

## 2016 ECR Plan Status Update Report Quarterly Report – Update #24 July 29, 2022

### **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 2022.

The overall 2016 ECR Plan safety performance through the second quarter of 2022 remains excellent with a year-to-date OSHA Recordable Incident Rate of 0.00 and an inception-to-date OSHA Recordable Incident Rate of 0.46, compared to the industry average of 3.2.

As reported in the last quarter, the total 2016 ECR Plan projected cost remains \$979.0 million (net)<sup>1</sup>, compared to the filed total of \$996.4 million as provided in Case Nos. 2016-00026, 2016-00027, and 2017-00483. Total spend to date increased from \$893.2 million (net) last quarter to \$905.0 million (net) through June 30, 2022.

#### **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 0.00 and an inception-to-date Recordable Incident Rate of 0.48, compared to an industry average Recordable Incident Rate of 3.2.

The total projected cost for the Coal Combustion Residual ("CCR") Closure Program remains \$948.8 million (net). Total spend to date through June 30, 2022 increased from \$863.0 million (net) last quarter to \$874.8 million (net).

The remaining engineering activities primarily consist of supporting ongoing construction activities and updating design documents to reflect "as-built" conditions of the completed projects. Remaining procurement activities are associated with contract maintenance of all awarded contracts through completion of the work and warranty periods.

In compliance with the U.S. Environmental Protection Agency's ("EPA") final closure deadline of April 11, 2021, the Companies have initiated closure of all unlined CCR surface impoundments. While the large scale of the various closure processes takes years to complete, all of LG&E and KU's former CCR surface impoundments have ceased receiving CCRs for disposal and other process streams have been successfully re-routed, diverted, or otherwise modified so that the closed units no longer receive any other solid or liquid

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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.

materials. By persistently pursuing the closure processes, the Companies have completed the complex process of physical closure for 16 CCR Rule and State CCR Impoundment Closures. The Companies continue to progress towards completing closure of the three remaining CCR impoundments.

On January 11, 2022, EPA issued a press release and preliminary decision documents for nine of the fifty-seven Part A applications it received requesting an extension on the deadline for closure for CCR impoundments. Although the Companies did not submit any Part A applications or request extensions for any CCR impoundment closures, EPA's proposed determinations reflect interpretation of the CCR Rule which may be applied to all CCR-regulated facilities.

The Agency has also sent letters to various facilities raising concerns about improper groundwater monitoring, insufficient remedial progress, and regulation of inactive surface impoundments, which provide further insight into seemingly more aggressive interpretations of the Rule.

While part of the analysis reflected in EPA's proposed determinations on the Part A closure extension requests and correspondence with individual companies is facility-specific in nature, these actions also reference new regulatory interpretations that may potentially be adopted by the Agency. Some of the interpretations raise questions about whether it is permissible to implement closure in place for facilities in which CCR may be placed below the water table or utilize the beneficial use of CCR for closure purposes. On March 18, 2022, the Companies received electronic correspondence from the Kentucky Division of Waste Management (forwarded from EPA) that three of its impoundments (one each at the Ghent, Trimble County, and Mill Creek Station) had been identified by EPA as potentially having waste below the water table. However, the correspondence did not identify any specific or required actions on the part of the Companies. Given the text of the Rule has not been proposed or changed by the Agency, the Companies will continue to progress in completing the three remaining in-place closures that are already well underway.

Some of the EPA's new regulatory interpretations appear inconsistent with applicable law or past EPA interpretations. A number of the new interpretations are the subject of EPA's ongoing public notice and comment process and may be changed or clarified in the future. Additionally, there is the potential for future litigation from stakeholders. In the meantime, regardless of the current regulatory uncertainties, LG&E and KU are obligated to proceed with efforts to assure ongoing compliance. As has been our practice, the Companies continue to track these developments and the impacts they may have. LG&E and KU plan to continue with implementation of current compliance strategies.

### CCR Impoundment Closures

- Ghent – Tetra Tech's ("TT") Phase III scope (closure of ATB #2) is in closure as of January 9, 2020. Work to date on ATB #2 is progressing to plan with regrading of the in-place CCR material; hauling of CCR material from Coal Combustion Residual Treatment area, and filter cake from the Process Water System ("PWS"); and installation of the synthetic liner system over areas of ATB #2 that have achieved final grade. Tetra Tech's ("TT") Phase II scope (construction of the South

Cooling Pond, closure of Ash Treatment Basin [“ATB”] #1 have been successfully completed. TT continues to progress the Ghent projects very well with no compliance issues forecasted.

