IM Monthly Report

Mississippi Public Service Commission

Kemper IGCC Project

November, 2016

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Executive Summary

URS Corporation (URS), later acquired by AECOM, was requested by the Mississippi Public Service Commission (MPSC) to provide Independent Monitoring services for the Kemper Integrated Gasification Combined Cycle (IGCC) Project located in Kemper County, MS. The scope of services includes monthly reporting by URS (AECOM) and its subcontractors, the Independent Monitor (IM), of the status and prudency of the on-going engineering, procurement, construction and startup activities performed by Mississippi Power Company (MPC or the Company), its parent Southern Company and subsidiary Southern Company Services (SCS), and its subcontractors on the project. This IM Monthly Report provides the results of this assessment for the reporting period of November, 2016, and review of the project status reported by MPC for the period from September, 2016 to November, 2016 (EPC Status Production Meeting Reports October 21 and November 21, 2016, September and October, 2016 PSC Reports, and Kemper County IGCC Weekly Executive Summary, Metrics and Control Meeting Reports through December 6, 2016).

During this reporting period, the IM has conducted weekly status review meetings with MPSC staff. Several meetings, teleconferences and reviews were also conducted with MPC and SCS staff, as described below (refer to other Report Sections where referenced for more details):

- November, 2016 – Accounting audit of financial records from end of August, 2016 through end of September, 2016 held at MPC offices in Gulfport, MS (Appendix C).
- November, 2016 – Daily monitoring of on-going site construction and startup activities at the jobsite (Appendix E).
- Week of November 7, 2016 – Review of gasifier startup activities held at the jobsite (Section 1.10).
- November 7 and 8, 2016 – Review of project EPC status held at the jobsite (Appendix D).
- November 30, 2016 – Update from MPC on status of open RFI's (Appendix B).

Project Status through October, 2016 (Unless Noted Otherwise)

Engineering - The gasification island design performed by KBR, and the SCS design of the combined cycle island and the balance of plant (BOP) work, is 100% complete for base scope. All major Revision 0 design packages have been issued for construction. Remaining effort will be focused on resource pool and scope addition activities, including:

- Resource pool support activities.
- Support to construction on heat trace contract.
- E&CS and MPC Management of Change (MOC) process implementation and training.
- Design revisions from PHA physical changes, support requests, updated vendor information, and scope additions/OCR's.
- Addressing PSSR functional turnover punch list items.
- Supporting operations closeout for punch list items and temp-mod conversions.
- Beginning activities to support Project Close-Out.

Procurement - All major equipment and commodity orders have been placed. Major equipment deliveries are complete. Remaining effort will be focused on final construction and startup needs including procurement of miscellaneous items as identified (scope additions). During November, there were seven (7) new awards issued for 1) pilot unit coagulant testing, 2) sludge removal and waste minimization, 3) syngas scrubber lower structured packing bed replacement, 4) PLD failure analysis, 5) replacement candle filter sludge pumps, 6) sulfuric acid pumps, and 7) sulfuric storage tank. There was also one new vendor recommendation approved for LP acid gas flare gamma scan analysis.

Construction (through November 27, 2016) – Plant construction is complete for the combined cycle unit, nitrogen plant, water plant, water storage pond, ash storage, buildings, lignite delivery facilities, piling and caissons, underground utilities, mass grading, concrete, structural steel, equipment, piping, instrumentation, cable tray, cable, terminations, conduit, tubing, heat tracing, equipment insulation, and pipe insulation. Remaining work includes ongoing punchlist and scope addition activities. Overall base plant construction is 100% complete (as of November 13, 2016).

Transmission – Right of way acquisition and construction is complete for all 11 line segments and all 8 substations. MPC will continue to monitor transmission right of ways for any needed restoration and maintenance.

Pipelines – Right of way acquisition and construction is complete for all 3 pipelines. Long term sales or supply contracts have been signed with the City of Meridian (water supply), Tennessee Gas Pipeline (NG supply), Denbury Resources (CO2 sales), Air Liquide (nitrogen supply from onsite Air Separation Unit), and Martin Product Sales (sulfuric acid and ammonia sales by truck). The CO2 contract provides for termination by Denbury at its discretion if CO2 deliveries do not occur by July 1, 2017.

Liberty Mine - Current land control is 100% complete for the initial five year permit area. Construction activities are complete. Mine is operating and stockpiling lignite. Total actual spending for the mine development through October, 2016, including mine Allowance for Funds Used during Construction (AFUDC), was unchanged at $232.0M, which is the forecast final cost.

Mississippi Economic Impact

IM has reported for each contract and purchase order whether MS bidders were involved, and if so, status and basis of the award decision (refer to Appendix F). Through October, 2016, contracts totaling $2.161 billion have been awarded to MS companies, and total MS spending is $2.146 billion (about 31% of the total, including uncapped costs). MS workforce contributed 198 construction jobs and 383 plant/mine jobs in October. A total of 566 MS Companies have provided construction, equipment, material or professional services for the Project.

