

2016 ECR Plan Status Update Report
Quarterly Report – Update #6
January 30, 2018

Executive Summary:

General

This report covers LG&E and KU’s (“Companies”) progress on engineering and constructing the projects in the 2016 Environmental Cost Recovery (“ECR”) Plan through the fourth quarter of 2017, as well as listing any significant events that have occurred in the fourth quarter.

The overall 2016 ECR Plan safety performance through the fourth quarter of 2017 has a year-to-date OSHA recordable rate of 1.17 and an inception-to-date rate of 1.10 compared to the industry average of 3.20. On October 5, 2017 an employee of Tetra Tech, the contractor performing Phase I of II CCR Rule closure work at Ghent consisting of constructing the Cooling Channel in the Ash Treatment Basin (ATB) #1 and the first phase of the new North Cooling Pond, was fatally injured when the surface the employee was standing on gave way. As a result of the subgrade failure, the employee was buried under an unknown quantity of Coal Combustion Residual (“CCR”) material. Investigation into the cause of the incident and efforts to locate and recover the body began immediately and are ongoing.

The total 2016 ECR Plan projected costs remain \$877.7 million (net) as reported last quarter, compared to the filed estimate of \$993.6 million (net).¹ Total spend to date increased from \$58.5 million (net) last quarter to \$202.5 million (net) through December 31, 2017.

At Ghent, CCR impoundment closure work has been focused on Tetra Tech’s work on the Ghent Phase I scope, which was placed on hold immediately following the fatality on October 5, 2017. Upon issuing a revised safety and work recovery plan, Tetra Tech resumed work on the Phase I project in December 2017. Work during the fourth quarter was focused on investigating the fatality, working on a body recovery plan, receipt of materials, and hauling of gypsum from the north end of the Gypsum Stack to the south end of the Gypsum Stack. The Green River CCR impoundments closure project was awarded to Trans-Ash. Trans-Ash completed mobilization to the site and began construction of the new storm-water perimeter ditches, dewatering of the CCR ponds, and regrading/hauling of CCR material within and between the CCR impoundment facilities. The Mill Creek South Ponds closure work was awarded to MAC Construction. The Pineville and Tyrone closure projects were awarded to Thalle Construction Company. A revised Request for Quotations (“RFQ”) was issued for the Ghent Phase II project with bids expected in March of 2018.

¹ The total 2016 ECR Plan projected costs were provided in Case No. 2016-00026 and Case No. 2016-00027 on a net basis. 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 where “net” is shown.

With regards to the Process Water System (“PWS”) scopes, AMEC continues engineering, contracting and procurement activities on the Trimble County and Mill Creek PWS projects. AMEC has begun pile foundation installations at both Mill Creek and Trimble County. At Ghent, Burns & McDonnell (“B&McD”) continues to work on engineering activities, mobilization to the site, procurement of major equipment, and installation of deep foundation piles. Suez, the water treatment technology supplier for the Ghent, Mill Creek, and Trimble County PWS projects, continues their engineering and procurement activities working in concert with both AMEC and B&McD.

The Fleet Mercury Injection Control projects have progressed well with all installations being completed with only final control tuning remaining at Trimble County and Ghent.

CCR Compliance (CCR Rule and State CCR Pond Closures)

Safety performance through the fourth quarter has a year-to-date Recordable Incident Rate of 1.52 and an inception-to-date Recordable Incident Rate of 1.82. As stated above, the Tetra Tech fatality occurred on October 5, 2017. Investigation into the cause of the incident is nearing completion and efforts to recover the body are ongoing. Tetra Tech has recommenced their contract scope execution in all areas not near the fatality scene.

Total projected costs for the CCR closure program remain unchanged from the previous report at \$839.0 million (net). Total spend to date through December 31, 2017 has increased from \$111.4 million in the last report to \$191.4 million (net).

Relative to the Companies’ progress during this reporting period on the CCR impoundment closures, the detailed design for the CCR Rule and State Impoundment Closure programs throughout the Companies’ fleet are nearing completion. The remaining design activities are associated with supporting the development of the RFQ packages. Construction activities are ongoing for the Ghent Phase I and Green River Impoundments Closure projects. The Companies issued contracts for the construction of the Mill Creek South Ponds (Clean Closure of the Runoff Pond, Clearwell Pond, and Dead Storage Pond), and the Impoundments closure at Pineville and Tyrone. The Companies issued a revised RFQ package for construction of Ghent Phase II (ATB #1 Closure, ATB #2 Closure, Secondary Pond Clean Closure, and South Cooling Pond). Communications with the Owner’s Engineers (“OE”) of AMEC and AECOM for the CCR impoundment closure design and permitting continues through scheduled meetings. The CCR impoundment closure program is on schedule to be completed on or before the Environmental Protection Agency’s (“EPA”) CCR Rule regulatory deadlines.²