- E.W. Brown – Thalle Construction (“Thalle”) impoundment closure activities are nearly complete. Thalle has completed the installation of the closure system on the auxiliary CCR impoundment; however, dewatering of the remaining interstitial water (below the liner cap system) through the use of deep wells continues to experience reduced production due to fouling of wells and equipment issues prolonging the dewatering effort. As a result, Thalle has submitted a plan to install an additional five (5) deep wells during the month of July 2022. The existing wells will be serviced to improve production or converted to observation wells to assist with the monitoring of the interstitial water level. The E.W. Brown Walking Trail was substantially completed with final work focusing on stabilization of the gravel walking trail, enhancing stormwater runoff controls, and final placement of native grass and pollinators.
- Mill Creek – Final as-built drawings and the construction progress report will be completed by AECOM Technical Services, Inc. (“AECOM”) during the third quarter of 2022.
- Trimble County – TT continues hauling CCR material to the Bottom Ash Pond (“BAP”) for beneficial use; excavating and grading activities within the BAP; completed dredging work within the BAP; dewatering the Gypsum Storage Pond (GSP); excavating and hauling of fill material from borrow sites to regrade the BAP surface to facilitate installation of the cap system.
- Tyrone – Project completed in the second quarter of 2020. During the second quarter 2022 the native grass and pollinator area underwent maintenance to remove invasive plants and to enhance the existing native grass and pollinator area. No further work is planned at Tyrone.

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. The program-wide meetings provide an opportunity for all parties to deliver updates and to ensure the contractors are providing similar deliverables across the projects.

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<sup>2</sup> EPA has committed to revising various portions of the CCR Rule. While changes to the CCR Rule have been proposed, EPA has indicated that there are still other additional proposals under development. Many factors have substantially extended EPA’s anticipated timeline for revisions beyond their original schedule. However, the Companies’ strategies continue to be resilient and absent major regulatory developments, we do not expect that CCR Rule changes will require any major re-evaluations of our plans. LG&E and KU remain well positioned to comply with the evolving CCR Rule requirements. The Companies will continue to closely monitor revisions to the CCR Rule and to ongoing litigation and will continue to update the Commission as it relates to issues that may affect construction schedules and activities.

### Process Water System Projects

- Trimble County – Project has been placed into Commercial Operation. Remaining activities are associated with warranty claims and project closeout.
- Mill Creek – Project has been placed into Commercial Operation. Remaining activities are associated with warranty claims, minor infrastructure improvements, and project closeout.
- Ghent – Project has been placed into Commercial Operation. Remaining activities are associated with warranty claims and project closeout.
- E.W. Brown – Project has been placed into Commercial Operation. Remaining activities are associated with warranty claims and project closeout.