Key Concerns

The following Project Execution related concerns have been reported with associated resolution status:

- Differential settlement and/or slope movement during initial loading of lignite stockpile in the storage dome - *Survey benchmarks will be monitored for settlement and slope stability during initial stockpile placement. IM suggests MPC consider development of mitigation plans in the event excessive settlements and/or slope movements are discovered, and staging of the initial placement of the lignite stockpile.*
- Train 2 venturi scrubber pumps cavitation issues *– continue to be evaluated during the lignite runs.*
- Venturi scrubber solids carryover issues – *new duplex strainers will be installed on all 6 trains; steel platforms and piping are complete; strainers will be installed when received.*
- Recovered water filters plugging – *testing the new set of filter elements in the 3 Recovered Water Candle Filters is being monitored during the lignite runs; better results but these three filters will not be able to handle the flow from 6 trains; engineering is looking into this.*
- Plugging issues at the roll crushers - *new sealed bearings have been installed in all six gear boxes; new 7 blade feeders will replace the existing 8 blade feeders in the roll crusher rotary inlet air locks (2 of 6 complete).*
- Ash moisturizer system – *modifications on all 4 ash moisturizers have improved operation; dust suppression still an issue at times during ash and coal loading for disposal; these systems continue to be monitored.*
- Lignite dryer solids accumulation *– material testing and evaluation in progress.*
- Gasifier A coal feed incident *- An incident in October allowed hot gas to back up into train 3 coal feed system, PDAC, Dispense Vessel, and into the Lock Vessel. RCA was completed; IM has requested status of RCA Action Items (RFI 2-887).*
- Gasifier A CCAD and CFAD systems – *issues with the CFAD system continue to be investigated while operating the system in manual; CCAD system was designed for smaller particles – coal feed modifications resulted in larger particles; added fluidization inserts; the CCAD and CFAD system operation continues to be evaluated.*
- Nitrogen Plant – *capacity is insufficient to support simultaneous startup of both gasifiers, requiring availability of recycle syngas and transport air on one train before starting the second train; supplemental nitrogen is being brought in by truck to support startup.*
- CO2 Compressors – *commissioning is being hampered by low CO2 pressure; commissioning is on hold pending availability of adequate quantities of CO2.*
- Sour Water System – *high pH balance is causing salt formation in the system; fouling of the ammonia purification columns has been cleaned; H2S stripper reboiler tubing was plugged and has been sent to the shop for repairs; tie-ins for engineered solution in progress.*
- LP Acid Gas Flare blockage – *salt formation plugged the holes in the diffuser resulting in a pressure release on the waste water tank; flare line is being steamed out to remove the blockage and will be scanned prior to being placed back into operation.*
- Train A Syngas Scrubber packing - *the lower structured packing bed was damaged due to multiple gasifier trips and was replaced.*

Contractor Hotline

MPC has established a toll free telephone number for contractors or others to provide observations of any concerns with improper activities associated with the project. Comments are collected by a third party and reported to MPC for follow up investigation and action. The IM is copied on all correspondence and will report status of all cases. There were no new concerns filed this reporting period (November, 2016).

A summary of the twenty six (26) claims received to date and their status, including corrective actions taken, is included in Appendix I.

Project Document Status

The overall status of the project document reviews are summarized in Appendix B to this monthly report. Most of the RFI's have been posted, reviewed and closed (20 open items remaining). Primary concerns noted by the engineering disciplines are summarized below:

- Scope Additions – *MPC has posted updated list through July, 2016 for approved items ($127 Million) and through September 14, 2016 for pending items (21 items); October and November update is pending; weekly updates are being provided to the IM Site Team for all FCR's, OCR's and Resource Pool Listings.*
- Process and Technology – *IM submitted additional questions relative to the Gasifier A coal feed system syngas backflow incident Root Cause Analysis in November; MPC response pending.*
- Operations and Maintenance – *IM submitted 3 additional RFI's relative to the RAM Analysis in September; MPC response pending.*

Project Cost and Schedule

In the October 2016 PSC Report, MPC reported a delay in forecast completion date to January, 2017, and an increase in forecast capped cost of $6.4 million now at $5.521 billion, including a decrease in base contingency of $0.5 million now at $23.2 million and a decrease in Schedule Risk of $24.0 million now at $25.0 million, after adjusting for additional capped costs reported after the September PSC Report was issued. Forecast capped cost increase was due primarily to increased Pre Commercial Operations and Post-in-Service costs ($18.4 million) and EPC costs ($8.8 million), offset by decreases in contingency. Forecast uncapped costs decreased in October by $1.7 million now at $1.442 billion, after adjusting for additional uncapped costs reported after the September PSC Report was issued.

Total capped spending for the plant through October, 2016, with deduction for Department of Energy (DOE) funding, was $5.405 billion. Overall plant EPC remained at 99% complete. Uncapped spending through October was $1.383 billion. Refer to Appendix G for the PSC Report Summary.

As of November 27, 2016, the current working schedule indicates TOD of 12/15/16, which is a 400 day slip from the November 2014 rebaseline date, and a 30 day slip from the 10/23/16

report. The critical path to TOD is currently through bringing Gasifier 'B' back online then Train 'B' Syngas Produced Electricity followed by Syngas Operations in parallel with Train 'A' Syngas Operations. The critical path for Syngas Produced Electricity Available Train 'A' is currently through resolution of Train 'B' LP Acid Gas Flare and reboiler issues as well as leak repairs on Gasifier 'A' then followed by the restart of Gasifier 'B' and production of On-Spec Syngas for CT-B. Syngas Produced Electricity Available - Train 'A' is currently scheduled to be achieved by December 7.

Key drivers on secondary path include:

- Ammonia Purification Package Commissioning driven by system addition design to address pH issue with Sour Water system (7 days off critical path).
- Completion of TP1031 – Sour Water Ammonia Storage and Loading Test driven by flow meter repair before re-conducting PU0053 Offloading Test through tank truck (2 days off critical path).
- Final Commissioning of Dryers 1, 2, and 3 driven by restart of Gasifier 'A' (3 days off critical path).
- Repair/Receive/Install XV29217 back into AGR 'A' (7 days off critical path).

Overall project execution status was reviewed on November 8, 2016 at the jobsite. Refer to Appendix D for detailed meeting notes. Primary concern is additional schedule slippage and associated cost increases, and unknown startup and technology risks.