During the fourth quarter, engineering designs were ongoing for the Ghent, Mill Creek and Trimble County PWS projects. Black and Veatch continues to serve as the fleet OE for the PWS projects to provide consistency in engineering design reviews across the three stations and provide consistent support to the

² The EPA Administrator is expected to reconsider the provisions of the final rule addressed in pending petitions requesting the EPA to initiate rulemaking to reconsider certain provisions of final CCR Rule. If the EPA decides to begin the process of potentially revising provisions of the final rule, the EPA will provide an opportunity for notice and comment. The final CCR Rule is also subject to a legal challenge in the District of Columbia Circuit (DC Circuit No. 15-1219). The Companies will continue to track EPA’s actions and the litigation, provide updates to the Commission through future reports and, if appropriate, adjust their construction schedules and activities.

Companies in overseeing the PWS construction phases being performed by the two EPC firms (AMEC and B&McD). In December 2017, Black and Veatch was selected as the OE for the Brown Station PWS project to support development of the RFQ package. AMEC at Mill Creek and Trimble County, and B&McD at Ghent, are progressing well with engineering activities, procurement of major equipment, and installation of deep piling foundations. Suez, the PWS technology supplier, continues to work well with both EPC contractors and Companies to ensure consistency across the three stations. All three PWS projects are progressing well to plan.

To ensure the Companies’ projects will comply with the EPA’s CCR Rule requirements, the Companies continue to hold program-wide meetings with the OEs, internal project management teams, and all affected facilities to provide an opportunity for all parties to deliver updates on their work and to ensure the OEs are providing similar deliverables and lessons-learned are applied across the projects. In addition to the program-wide meetings, the Companies are holding weekly meetings with the individual OEs and the affected plants. The contracted completion dates for each facility are currently as follows:

Schedule - CCR Rule and State CCR Impoundment Closures

<u>Project</u>	<u>Project #</u>	<u>EPC Status³</u>	<u>Planned Construction Completion⁵</u>
E.W. Brown Aux Pond	KU Project 42	Issue RFQ 2Q 2018	December 2020
Ghent ATB #1	KU Project 40	Issued RFQ 3Q 2017	December 2023 ⁴
Ghent ATB #2	KU Project 40	Amended RFQ 1Q 2018	December 2023 ⁴
Ghent Gypsum Stack	KU Project 40	Awarded 2Q 2017	December 2020
Green River Main Pond	KU Project 39	Awarded 2Q 2017	2Q 2019
Green River ATB #2	KU Project 39	Awarded 2Q 2017	2Q 2019
Green River SO2 Pond	KU Project 39	Awarded 2Q 2017	2Q 2019
Mill Creek Ash Pond	LG&E Project 29	Issue the RFQ in 3Q 2018	4Q 2021
Mill Creek Clearwell Pond	LG&E Project 29	Awarded 4Q 2017	4Q 2018
Mill Creek Construction Runoff Pond	LG&E Project 29	Awarded 4Q 2017	2Q 2018
Mill Creek Emergency Pond	LG&E Project 29	Construction Completed	Construction Completed
Mill Creek Dead Storage Pond	LG&E Project 29	Awarded 4Q 2017	2Q 2019
Pineville Ash Pond	KU Project 39	Awarded 4Q 2017	2Q 2019
Trimble County Bottom Ash Pond	KU Project 41, LG&E Project 30	Issue RFQ 1Q 2018	December 2023
Trimble County Gypsum Storage Pond	KU Project 41, LG&E Project 30	Issue RFQ 1Q 2018	December 2023
Tyrone Ash Pond	KU Project 39	Awarded 4Q 2017	2Q 2019

Process Water Systems

<u>Project</u>	<u>Project #</u>	<u>EPC Status³</u>	<u>Planned Construction Completion</u>
E.W. Brown Process Water System	KU Project 42	Award 2Q 2018	4Q 2019
Ghent Process Water System	KU Project 40	Awarded 3Q 2017	2Q 2019
Mill Creek Process Water System	LG&E Project 29	Awarded 3Q 2017	4Q 2019
Trimble County Process Water System	KU Project 41, LG&E Project 30	Awarded 2Q 2017	2Q 2019

³ The red font signifies actuals.

⁴ The planned completion date has changed to reflect current forecast of CCR produced for beneficial use.

Fleet Mercury Control Injection Systems Project

Safety performance through the fourth quarter remains excellent with a year-to-date Recordable Incident Rate of 0.00 and an inception-to-date Recordable Incident Rate of 0.00. The total projected costs remains at \$12.8 million (net) reported last quarter, which compares favorably to the original estimate in the 2016 ECR Plan of \$15.6 million (net). Total spend to date has increased from \$6.4 million to \$7.9 million through December 31, 2017. The expected in-service dates for Trimble County and Ghent’s injection systems was deferred one month due to weather experienced in late December 2017.