## Schedules

### CCR Rule and State CCR Impoundment Closures

| <b>Project</b>  | <b>Project #</b>                  | <b>EPC Status<sup>3</sup></b> | <b>Planned / Actual In-Service Date<sup>4</sup></b>                       |
|---|-----------------------------------|-------------------------------|---|
| E.W. Brown Aux Pond   | KU Project 42                     | Awarded July 9, 2018          | 4Q 2022   |
| E.W. Brown Main Ash Pond<br>(Deleted Phase III of Landfill) | KU Project 36                     | Completed                     | Closure Completed<br>4Q 2020  |
| Ghent ATB #1  | KU Project 40                     | Awarded September 7, 2018     | Cap and Closure Completed<br>4Q 2021                                      |
| Ghent ATB #2  | KU Project 40                     | Awarded May 22, 2020          | December 2024   |
| Ghent Gypsum Stack  | KU Project 40                     | Amended Sept. 7, 2018         | Clean Closure Completed<br>3Q 2021  |
| Green River Main Pond                                       | KU Project 39                     | Completed                     | Cap and Closure Completed<br>2Q 2019                                      |
| Green River ATB #2  | KU Project 39                     | Completed                     | Cap and Closure Completed<br>3Q 2019                                      |
| Green River SO2 Pond  | KU Project 39                     | Completed                     | Clean Closure Completed<br>2Q 2019  |
| Mill Creek Ash Pond   | LG&E Project 29                   | Awarded April 4, 2019         | Cap and Closure Completed<br>3Q 2021                                      |
| Mill Creek Clearwell Pond                                   | LG&E Project 29                   | Completed                     | Clean Closure Completed &<br>New Pond in Service<br>4Q 2018               |
| Mill Creek Construction Runoff Pond                         | LG&E Project 29                   | Completed                     | Clean Closure Completed<br>2Q 2018<br>and New Pond in Service<br>3Q 2018  |
| Mill Creek Emergency Pond                                   | LG&E Project 29                   | Completed                     | Clean Closure Completed<br>and area structurally<br>backfilled in 2017    |
| Mill Creek Dead Storage Pond                                | LG&E Project 29                   | Completed                     | Clean Closure Completed<br>and area structurally<br>backfilled<br>3Q 2019 |
| Pineville Ash Pond  | KU Project 39                     | Completed                     | Cap and Closure Completed<br>3Q 2019                                      |
| Trimble County Bottom Ash Pond                              | KU Project 41,<br>LG&E Project 30 | Awarded August 13, 2021       | October 2024  |
| Trimble County Gypsum Storage Pond                          | KU Project 41,<br>LG&E Project 30 | Awarded August 13, 2021       | October 2023  |
| Tyrone Ash Pond   | KU Project 39                     | Completed                     | Cap and Closure Completed<br>3Q 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.

PWS Projects

| <u>Project</u>     | <u>Project #</u>                  | <u>EPC Status</u> | <u>Planned/ Actual<br/>In-Service Date</u> <sup>4</sup> |
|--------------------|-----------------------------------|-------------------|---|
| E.W. Brown PWS     | KU Project 42                     | Completed         | Placed in Service<br>May 2020                           |
| Ghent PWS          | KU Project 40                     | Completed         | Placed in Service<br>April 2020                         |
| Mill Creek PWS     | LG&E Project 29                   | Completed         | Placed in Service<br>October 2019                       |
| Trimble County PWS | KU Project 41,<br>LG&E Project 30 | Completed         | Placed in Service<br>October 2019                       |

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

Work associated with this project has been completed, no further update will be provided.



*E.W. Brown Landfill Phase II and Closure – March 2022*



*E.W. Brown Landfill Phase II and Closure – July 2022*

## **Quarterly Status Update:**

### **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 (“TT”) III scope (closure of ATB #2) is in closure as of January 9, 2020. Work to date on ATB #2 is progressing to plan with regrading of the in-place CCR material: hauling of Coal Combustion Residual Treatment area, as well as filter cake from the Process Water System (“PWS”); and installation of the synthetic liner system over areas of ATB #2 that have achieved final grade. Tetra Tech’s (“TT”) Phase II scope (construction of the South Cooling Pond and closure of Ash Treatment Basin [“ATB”] #1) have been successfully completed. TT continues to progress the Ghent projects very well with no compliance issues forecasted.





*Ghent ATB #1 – Looking West – April 2022*



*Ghent ATB #1 – Looking West – July 2022*



*Ghent ATB #1 and Cooling Channel – Looking East – April 2022*



*Ghent ATB #1 and Cooling Channel – Looking East – July 2022*

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

KU continues to hold weekly and monthly project update meetings. TT continues hauling CCR material to the Bottom Ash Pond (“BAP”) for beneficial use; excavating and grading activities within the BAP; completed dredging work within the BAP; dewatering the Gypsum Storage Pond (GSP); excavating and hauling of fill material from borrow sites to regrade the BAP surface to facilitate installation of the cap system.

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



*Trimble BAP – Looking North – April 2022*



*Trimble BAP – Looking North – July 2022*

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

E.W. Brown – Thalle Construction (“Thalle”) impoundment closure activities are nearly complete. Thalle has completed the installation of the closure system on the auxiliary CCR impoundment; however, dewatering of the remaining interstitial water (below the liner cap system) through the use of deep wells continues to experience reduced production due to fouling of wells and equipment issues prolonging the dewatering effort. As a result, Thalle has submitted a plan to install an additional five (5) deep wells during the month of July. The existing wells will be serviced to improve production or converted to observation wells to assist with the monitoring of the interstitial water level. The E.W. Brown Walking Trail was substantially completed with final work focusing on stabilization of the gravel walking trail, enhancing stormwater runoff controls, and final placement of native grass and pollinators.



