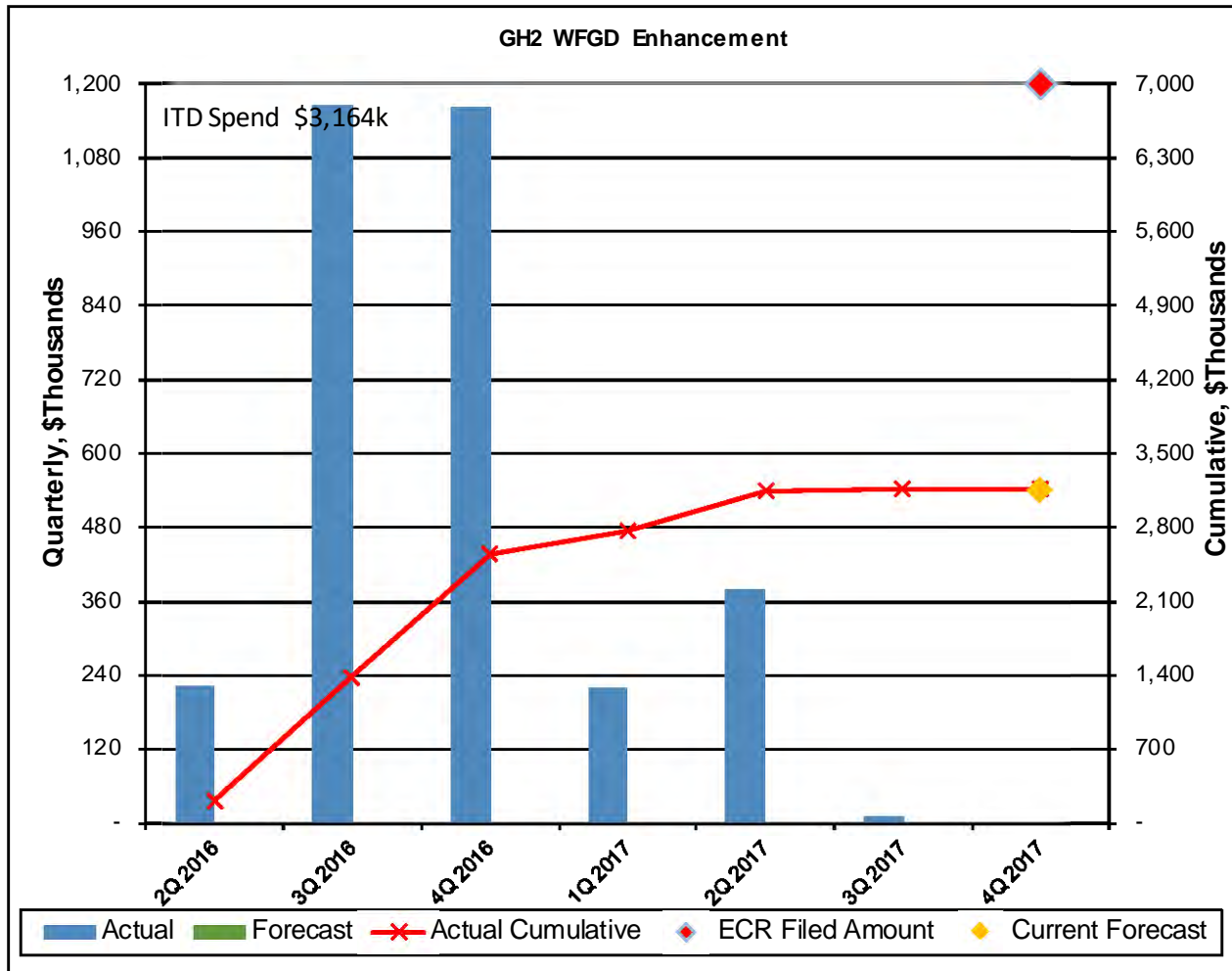
The CCR Impoundment Closure total forecasted cost increased from \$862.9 million (net) last quarter to \$913.5 million (net) as explained above. Total spend through March 31, 2020 has increased from \$668.8 million (net) last quarter to \$694.0 million (net). Note for the graph below: (1) the chart includes a symbol (◆) to show the current forecast to completion; and (2) ITD Spend is shown in the upper left of the chart.