Schedule - Fleet Mercury Control Injection Systems

<u>Project</u>	<u>Actual/Expected Completion</u>
Mill Creek Unit 3	June 2016
Mill Creek Unit 4 Organo-sulfide System	July 2017
Mill Creek Units 1&2 Organo-sulfide System	July 2017
Mill Creek Unit 1 Halogenated Liquid System	August 2017
Mill Creek Unit 2 Halogenated Liquid System	August 2017
Trimble County Unit 1 Organo-sulfide System	January 2018
Ghent Unit 4 Organo-sulfide System	January 2018
Ghent Unit 2 Halogenated Liquid System	January 2018
Ghent Unit 1 Organo-sulfide System	January 2018
Ghent Unit 2 Organo-sulfide System	January 2018
Ghent Unit 3 Organo-sulfide System	January 2018

E.W. Brown Landfill Phase II

The Companies announced the planned retirement of E.W. Brown’s Units 1 and 2 in February 2019. The Companies have also announced plans to file an amended 2016 ECR Plan⁵ to amend the Landfill Phase II work at the station, which will incorporate a modified Phase II of the landfill, elimination of the need for a future Phase III of the landfill, and the need to cap and close the remaining portion of the Main Ash Pond not covered by Phase I, Phase II or the CCRT areas.

Quarterly Status Update:

State Division of Waste Closure Projects:

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

Green River: KU continues to hold weekly and monthly update meetings to review the current status of the project. The impoundment closure work continues to progress to plan by Trans-Ash. Trans-Ash

⁵ The amended 2016 ECR Plan was filed on January 26, 2018.

has fully mobilized to the site and has progressed well with the construction of the new storm-water ponds, installation of perimeter ditches, dewatering of the CCR ponds, and regrading/hauling of CCR material within and between the CCR impoundment facilities. KU has contracted with Associated Engineers, Inc. to perform Construction Quality Assurance (“CQA”) services and AMEC to provide OE services on the Green River project.

Pineville: KU is holding weekly and monthly update meetings to review the current status of the project. Conceptual design was completed on September 30, 2016 and the final design was completed during this reporting period. AMEC has started development of the KYDWM permit application and will build upon the experience gained during the Green River permitting process. The Impoundment Closure project was awarded to Thalle Construction Company in December 2017 with mobilization planned after their completion of the Tyrone closure project. KU has contracted with AMEC to provide CQA and OE services on the Pineville project.

Tyrone: KU is holding weekly and monthly update meetings to review the current status of the project. As with Pineville, conceptual design was completed on September 30, 2016 and the final design was completed in the third quarter of 2017. AMEC has started development of the KYDWM permit application and will build upon the experience gained during the Green River permitting process. The Impoundment Closure project was awarded to Thalle Construction Company in December 2017 with mobilization planned to begin in January 2018. KU has contracted with AMEC to provide CQA and OE services on the Tyrone project.

Federal CCR Rule Closure Projects:

KU Project 40 – Ghent (GH) Station CCR Rule Compliance Construction and New Process Water Systems

KU is holding weekly and monthly update meetings to review the current status of the project. The contract for the Phase I work was awarded to Tetra Tech in June 2017. The RFQ for the Phase II closure scope was issued in the third quarter of 2017. A revised RFQ was issued in the fourth quarter of 2017 with a targeted award in the second quarter of 2018. To date, Tetra Tech has completed mobilization to the site, deployed the erosion and sediment control facilities, constructed a haul road, started hauling gypsum from the Gypsum Stack to ATB #2, and received the majority of the construction materials. KU has contracted with AMEC to perform CQA services and AECOM to provide OE services on the Ghent closure projects.

Burns & McDonnell was awarded the PWS scope at Ghent in August 2017. B&McD has mobilized to the site and is nearing completion on the installation of deep pile foundations. B&McD is progressing well with their engineering and procurement activities. KU has contracted with Black & Veatch to provide OE services on the Ghent PWS project.

KU Project 41 and LG&E Project 30⁶ – Trimble County (TC) Station CCR Rule Compliance Construction and New Process Water Systems

⁶ KU and LG&E’s net costs are split 48%/52% respectively.

The Companies are holding weekly and monthly update meetings to review the current status of the project. It is anticipated that the RFQ package for the closure of the Bottom Ash Pond and Gypsum Storage Pond will be issued to the market in early 2018. To date, onsite activities have been limited to site visits by the OE, geotechnical explorations, and installation of groundwater monitoring wells. KU has contracted with AMEC to provide CQA and OE services on the Trimble County project.

AMEC is progressing well with engineering and procurement activities on the PWS scope and is meeting regularly with Suez and the Companies on PWS detailed design and integration into the existing station facilities.