*E.W. Brown Aux Pond – March 2022*



*E.W. Brown Aux Pond – July 2022*

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

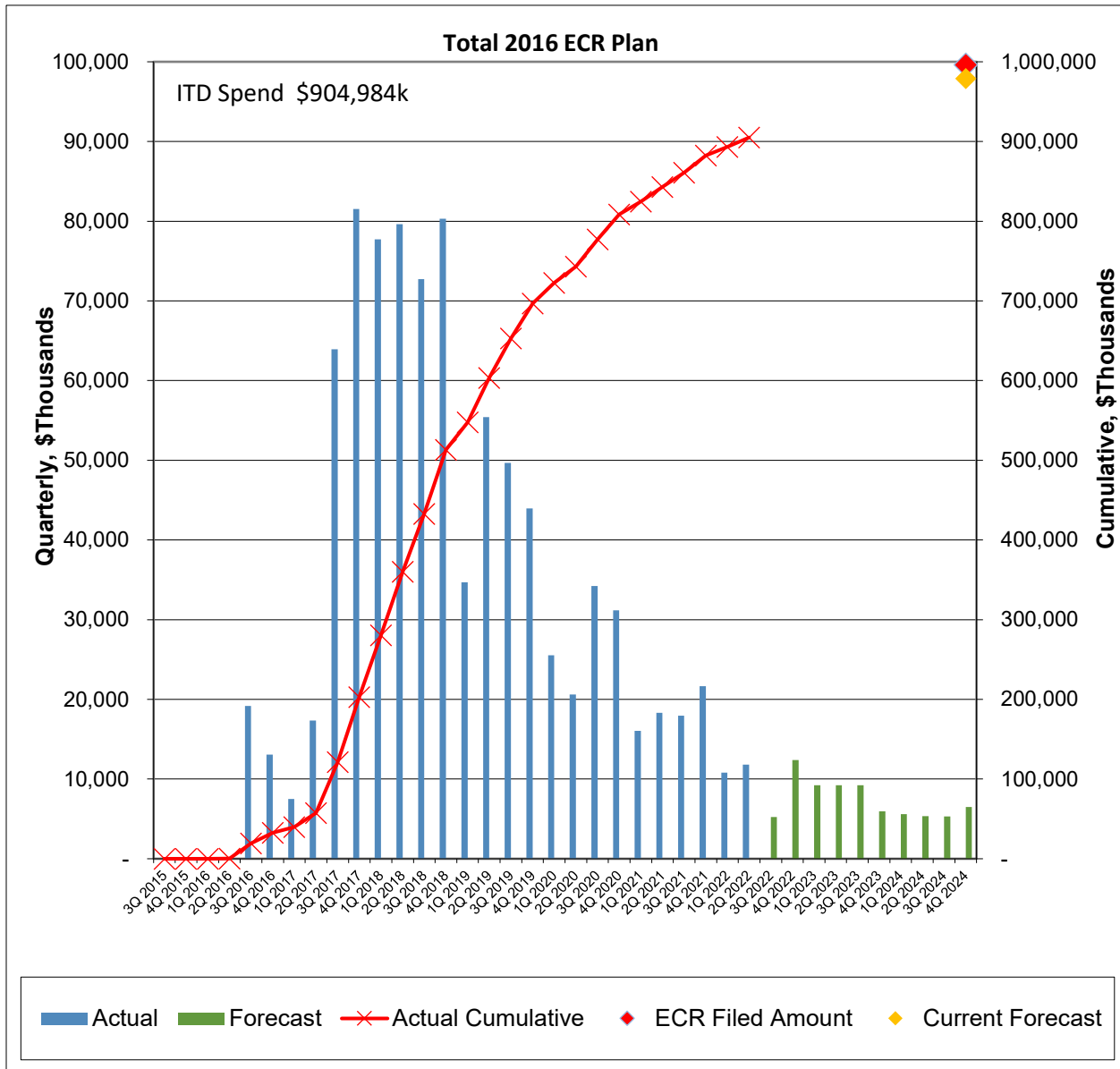
Final as-built drawings and the construction progress report will be completed by AECOM during the third quarter of 2022.