- Additional schedule slippage – MPC has reported a delay in COD to January, 2017. MPC will continue to evaluate startup schedule and remaining risks, and has included $25 million for schedule risk in the October cost forecast; however, recent trends in startup progress (1% per month over the last six months with 5% remaining) will have to improve to meet the forecasted COD. Schedule risks remain for completion of punchlists, scope additions, and on-going issues noted under key Project Execution and Process and Technology concerns herein.

- Associated cost increases – While increases in the indirect project costs due to schedule delays are capped and therefore being absorbed by the MPC shareholders, the rate payers are also at risk for alternative power generation and AFUDC costs, to the extent these are allowed by the MPSC.

- Unknown startup and technology risks – key concerns include premature equipment failures, coal feed, ash removal, refractory reliability, gas cleanup, overall plant process control integration, chemical product quality and off taker performance. Issues associated with several of these concerns have already been reported and some are still being addressed.

Accounting

Topp McWhorter Harvey, PLLC (formerly known as Nicholson & Company, PLLC and hereinafter referred to as TMH) has completed the accounting audit of the special-purpose Historical Schedules of Capped and Uncapped Plant Costs of the Project for the historical project-to-date and month-to-date periods ended September 30, 2016, and the examination of

special-purpose Forecasted Schedules for the period beginning October 1, 2016, through the completion of the Project.

On December 2, 2016, the Company filed their October 2016, monthly Form 8K with the SEC which increased its Capped Plant Cost Current View (forecast) for the Kemper IGCC Project to approximately $5.521 billion, net of DOE grants and Cost Cap Exceptions. The Company's Monthly Status Report through October 2016, increased its Current View (forecast) of Total Exemptions and Exceptions (Non-Capped Cost) to approximately $1.442 billion. The total Current View (forecast) for Capped Plant Cost and Total Exemptions and Exceptions (Non-Capped Cost) in the Company's Monthly Status Report through October 31, 2016, is $6.963 billion.

The Company has revised its cost estimate subject to the cost cap for the Kemper IGCC to include approximately $6.4 million related primarily to modifications and improvements for operational readiness and start-up.

Subsequent to the September Monthly Status Report filed with the Commission on October 28, 2016, the Company further revised its estimate of the Kemper IGCC construction costs subject to the cost cap to include approximately $25 million related to extending the schedule to place the remainder of the project in service from November 30, 2016 to December 31, 2016. In addition, the related cost estimates for Exemptions and Exceptions were also revised by approximately $20 million. These revisions to the cost estimates for the Kemper IGCC were included in the Company's Form 10-Q for the quarter ended September 30, 2016, as filed with the Securities and Exchange Commission on November 4, 2016.

The Company's previously disclosed projected in-service date for the Kemper IGCC was by December 31, 2016. While it remains possible to meet that projected in-service date, based on the current status of start-up and commissioning activities, the Company now expects that the Kemper IGCC will be placed in service during January 2017. The Company continues to conduct start-up and commissioning activities and to evaluate the projected in-service date and related cost estimates. Revisions are expected to be reflected in the Kemper IGCC Project Monthly Status Report through November 2016, which is expected to be filed in early January 2017.

Through quarterly tax refunds as of September 30, 2016, the Company had received approximately $250 million in tax benefits associated with bonus depreciation that are dependent upon placing the Kemper IGCC in service by December 31, 2016. In connection with the fourth quarter estimated tax payment, the Company will be required to repay this amount through Southern Company's intercompany tax allocation. Any Company cash need arising from this intercompany payment is expected to be provided through a loan from Southern Company. As a result of Southern Company's projected consolidated net operating loss for 2016, there is no cash payment required to the Internal Revenue Service.

Further cost increases and/or extensions of the expected in-service date may result from factors including, but not limited to, difficulties integrating the systems required for sustained operations, sustaining nitrogen supply, major equipment failure, unforeseen engineering or design problems including any repairs and/or modifications to systems, and/or operational performance (including additional costs to satisfy any operational parameters ultimately adopted by the Commission).

The Company is also identifying potential improvement projects that ultimately may be completed subsequent to placing the remainder of the Kemper IGCC in service. If completed, such improvement projects would be expected to enhance plant performance, safety and/or operations. The related potential costs have yet to be fully evaluated and may be subject to the $2.88 billion cost cap. Any further changes in the estimated costs of the Kemper IGCC subject to the $2.88 billion cost cap, net of the Initial DOE Grants and excluding the Cost Cap Exceptions, will be reflected in the Company's statement of income and these changes could be material.

On November 17, 2016, the Company submitted a supplemental filing to the October 3, 2016, compliance filing to present revised non-fuel operations and maintenance expense projections for the first year of commercial operation of the Kemper IGCC. This supplemental filing included approximately $68 million in additional estimated operations and maintenance costs expected to be required to support the operations of the Kemper IGCC during that period. The Company will not seek recovery of these additional costs from customers if incurred.