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

The RFQ for closure of the auxiliary CCR pond is targeted for issuance to the market in the second quarter of 2018. The RFQ for the PWS is planned to be issued to the market in January 2018. To date, onsite activities have been limited to site visits by the OE, geotechnical explorations, process water testing and installation of groundwater monitoring wells. KU has contracted with AMEC to provide CQA and OE services on the Brown project.

The retirements of Units 1 and 2 in February 2019 has resulted in a reduction in the size of the PWS for Brown, resulting in a decrease in the estimated cost from the filed \$71.7 million to \$25.1 million. The cost reductions are primarily driven by a much smaller PWS for the wet flue gas desulphurization system discharge and separate PWS for the non-CCR process waters at the station.

LG&E Project 29 – Mill Creek (MC) Station CCR Rule Compliance Construction and New Process Water Systems

LG&E is holding weekly and monthly update meetings to review the current status of the project. The South Ponds closure project was awarded to MAC Construction on January 2, 2018. LG&E has contracted with AMEC to perform CQA services and AECOM to provide OE services on the Mill Creek closure projects.

Fleet Mercury Control Injection Systems Project

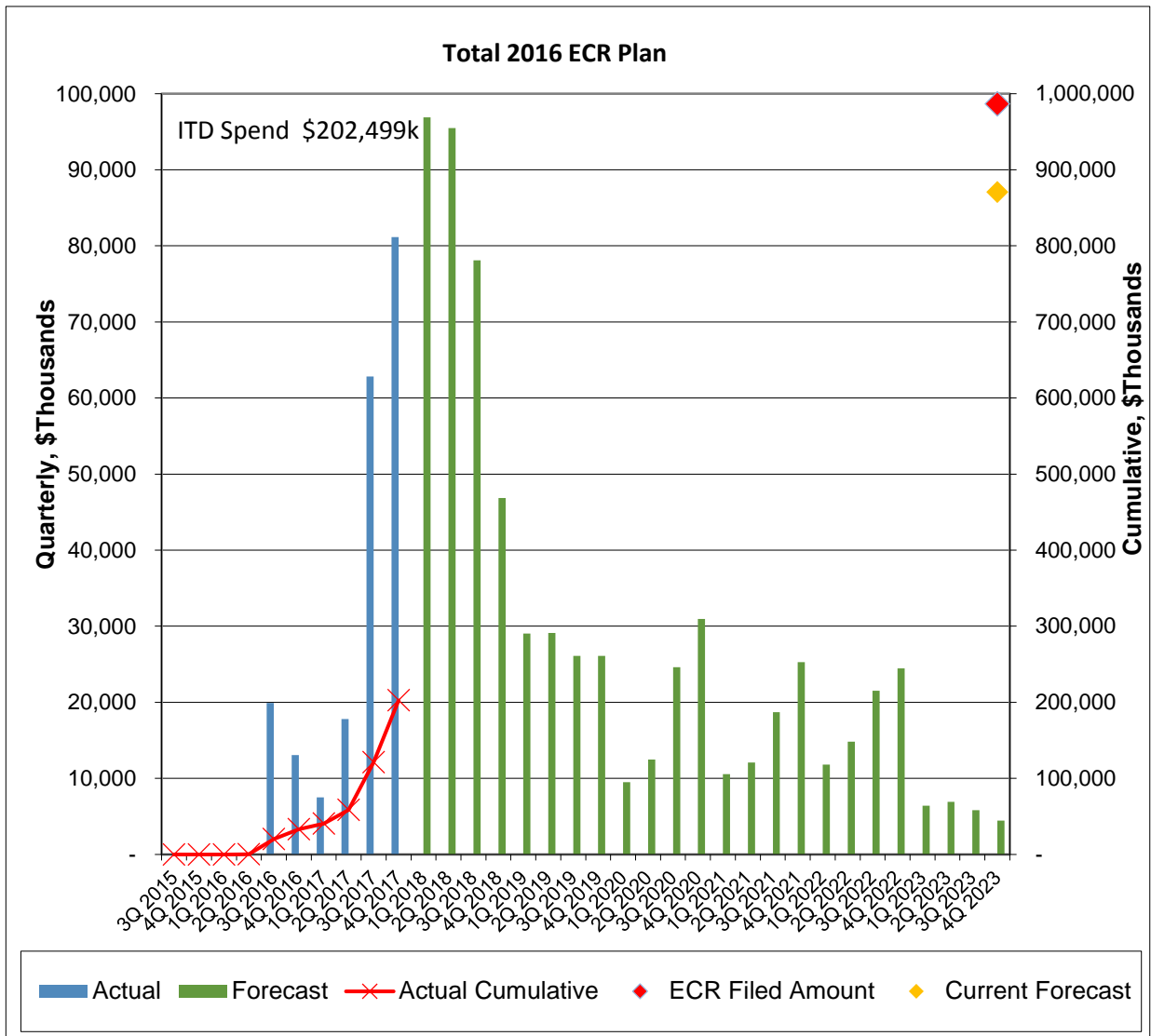
Mill Creek – All injection systems were completed and placed into operation in 2017. These projects will not be reported on in future quarterly reports.