*Mill Creek Main Ash Pond Closure – March 2022 – No Change July 2022*

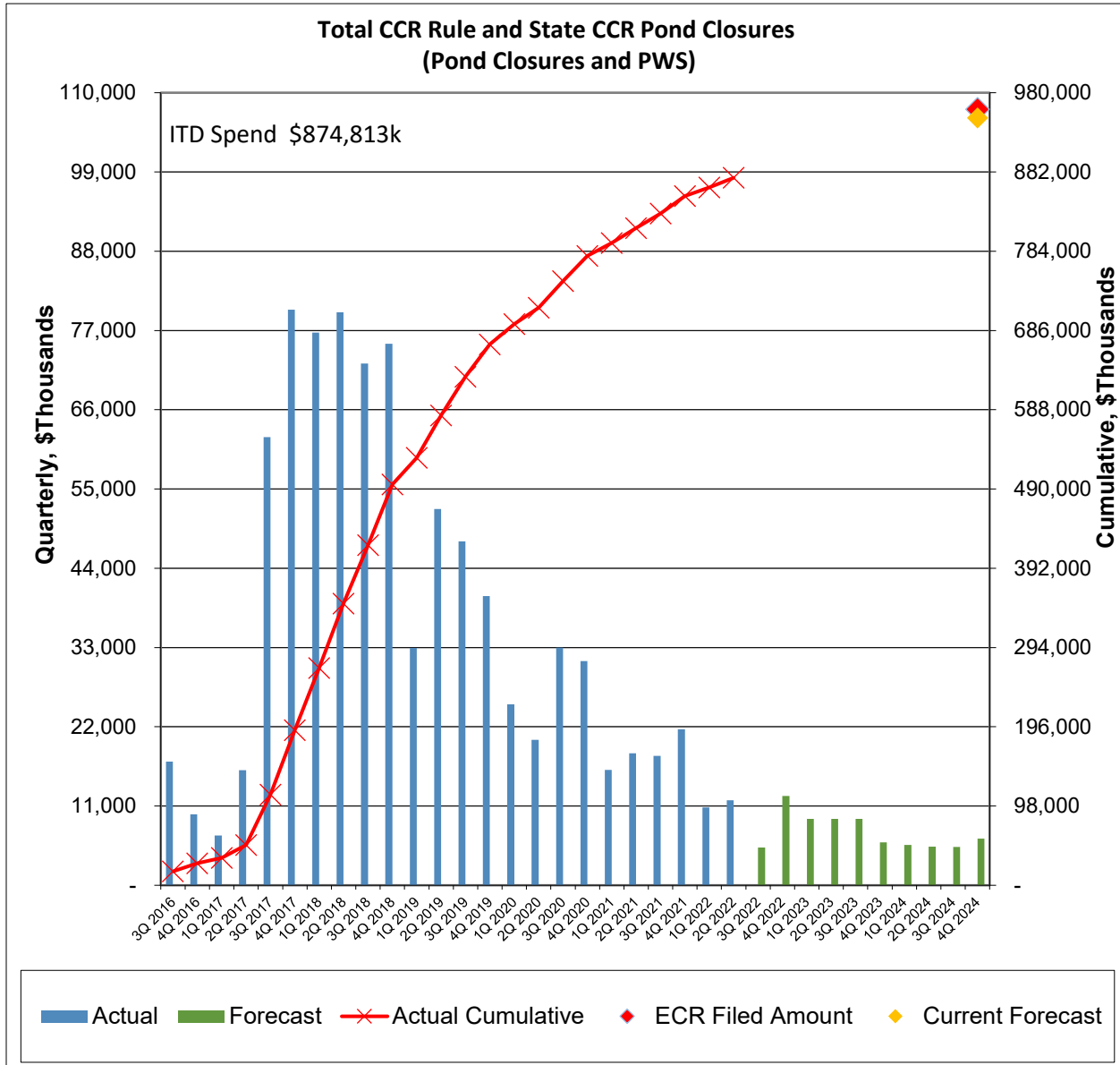
**Financials:**

As reported in the last quarter, the total 2016 ECR Plan projected cost remains \$979.0 million (net), compared to the filed total of \$996.4 million. Total spend through June 30, 2022 has increased from \$893.2 million (net) last quarter to \$905.0 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.