On June 9, 2016, Treetop Midstream Services, LLC; Greenleaf CO2 Solutions, LLC; Tenrgys, LLC; Tellus Energy, LLC; WCOA, LLC; and Tellus Operating Group, LLC filed a Complaint against the Southern Company, Southern Company Services, Inc., and Mississippi Power Company in the State Court of Gwinnett County, Georgia. The Plaintiffs allege that the Southern Company Defendants concealed and misreported the Start Date of the Kemper Project, and that Treetop relied upon those misrepresentations while building a roughly $100 million pipeline and conducting other work necessary to take CO2 from the Kemper Project. The Plaintiffs assert claims of fraudulent misrepresentation, fraudulent concealment, and civil conspiracy with respect to the Southern Company Defendants, and breach of contract with respect to MPC. The Plaintiffs seek compensatory damages and punitive damages as well as costs and interest. On August 10, MPC, Southern Company, and Southern Company Services filed their Answers as well as their (i) Motion to Dismiss for Lack of Personal Jurisdiction, (ii) Motion to Compel Arbitration, (iii) Motion to Dismiss for Forum Non Conveniens, and (iv) request for oral argument. A hearing is set for January 13, 2017, in Georgia. All of the above motions remain pending and the Southern Company Defendants will vigorously defend the matter, and the final outcome of this matter cannot now be determined.

As reported in the Form 10Q for the first quarter ended March 31, 2016, the second quarter ended June 30, 2016, and again in the Form 10Q for the third quarter ended September 30, 2016, Mississippi Power Company disclosed that the Securities Exchange Commission (SEC) is conducting a formal investigation of Southern Company and Mississippi Power Company concerning the estimated costs and expected in-service date of the Kemper IGCC Project. Southern Company and Mississippi Power Company believe the investigation is focused primarily on periods subsequent to 2010 and on accounting matters, disclosure controls and procedures, and internal controls over financial reporting associated with the Kemper IGCC Project. The ultimate outcome of this matter cannot be determined at this time; however, it is not expected to have a material impact on the financial statements of Mississippi Power Company.

Discipline Summaries

Environmental / Permitting

CCE has completed its review of additional environmental/permitting documentation provided by MPC. The IM's review of these documents has not identified any major concerns or issues. However, there will be additional monitoring reports (Mitigation Action Plan, Wetlands Mitigation and Water Quality and Macroinvertebrate Monitoring Reports) prepared by MPC and LF for the MDEQ and the Corps of Engineers. These documents and reports should be provided to and reviewed by the IM to insure that the permit requirements for the IGCC Plant Site and Linear Facilities and for the Liberty Mine continue to be met. MPC posted 3Q16 effluent monitoring report on November 1 that will be reviewed by the IM (see Appendix B, RFI 2-698).

IM is monitoring status of approvals for the one (1) remaining plant permit:

- Title V Operating Air Permit Modification – Application was submitted on 8/18/14; MDEQ issued construction permit. The plant will operate under the current construction permit until the Title V Operating Permit is issued.

Process and Technology

Implementing site monitoring plan for gasifier startup by IM gasification technology specialist. Last site visit was conducted week of November 7 (see Section 1.10). Next visit will be conducted week of December 12. IM submitted additional questions relative to the Gasifier A coal feed system syngas backflow incident Root Cause Analysis in November; MPC response pending.

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The following process and technology concerns are described in Section 1.10:

- The IM Team will continue to monitor the gasifier vibration behavior and the performance of the vibration reduction system.
- The long-term viability of the modified refractory system design in repaired areas and of the original refractory system design in remaining areas of both gasifiers.
- The root cause(s) of the temperature excursion event in Gasifier B in August and the recent trips of Gasifier A in late October due to high temperatures in the Lower Mix Zone need to be thoroughly investigated. Mitigation actions should be developed and implemented to prevent a recurrence of such events during subsequent commissioning activities and long-term operations.
- It is unclear to the IM Team that the minor reductions in gasifier operating and alarm set point temperatures will significantly reduce the risks of thermal excursions or long-term clinker formation.
- Continuous, stable operation of the Airlocks/Rotary Valves upstream and immediately downstream of the Coal Dryers at full design rates must be achieved before concluding that full functionality of the Coal Preparation System has been successfully demonstrated.
- Trouble-free operation of the Venturi Scrubbers is required to enable the coal feed system for either gasifier train to operate continuously at full design coal feed rate.

Key Technical Milestones Not Yet Achieved

- Restart Gasifier Trains B and then A with syngas composing at least some fraction of the gas going to CTA and CTB with recycled syngas back to Gasifiers A and B.
- Achieve the scheduled/targeted 4 days of continuous, simultaneous operation of both Gasifiers with 100% on-spec syngas going to both CTA and CTB at no less than the minimum rates required by combustion turbine vendor (Siemens).
- Successfully run both CTA and CTB turbines on at least partial syngas (co-firing with natural gas is acceptable) for a total of 500 hours (21 days) of operation on each turbine.
- Produce on-spec wet sulfuric acid for the first time.
- Demonstrate the ability to export on-spec CO2, ammonia, and wet sulfuric acid product streams as well as to be in overall compliance with regard to environmental emissions.
- Achieve and sustain full design coal feed rate to both Gasifiers while continuing to produce on-spec syngas, CO2, ammonia and WSA products.
- Achieve full design power production of 580 MW based on 100% syngas flow to both CTA and CTB (no co-firing with natural gas) for a continuous period of at least 1 day.
- Demonstrate ability to operate both Gasifiers reliably over an extended period without:
    - Forming ash clinkers or fused ash on walls of the Gasifier, OR (Note: neither Gasifier has operated for longer than about six weeks without clinkers occurring.)
    - Experiencing difficulties continuously withdrawing ash from each Gasifier through its associated CCAD system and reliably discharging it from the Ash Moisturizers
- Demonstrate ability to reliably operate Venturi Scrubbers and Recovered Water Filters in both Trains A and B while continuously removing coal fines at target efficiency level and recovering design quantities of clean water needed for downstream operations.