Ghent – Hall Contracting performed the construction and installation for the Ghent 1 through 4 organo-sulfide systems and Ghent 2 halogenated liquid system. All of the Ghent systems were placed into operation the week of January 8, 2018.

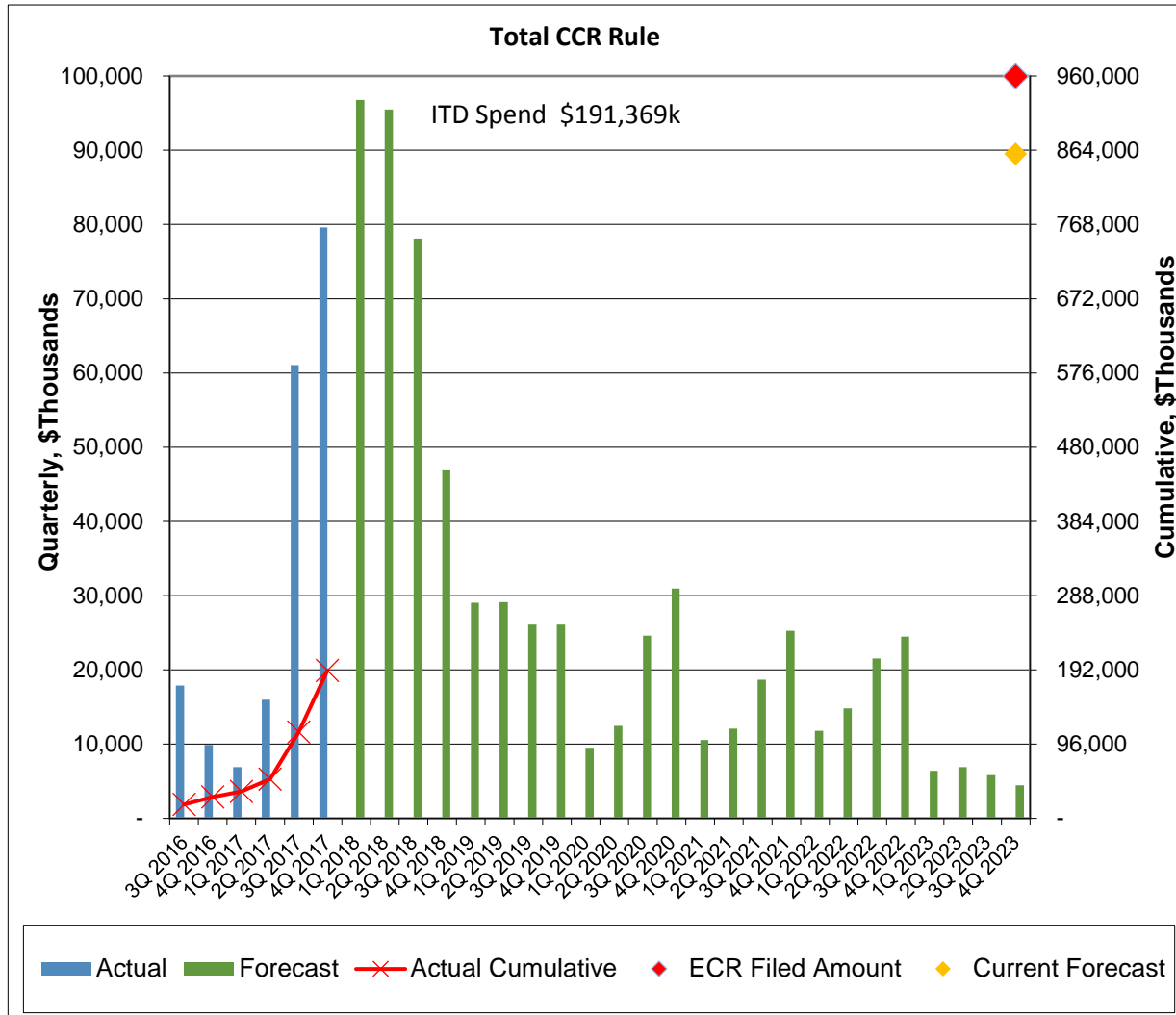
Trimble County – A&D Constructors performed the construction and installation for the Trimble County Unit 1 organo-sulfide system and modifications to the existing Trimble County Unit 2 organo-sulfide system. The Trimble County systems were placed into operation the week of January 8, 2018.