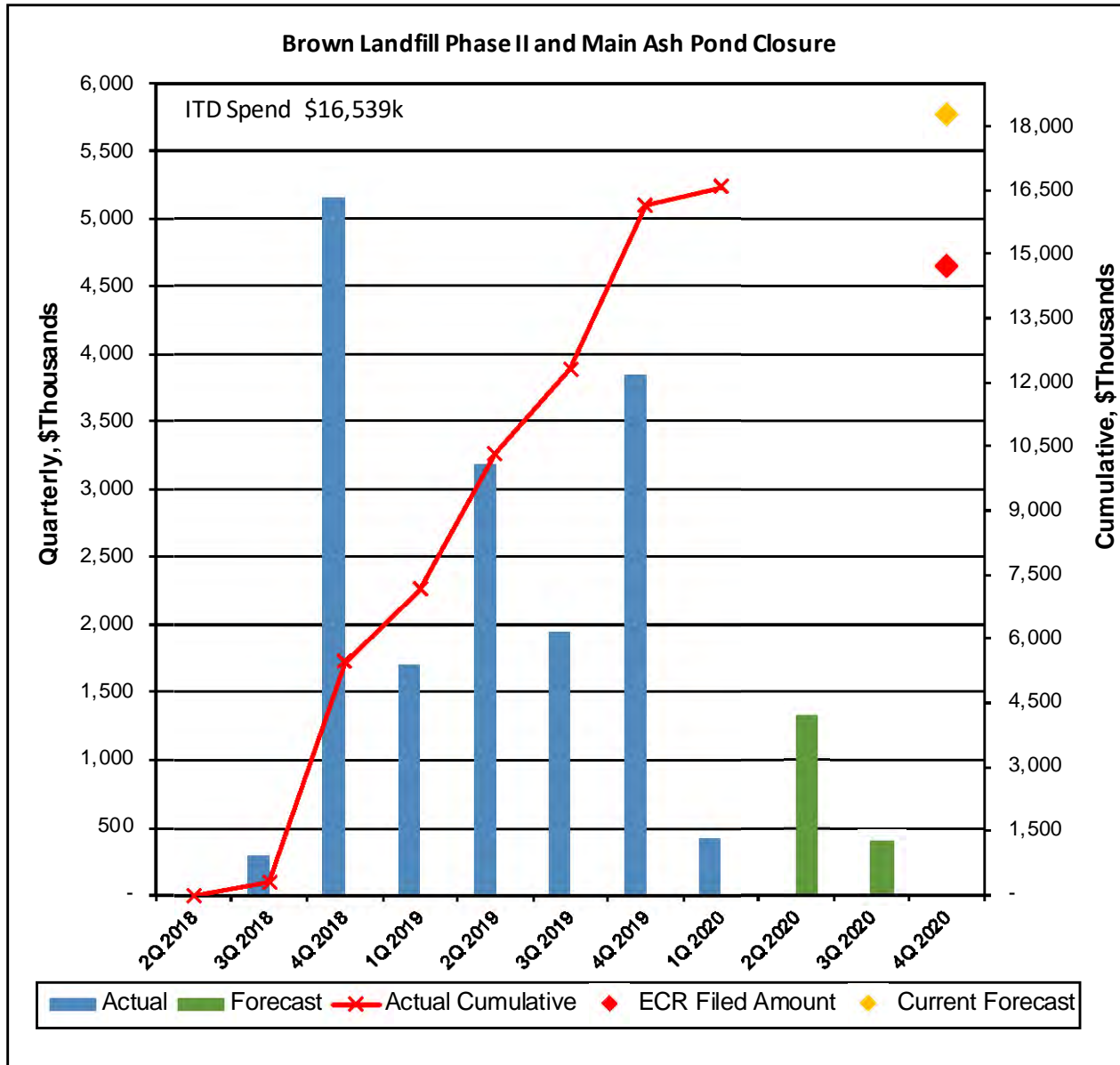
The Mercury Injection projects have been completed and commissioned. The project’s total spend was \$8.7 million compared to the filed estimate of \$15.0 million.



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 March 31, 2020 has increased from \$16.1 million last quarter to \$16.5 million. Note for the graph below: (1) the chart includes a symbol (◆) to show the current forecast to completion and (2) ITD Spend is shown in the upper left of the chart.



Planned Activities for Next Quarter:

State Division of Waste Closure Projects

Review of turf growth and winter impacts on earthwork will be evaluated for warranty repairs, if any, at Tyrone, Pineville and Green River. These projects will not be reported on in future reports given these projects have been completed and are essentially warranty inspections and reseeding efforts; however, they will be included in the financial sections.

Federal CCR Rule Closure Projects

CCR Closures:

Tetra Tech will continue with Phase II closure activities at Ghent, as well as closure activities on the Mill Creek Main Ash Pond. The negotiations of Phase III with Tetra Tech are expected to be completed with Phase III being included in the Phase I and Phase II agreement through an amendment. Construction by Thalle will continue for the E.W. Brown CCR impoundment closure scope. 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 Gypsum Storage Pond (GSP) closure RFQ will be ready for issuance to the market.

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 Commercial Operation in April. 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). The E.W. Brown PWS will be commissioned, fully tested and placed into Commercial Operation.

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

Thalle will restart the Landfill Phase II and closure scope on Phase III that were shut down during the winter months.