Lignite Delivery Facility

LDF construction is 100% complete. Coal has been deinventoried from Crushed Coal Silos 1, 2, and 3 as of Saturday (11/5) and 300 tons has been loaded and is being maintained in Crushed Coal Silos 4, 5, and 6 until ready to support Gasifier B again. Approximately 10,000 tons of coal is being maintained in the dome to support lignite testing. Mobile coal screening equipment continues to screen the coal at the coal storage pile before it is sent to the truck dump.

Procurement

IM reviews of Procurement Activities are complete. Most known key Contracts and Purchase Orders, including construction and Liberty Mine facilities, have been included, totaling about 700 items (excluding O&M Service Contracts, MS Tier II contractors, and Transmission). Refer to the IM July 2016 Monthly Report (Appendix F), for the final update of completed reviews.

Site Activities (Plant metrics through November 20, 2016)

The following activity is **behind schedule** with the percentage behind, Startup (5%).

Mechanical work has been proceeding in the following areas - Area 210 - Waste Water & Selexol Storage Area, Area 140 – Tankage Area, Area 150A/250A - Coal Prep Area, Area

120/220 – Gas Cleanup, Area 150/250 - Gasifier Area, Area 160 – Wet Sulfuric Acid Area, Area 230 – Selexol Area (North), Area 130 – Selexol Area (South), Area 105 – Train 1 Gas Clean Up Area, Area 110 – Compressor Area, Area 180 – CO_2 Compression and Dehydration Area, and Area 260 – Sulfuric Acid Recovery Area.

Electrical & Instrumentation work has been proceeding in the following areas - Area 105 – Train 1 Gas Clean Up Area, Area 110 – Compressor Area, Area 120/220 - Gas Cleanup Area, Area 130/ 230 – Selexol Area (South & North), Area 140 – Tankage Area, Area 150/250 - Gasifier 1 & 2, Area 150A/250B – Coal Feed 1 & 2, Area 160 – Wet Sulfuric Acid Area, Area 170 – Pipe rack, Area 180 – CO_2 Compression/Dehydration Area, Area 200 - Main Electrical Building, Area 210 - Waste Water Treament Area, and Area 260 – Sulfuric Acid Recovery Area.

Gas Clean - Up (Areas 105, 120, and 220) – There were several Gasifier trips this month and during these trips operation will keep the system bottled up and then begin nitrogen heat up and established circulation prior to syngas being sent through the unit. The Gasifier was shut down on Wednesday (11/2) and has been down the remainder of the month. During this down time and as a proactive measure, operations had all the gear boxes for the XV valves on train A and B sent off and refurbished. These gear boxes were received and reinstalled by the end of the month. In Area 105, the Ammonia Scrubber drain line was permanently modified to allow lower pressure operation. In Area 120, The Syngas Scrubber Bottoms Pump (PU-1011) plugged early Thursday morning (10/27) due to pieces of rigid packing breaking loose and lodging in the suction strainer. Maintenance pulled and cleaned the strainer with the pump ready to put back in operation Friday (10/28). Crews began the inspection in train A Syngas Scrubber (CL-1007) on Thursday (11/10) and found the rigid packing damaged. During the multiple Gasifier trips the Syngas Scrubber experienced depressurization or a hammer effect forcing the rigid packing to slip through the support gird and end up in the bottom of the scrubber. Crews began removing the packing on Friday (11/11) with new packing ordered on Monday (11/14). The new rigid packing was received and crews completed the new packing installation in Syngas Scrubber (CL-1007) Wednesday (11/23). The scrubber was inspected and manways closed with pressure testing completed on Sunday (11/26). Area 220, Sulfiding the catalyst in the Water Shift Reactors began late Thursday (11/10) and was completed Saturday morning (11/12).

Process Air (Area 110) – Recycled Gas Compressor “A” again provided recycled gas to the fluidization valves on Gasifier A Wednesday afternoon (10/26) as syngas to Combustion Turbine A resumed at 3:30 pm. Process Air Compressors 1 and 2 were restarted Tuesday morning (10/25) for establishing circulation in Gasifier A. Recycled Gas Compressor B has not run on sweet syngas but will be put in service to provide recycled gas to Gasifier B when needed. All 4 Process Air Compressors are available to support Gasifiers A & B when needed.

Selexol (Areas 130 and 230) – Area 130, after multiple Gasifier trips the unit remains down with crews removing the suction strainer on the AGR Regenerator Reflux Pump (PU-1064B) due to plugging. Wednesday (11/2) operations received the Haborlite (ore type material) for coating the pre-filter on the Cricket Filter (FL-1060) to begin cleaning the Selexol in the unit. Area 230, commissioning activities on the Flash Gas Compressor (CO-2065) was completed Tuesday (11/1). Operations completed their valve line up

walk down early this week and began low circulation rates on both the Lean and Semi-Lean loops Wednesday (11/9) with syngas being sent through the unit early Sunday (11/12). The unit was again shut down Friday (11/25) after the SIS level on the Concentrator (CL-2064) tripped the Gasifier twice and has been the remainder of the month. A delay was added in the high level to allow the level to stabilize before alarming. It is suspected that foaming may be causing the high level in the Concentrator.

Tankage Area (Area 140) – The insulators completed the insulation on the piping at the Anhydrous Ammonia Reflux Makeup Pump PU-59 A & B.

Gasifier (Areas150 and 250) – The following activities are in progress or complete:

- Gasifier A – After multiple trips the Gasifier was brought back on Sunday (10/30). On Monday (10/31) at 3:30 pm Gasifier A tripped again on high temperature at the lower mixing zone. Wednesday morning (11/2) the coal feed rate was increased to 75 kph at 175 psi with the Standpipe bed level dropping to 75' and the CCAD system still experiencing plugging at the clinker catchers. Late Wednesday afternoon (11/2) a decision was made by management to shut down Gasifier A following issues with inconsistent ash removal through the CCAD, nitrogen usage concerns and the opportunity to address additional issues that would require an outage. On Thursday (11/3) operations successfully completed the first controlled shutdown on Gasifier A. A large clinker (fused ash on the refractory wall) was found in the bottom of the Riser Wednesday (11/9) and was removed over the weekend (11/12 and 11/13). The 600 psi pressure test was completed on Sunday (11/27) with minor leaks being addressed. The Gasifier is being readied for startup after Gasifier B is brought back on line.