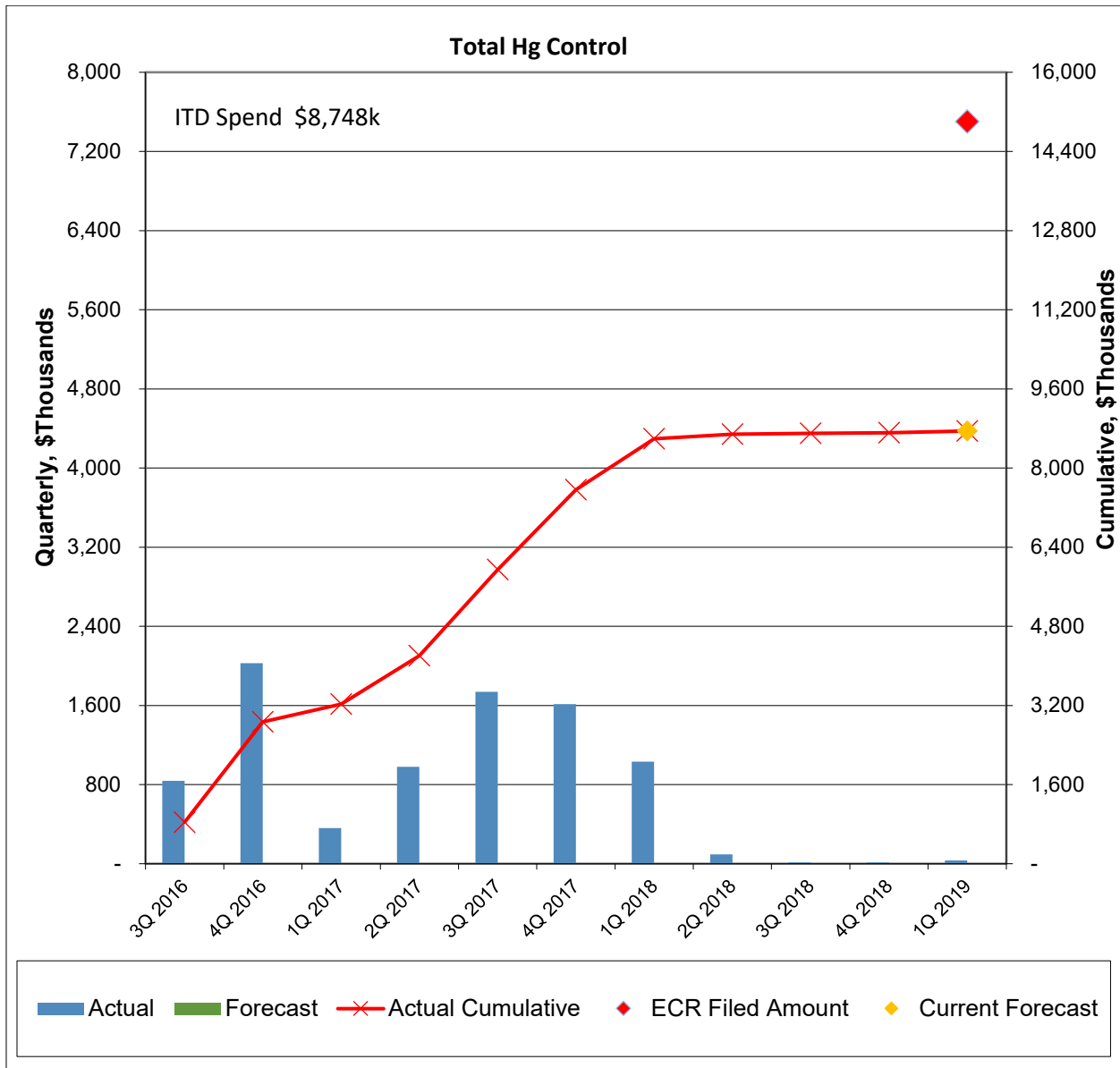




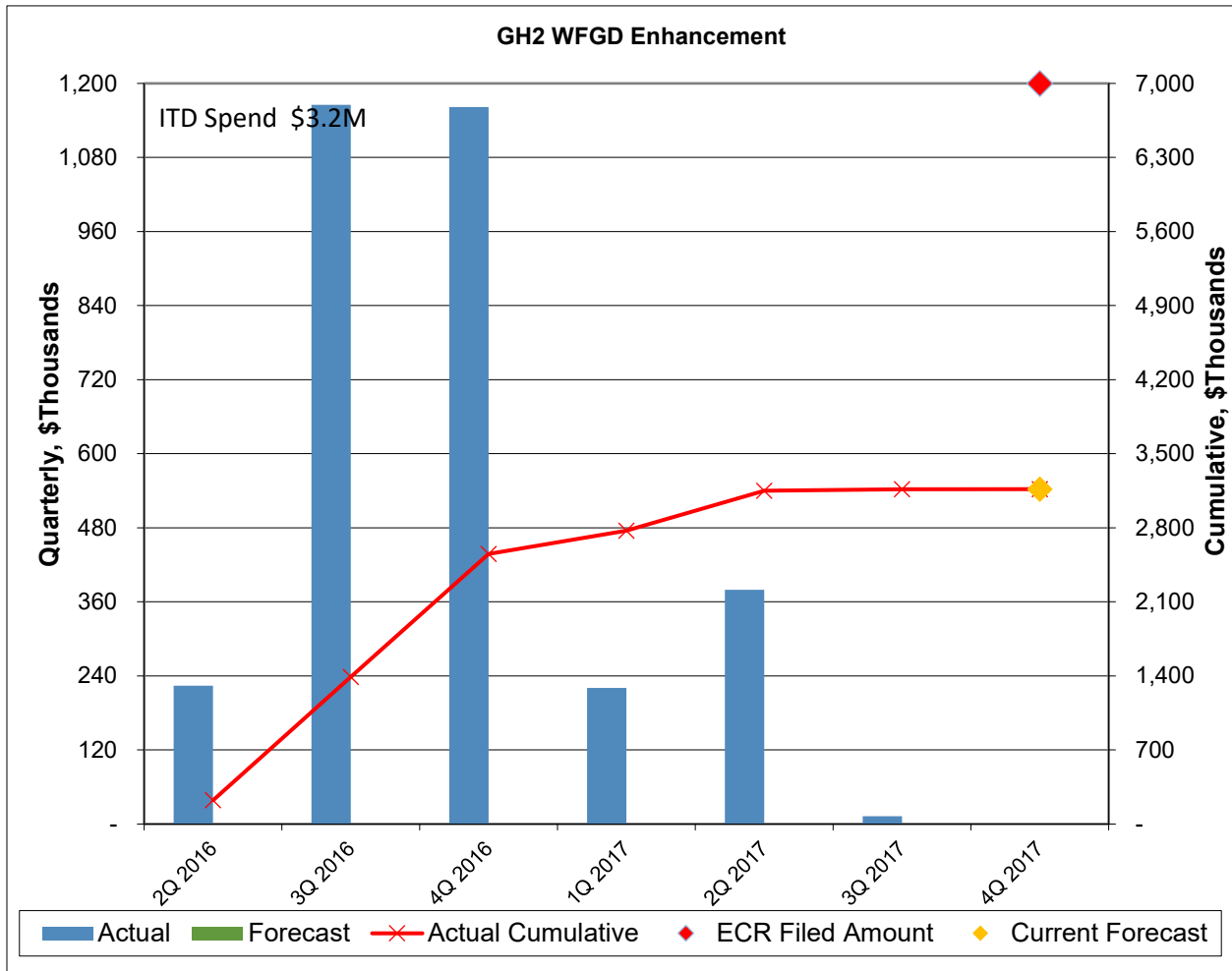
The CCR Impoundment Closure total forecasted cost remains \$948.8 million (net). Total spend through June 30, 2022 has increased from \$863.0 million (net) last quarter to \$874.8 million (net). The graph below includes 1) a symbol ( ◆ ) to show the current forecast to completion and (2) ITD Spend in the upper left of the chart.