Financials:

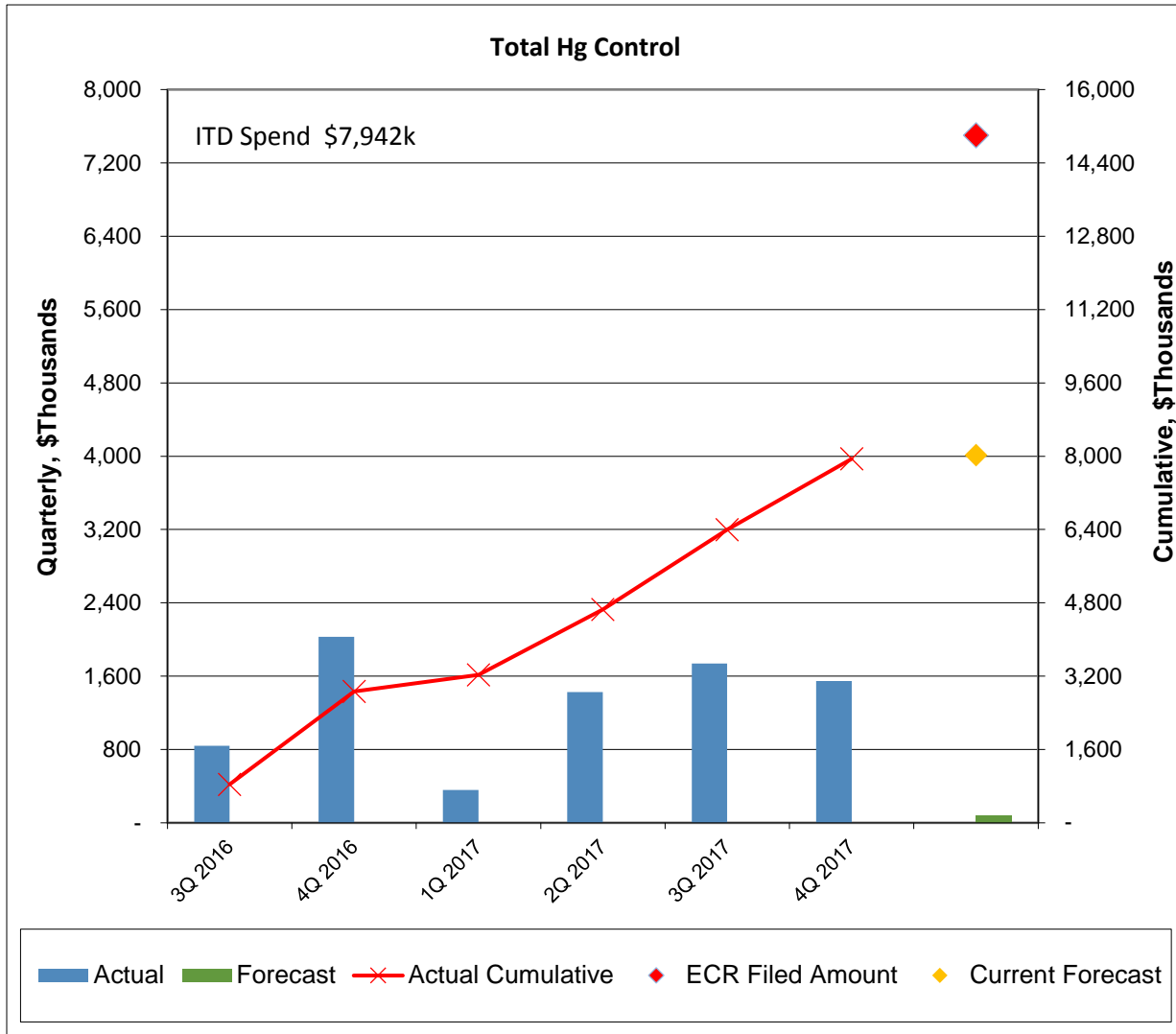
The total ECR Plan forecasted cost remains at \$866.7 million (net). Total spend through December 31, 2017 has increased to \$202.5 million (net). For the graph below: (1) the chart includes a symbol (◆) to show the current forecast to completion; and an (2) inception-to-date (ITD) Spend shown in the upper left of the chart.