- Gasifier B – Heat up and establishing circulation in Gasifier B began Sunday (11/6) with temperatures reaching 1700 degrees late Tuesday afternoon (11/8). Coal feed was established at low feed rates of 40 kph at 190 psi on Wednesday morning (11/9) while operation was dealing with issues on the 14" valve to the flare. Coal feed rates of around 77 kph at 219 psi was maintained during the valve repair (CV-14503) and was increased to 200 kph at 290 psi on Tuesday night (11/15) after the valve was reinstalled and syngas was again being sent through the Gas Clean Up and AGR units and flared at the outlet of the AGR unit. On Thursday (11/17) operation was able to introduce syngas for the first time to CTB by midafternoon. However because I&C was working on the kickback valve to the Recycle Compressor and during the calibrating process inadvertently closed the valve which stopped fluidization to Gasifier B. Because fluidization was stopped the Gasifier tripped after running CTB for 19 minutes on syngas. Operation was able to get Gasifier B back online fairly quickly but with a reduced feed rate of 270 kpph at 400 psig while flaring the syngas at the AGR outlet. Late Friday (11/18) and through the weekend operation was able to introduce syngas to CTB at rates of 33%, 66% and finally 100% for about an hour.

- Train A 3B PDAC, Lock Vessels, and Feed Piping – Repairs were completed on the Dispense Vessel Monday (11/14) at the test spots. The new PDAC has been ordered with delivery scheduled for the first week of December.

- Trains A PCD's – Repairs to PCD FL-1106 were completed in addition to installing the 5 modified modular tube sheets with the welded thermocouple condulets at the top of the modular tube sheets in both of the PCD's (FL-1106 and FL-1206). The 90 degree elbows were rolled back in place Friday (11/25) with stud bolts torquing completed.

- Train B PDAC System – All six PDAC systems are operational.

- Train A CCAD pipe and valve modifications are in progress.

- Removal of the north tower crane was scheduled to begin November 28 but has been delayed due to the bad weather and the new schedule has been set for November 30. The south tower crane scheduled remains December 12, 2016.

Area 150A/250A - Coal Prep Area: The following activities are in progress or complete:

- Train B Dryers – All three dryers have operated this month supplying coal for Gasifier B with without any issues.

- Train A Dryers – All train A dryers have been deinventoried, inspected, and cleaned/repaired in preparation for the restart of Gasifier A with several planned modifications to be installed as time allows.

- New internal Rotary Inlet Air Lock (7 blades) – The 7 blade internals that was installed on train 1 was removed and reinstalled on train 6 ahead of bringing train 6 dryer on line. The second 7 blade internal was received Wednesday (11/30) and will be installed on train 2 Thursday (12/1). The remaining 7 blade internals are on order and will be installed as the systems become available.

- Ash Silo- All Pneumatic valves were removed and sent out for repairs throughout the month have been received and reinstalled.

- Platforms for the New Venturi Scrubber duplex strainers are complete. The new strainers will be installed at a later date when they are received.

- LP Vent Gas Compressor (CO-00040) – Commissioning activities were completed on the LP Vent Gas Compressor with the compressor turned over to operations.

Ash Removal System (Area 150A/250A) – Ash removal through all 4 Ash Moisturizers continues with dust suppression continuing to be a challenge while deinventoring the silos.

Wet Acid (Area 160) – Heat up of the unit using 325# steam began on Saturday (10/22). Early Wednesday morning (10/26) the Combustor was lit on natural gas in preparation for acid gas being sent to the unit. At 9:30 am acid gas was sent to the unit for the first time. As operation was trying to swap from natural gas to acid gas a logic issue sent a signal for a high flow to the natural gas valve which tripped the Combustor. After the third attempt, and after the natural gas valve was put in manual to prevent the

valve from going wide open the Combustor successfully ran on acid gas at 1:45 pm. The temperature was ramped up to above 700 degrees for sulfiding the catalyst in the SO2 Converter and SCR to begin. The sulfiding process requires 6 to 7 hours while firing the Combustor on acid gas and the temperature at 700+ degrees. Verification on Thursday morning (10/27) showed that the first catalyst bed and part of the 2nd catalyst bed completed the sulfiding process before the Gasifier tripped at 6:30 pm. Sunday (10/30) sulfiding the catalyst in the unit was completed with off spec acid being produce in the unit. After several more Gasifier trips the WSA unit has remained on hot stand-by. Saturday (11/26) a pipe fitting broke on the air line for the damper control on top of the Condenser. The damper closed which caused an over pressure situation resulting in the expansion joint failing. The new expansion joint was received Wednesday (11/30) and reinstalled. A restart and heat up of the unit will begin with the unit being on hot stand-by until acid gas is again sent to the unit. Both temporary Wabash package boilers are online operating at 70% and supplying 325# steam to the plant.

Pipe Rack & BOP (Area 170) – Construction is complete.