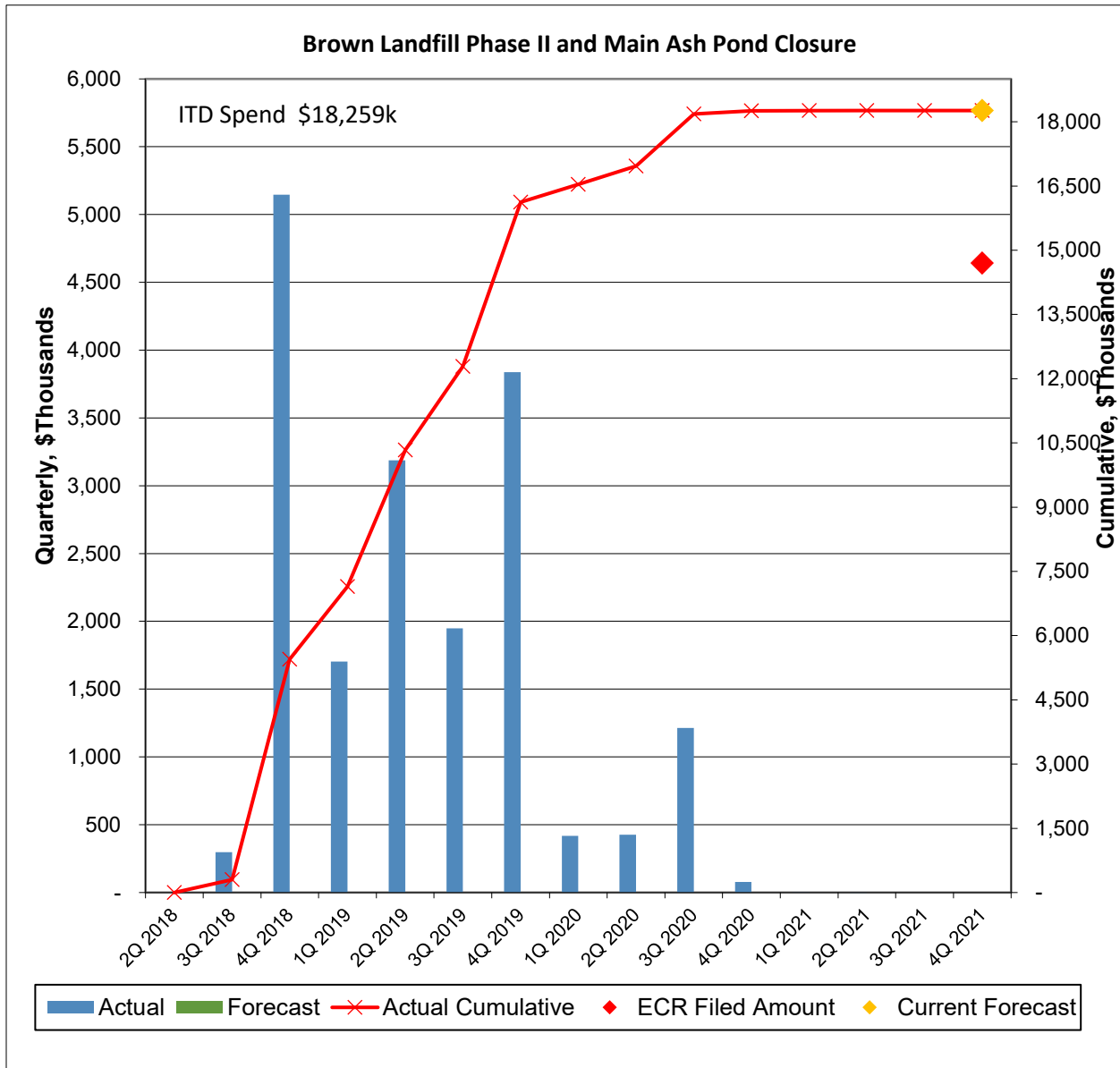
The Mercury Injection projects have been completed and commissioned. The project’s total spend was \$8.7 million compared to the filed estimate of \$15.0 million.



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 costs remain at \$18.3 million. Total spend through June 30, 2022 remains \$18.3 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:**

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

#### CCR Closures:

TT will continue with Phase III closure activities at Ghent, as well as closure activities on the Trimble County Bottom Ash Pond and Gypsum Storage Pond. Construction by Thalle will focus on dewatering for the E.W. Brown Auxiliary Ash Pond closure. The Companies will continue to monitor and work through warranty and maintenance issues, on all the projects, should they arise.

#### 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 warranty items at Ghent. 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).