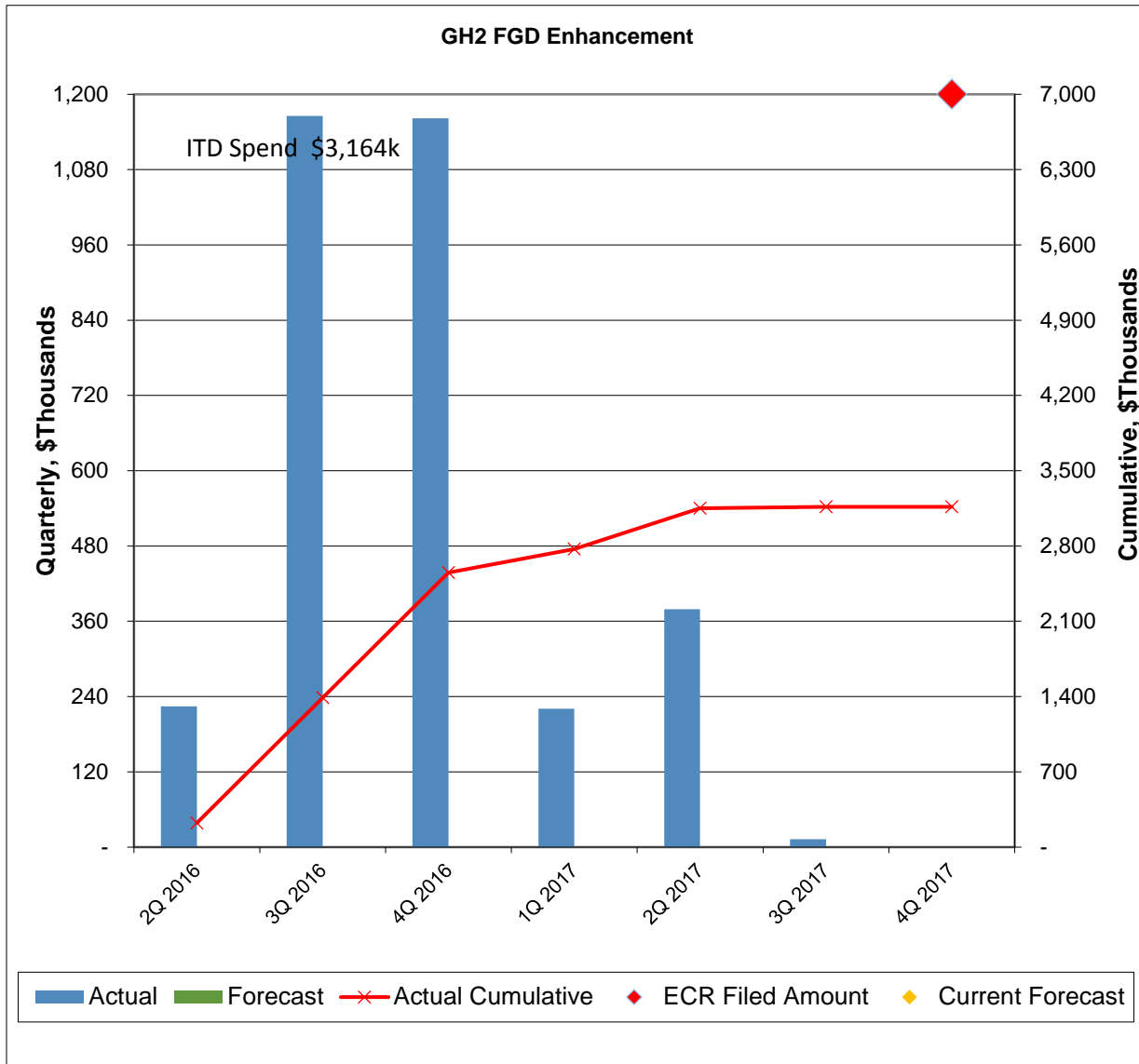
No change in CCR Impoundment Closure total forecasted cost occurred during this reporting period. Total spend through December 31, 2017 has increased to \$191.4 million (net). Note for the graph below: (1) the chart includes a symbol (◆) to show the current forecast to completion; and (2) ITD Spend is shown in the upper left of the chart.