CO_2 Compression / Dehydration (Areas 180 and 260) – Several runs at design speed have been recorded on Train A CO_2 Compressor before the compressor tripped due to low CO2 pressure. Another even larger vaporizer is being ordered for commissioning the compressor to resume. Discussions are underway with Siemens on how much if any nitrogen mixed with the CO_2 from the AGR unit can be used to run the compressor for commissioning. The existing CO_2 skid and hoses are not able to supply enough CO_2 to run the compressor for commissioning. (CO_2 will be run through the compressor and discharged into the underground CO_2 line up to the plants boundary limit). 2 of the 8 refrigeration compressors are running supporting trains A and B AGR ambient temperatures.

Flare (Area 190) – The LP Acid Gas Flare K.O. Drum pump PU-097A is still out for repair with modifications and pipe fabrication to continue as resources are available to the Ultrasonic Flow Systems for the LP Acid Gas & Ammonia Flares. All the pumps in the area have been winterized. Trains A and B HP Flares and the Ammonia Flare are all operational. High pressure in the LP Acid Gas Flare Monday morning (11/28) due to a suspected plug in the flare line resulted in the flare being shut down. Scaffolding was erected Tuesday (11/29) for the crew to scan the line. A specialty contractor was brought in Wednesday (11/30) to scan the flare line from the WSA/AGR to the top of the flare to locate the blockage before steaming the line could commence. The scan determined that there was a thin layer of growth, potentially Ammonia Bicarbonate, on the inside of the 36" flare line. The actual blockage was found to be at the top of the flare at the diffuser. The holes in the diffuser were 90% plugged which caused a back pressure in the flare line. The flare line will be steamed using one of temporary Wabash boilers to dissolve the salt in the diffuser. After the steaming is complete the line and diffuser will be scanned again to verify the salt/blockage was removed.

Waste Water Treatment (Area 210) – Operations completed the change out of the carbon in Carbon Bed Filter B Thursday (11/3). The Ammonia Bicarbonate (salt) that was plugging the Wastewater Ammonia Purifier (CL-0052) due to a high PH imbalance has been removed and is ready to resume operation. KBR has a design fix for the PH imbalance in the unit with tie-in being installed later. When the material for the imbalance

fix comes in the installation will not require an outage due to the tie-ins. The unit was shut down after the LP Acid Gas Flare backed up into the Wastewater Tank (TK-0042) on Monday (11/28) causing the explosion hatch to blow. A new hatch was received Wednesday (11/30) and crews installed the new hatch Thursday (12/1). An existing leak on top of the Wastewater H2S Stripper Reboiler (HX-0042) is being addressed due to the unit being down. The Wastewater H2S Stripper Reboiler (HX-0042) was sent off for repair Monday (11/28) and was expected back later Thursday (12/1) but due to the tubes being plugged the vendor cannot pressure test the reboiler for leaks until the tubes are unplugged.

Acid Storage Tanks and Off Spec Acid Tank (Area 260) – Off spec acid is being stored in the Sulfuric Acid Offspec Tank (TK- 0073) after acid production from the WSA unit with the tank at 75% capacity.

Nitrogen Plant (Area 260) – The nitrogen plant has been running without any issues with nitrogen use up significantly following the restate of Gasifier A and B this month. Trucks are delivering liquid nitrogen as quickly as they can make the 500-900 mile round trip (to Houston Texas and back).The nitrogen storage tanks are full now with 26 nitrogen trucks on standby in town to supplement nitrogen supply for Gasifiers A & B restart early next month.

Combined Cycle HRSG's, CT's, Steam Turbine & Auxiliary Boiler (Areas 510, 520, 530, 540, and 550) – At 3:30 pm Wednesday (10/26) syngas at 290 psi was sent to Combustion Turbine A starting at 33% then 67% and finally 100% for 1 hour. The turbine unexpectedly tripped when operations tried to go back to natural gas. Sunday (10/30) at 8 pm 66% syngas was again sent to Combustion Turbine A at 290 psi and co-fired with natural gas running the turbine until Gasifier A tripped at 3:30 pm on Monday (10/31). CTA (Combustion Turbine A) has now been co-fired for a total of 21 hours of the 500 vendor required hours before bore-scoping the turbine. Saturday (11/5) the bore scope on CTA was completed after operating on syngas for only 24.8 hours with no issues being identified. The next scheduled bore scope has been extended to 1000 hours. At 4:20 pm Wednesday (11/16) an attempt to send syngas to Combustion Turbine B for the first time but the turbine tripped before it ran. Operations was able to immediately stop the syngas flow through the AGR and vent to flare at the inlet to the AGR unit preventing Gasifier B from tripping. Siemens has been investigating the reason the turbine tripped yesterday with another attempt scheduled for today. On Thursday (11/17) off spec syngas was sent to Combustion Turbine B for the first time. Crews completed forming and installing rebar for the new Ammonia Containment on the east side of HRSG A and placed the concrete Thursday (10/27) and curbs on Friday (10/28).

Water Treatment, Cooling Towers, and Main Gate Security (Area 570, 580, 590, and 700) – Construction is complete.

Sewer Plant and Ash Storage Pond (Area 800) – The coal/water mixture from the LDF sump is being pumped to the modular tanks for the first time on Friday (11/11). Modular tanks that are filled with the water are being decanted and the water sent to the Gasifier cooling tower. Modular tanks 7 and 8 are maintaining 500,000 gallons/each of demin for the two temporary Wabash package boilers by using the water from the Condensate Tank.

Process Water Reservoir (Area 900) – Coal is being monitored in all Crushed Coal Silos in preparation for supplying coal to Gasifiers. Approximately 10,000 tons of coal is being maintained in the dome to support lignite testing. Mobile coal screening equipment continues to screen the coal at the coal storage pile before it is sent to the truck dump. The coal/water mixture from the LDF sump is pumped up to the 6 modular tanks west of the Gasifier Cooling Tower. After the sludge is removed from the modular tanks the sludge is hauled to the GAMU for disposal.

Safety

Project Safety Summary: Since the beginning of the project, there has been 87 reportable incidents at the site with 40,749,342 man hours worked. This year, the site has worked 3,707,685 man hours with 5 reportable incidents. The project RIR stands at 0.27 for the year and 0.43 for the Project Total to Date.

Schedule

Construction is complete for plant base scope. The schedule for scope additions, as of 11/6/16, is included in Appendix E.

Key construction metrics reported through 11/27/16 are summarized below:

- Equipment insulation installation was reported to be 100% complete on 11/13.
- Pipe insulation installation was reported to be 100% complete on 11/13.
- Construction to Startup punchlist items for base scope (excluding scope additions) are essentially complete.
- Overall, turnover packages from construction to startup are 100% complete as 968 have been received out of a total of 968.

Startup

- At the end of October, total startup employee staffing was at 169, including 16 SCS startup employees, 147 supplemental, and 6 OPCO's staff; plus 279 startup supplemental craft support and 43 I&C field technicians (grand total of 491 – a decrease of 65 from end of September).
- Through November 27, startup progress was 95.4% complete overall (0.6% increase from October 23) vs. planned 100%.
    - 967 TOP's have been commissioned out of a total of 968 (1 remaining). 41% (398 of 968) have been turned over from startup to operations (mostly CC and associated BOP).
    - Startup test packages are 91% complete (87 of 96 complete). All of the remaining 9 test packages are currently in progress.
    - Overall, I/O checks are 1% behind plan (99% complete, 210 of 31,930 remaining). New scope accounts for all of the remaining 210 points that require testing (base scope is 100% complete).

- Startup to Operations punchlist summary for base scope (excluding scope additions) shows a decrease in remaining open items from 3,975 on October 23 to 3,617 on November 27 (none of these are high priority).
- MPC reported the following startup achievements in November:

  - Gasifier 'A' restarted with CT 'A' operating on syngas for over 18+ hours.
  - Gasifier 'B' and Syngas Cooler leak testing and SIF testing completed.
  - Root Cause Analysis on 3B PDAC failure complete.
  - AGR 'A' processing syngas, sending acid gas to WSA and CO2 to the HRSG stack.
  - AGR 'B' PSSR signed off.
  - LP Vent Gas Compressor run-in completed.
  - CT 'A' Borescope Inspection completed; should result in additional hours before next inspection.
  - Gasifier 'A' deinventory completed.
  - Train 'B' WGS Catalyst Sulfidation completed.
  - Train 'B' AGR and Recycle Syngas Compressor startup.
  - Reliable/Clean Syngas – Train 'B' achieved with 45+ continuous hours of electricity production from CT-B.
  - HRSG Ammonia PSSR signed off.
  - Syngas Scrubber 'A' packing replacement completed.
  - Gasifier 'A' balancing purges and leak checks started.

Operations and Maintenance

Overall 281 of the planned 309 permanent employees are on staff (339 of 309 including contractors). Current supplemental contract staff will be considered for remaining 28 permanent positions.

Process Safety Management (PSM) program development:

- There are 14 PSM elements – 13 of the 14 are complete (ready for chemicals). Remaining 2 PSSR's were completed in November.
- Executing action items for the remaining 1 element - Process Hazard Analyses.

1. Process Hazard Analysis - all eight PHA's requiring updates are complete, working through last few lower priority remaining recommendations (>99% complete).

CC Operation:

- 2016 year to date EFOR on natural gas is 0.53% through November 30.
- Through November 30, electrical generation on syngas has totaled 1,536 MWH on CTA and 7,170 MWH on CTB.

Gasifier Operation:

- Through November 30, syngas production has totaled 911 hours (38 days) on Train A and 1,035 hours (43 days) on Train B.

Land

IM Review of Documents and Purchases from the Kemper County Courthouse, Lauderdale County Courthouse and Update on the Lawsuit Concerning the Kemper IGCC Power Plant Site and Liberty Mine, Kemper County, Mississippi

In the October 2016 report, the IM reported that there were no new coal mining land purchases in the last month, there were three new coal leases recorded in Kemper County, discussed MPC overall list of coal mining land purchases for the Liberty Mine/Damascus Coal Reserve and an update on the Kemper County Lawsuit.

In this November 2016 report the IM will discuss that there were three new coal leases in Kemper County, MS., two new land purchases and a Proof of Death and Heirship regarding one of the land purchases in Kemper County, one new land purchase in Lauderdale County and updates on the Kemper County Lawsuit.

The IM has reviewed the above described information and determined the following:

- MPC purchased three new coal leases in Kemper County, MS. covering interests in 12.67 acres in the Northeast Quarter, Section 33, Township 9 North, Range 15 East. The leases are counterparts to the three coal leases purchased last month.

- MPC purchased two new tracts of land in Kemper County in the last month covering interests in 28.9 acres of land located in Sections 27, 33 and 34, Township 9 North, Range 15 East.

- There is a Proof of Death and Heirship from Roy Duff regarding the death of Mary Grace Cole recorded this month dealing with one of the above land purchases in Kemper County, MS.

- MPC purchased one tract of land in Lauderdale County covering 8.33 acres located in Parts of Lot 5 and 6, Section 2, Township 8 North, Range 14 East.

- The parties to the Barham versus Mississippi Power Company lawsuit are still waiting for a decision from the Judge regarding the Summary Judgment Motions filed by both parties and argued at a court hearing held August 27, 2015 in the Chancery Court in Philadelphia, MS. The last filing in the case was August 15, 2015.