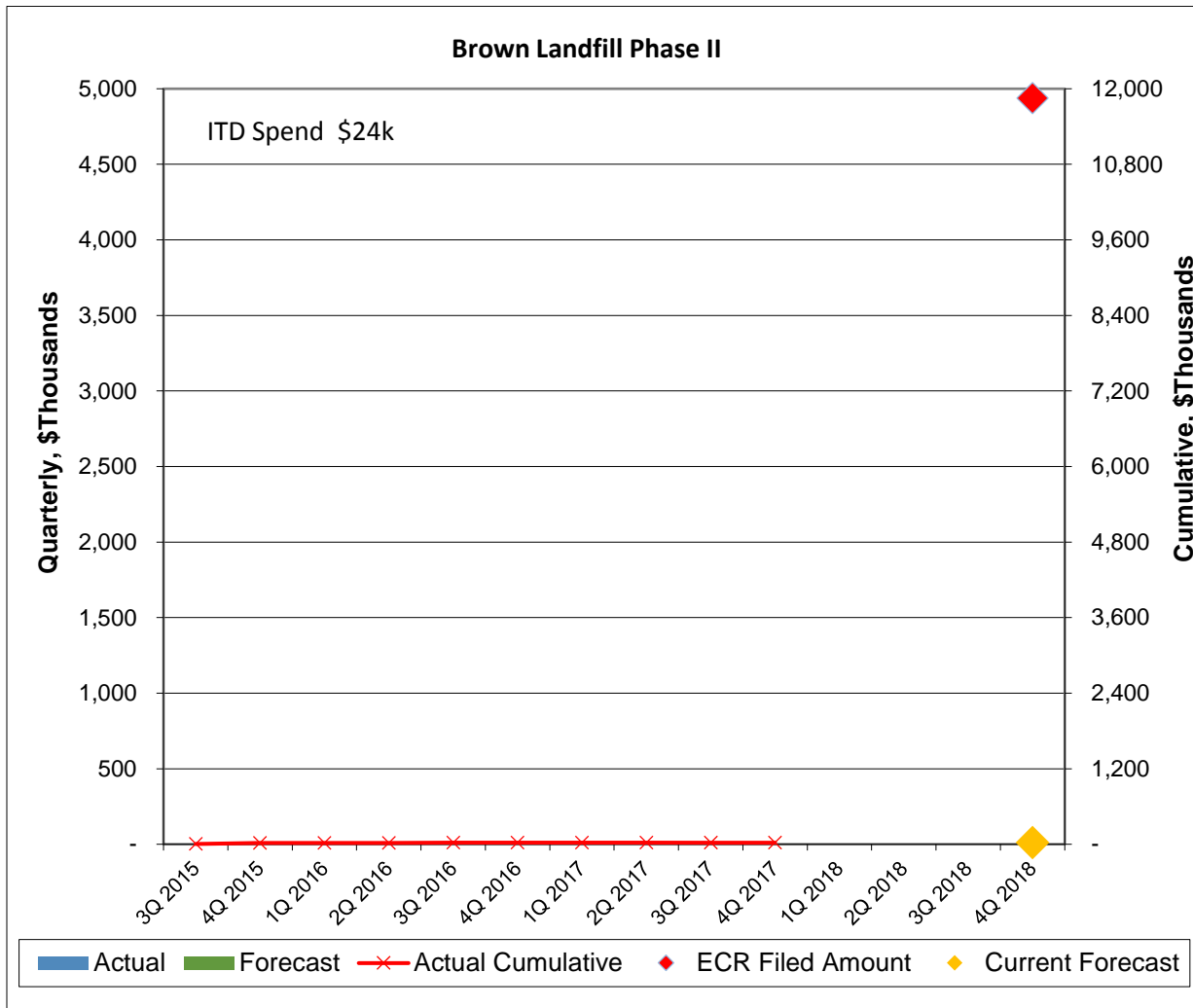
The Mercury Injection projects' total forecasted cost has been reduced to \$8.0 million (net) in this reporting period. Total spend through December 31, 2017 increased to \$7.9 million. Note for the graph below: (1) the chart includes a symbol (◆) to show the current forecast to completion; and (2) ITD Spend is shown in the upper left of the chart.



No change in Ghent 2 WFGD Enhancement total forecasted cost occurred during this reporting period. Total spend through December 31, 2017 is \$3.16 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.



No change in Brown Landfill Phase II forecasted cost occurred during this reporting period. As reported last quarter, the Companies continue to evaluate the timing of, and capacity needs for, storage of CCR relative to Phase II of the E.W. Brown Landfill. Total spend through December 31, 2017 is \$0.024 million. As previously discussed, the construction for this project did not begin prior to the one-year expiration of the CPCN authorization. Note for the graph below: (1) ITD Spend is shown in the upper left of the chart.



Planned Activities for Next Quarter:

State Division of Waste Closure Projects

Closure work on the Green River impoundments will continue as planned. Thalle is expected to mobilize to Tyrone and begin closure activities.

Federal CCR Rule Closure Projects

CCR Closures:

Tetra Tech will continue with closures activities for Ghent's Phase I scope, as well as continue engineering and execution activities associated with the recovery efforts. Bids will be received on the Ghent Phase II scope on the closure project. At Mill Creek, MAC will complete their mobilization to the site and begin closure activities on the Construction Runoff, Clearwell, and Dead Storage subprojects (South Ponds).

PWS:

AMEC will continue engineering and procurement activities on the Mill Creek and Trimble County PWS projects. B&McD will continue progressing their engineering and procurement efforts on the Ghent PWS project. Both AMEC and B&McD, along with the Companies and the Companies' OE reviews and feedback, will continue design, engineering, and procurement activities, in concert with Suez (the treatment technology supplier) at all three stations (Ghent, Mill Creek, and Trimble County). The RFQ for E.W. Brown's PWS EPC will be issued to the market.

Fleet Mercury Control Injection Systems Project

The injection systems for Trimble County and Ghent will be completed and placed into service the week of January 8, 2018.

E.W. Brown Landfill Phase II

Kentucky Utilities will file an amended ECR Plan on January 26, 2018. The filing will include an amended, smaller Phase II Landfill construction, along with closure of the Main Ash Pond for those areas that will not have the landfill or hard scape covering (i.e., Phase III and portions of the original Phase II).