



December 20, 2017

Integrated Resource Plan
Public Advisory Group: Public Input and Requests
Meeting Date: October 26, 2017

EPE Response to PAG Questions Submitted on 12/10/17 Via Email:

The responses EPE provided on December 8, 2017 explain that the O&M recommendations in the Burns & McDonnell (BMCD) report are comparable to EPE's typical O&M maintenance activities conducted in the ordinary course of business. To be clear, EPE commissioned the 2010 and 2012 BMCD reports for the purpose of evaluating retirement dates of generation units operating beyond their useful lives; EPE did not commission those reports for the purpose of determining its O&M maintenance activities. Additionally, the December 8 response explains that listed report items not performed to date will be performed as necessary as part of EPE's required O&M activities. The new BMCD retirement analysis, commissioned as part of the 2018 IRP, is in process and will provide updated information which will be more appropriate to the 2018 IRP retirement evaluations.

EPE has also provided responses to questions related to EPE's planned retirement dates. Please see EPE's previous responses to Q3, Q4, Q7, Q10, and Q11 from the December 8 responses because there have been no changes.

PAG Questions Submitted on 12/10/17 Via Email:

Follow-up and request for clarification regarding responses to the additional questions related to the 10/26/17 meeting (email received 10/31/17)

PAG Q1 Follow-up:

The EPE Response is generic and not specific. Therefore, please provide the following specific information regarding RG7:

- Did EPE conduct non-destructive examination of selective areas of the boiler in 2016?
- Did EPE inspect the superheater attemperator(s) and downstream piping in 2013? In 2016?
- Did EPE test the safety valves in 2013? In 2014? In 2015? In 2016? In 2017?
- Did EPE chemically clean the boiler in 2016?
- Did EPE perform turbine inspection in 2014?
- Did EPE perform boroscopic examination of the turbine rotor in 2014?
- Did EPE inspect the main steam, hot reheat, cold reheat and feedwater piping hangers in 2013?
- Did EPE conduct non-destructive examination of selected areas of the main steam, hot reheat, cold reheat, and feedwater piping in 2016?
- Did EPE inspect the boiler feed pump discharge piping for FAC in 2016?
- Did EPE conduct eddy current testing of feedwater heater tubing in 2013?
- Did EPE conduct nondestructive examination of deaerator and storage tank in 2016?
- Did EPE conduct visual inspection of circ water piping in 2013? In 2016?
- Did EPE conduct an inspection of the stack in 2013?
- Did EPE Comply with ASME TDP-1-2006 in 2013?

- Did EPE perform a structural assessment of the cooling tower in 2013?
- Did EPE monitor quarterly the main, auxiliary, and start-up transformers for dissolved gasses in 2013? In 2014? In 2015? In 2016? In 2017?
- Did EPE inspect, adjust, test, and refurbish the medium-voltage switchgear in 2015?
- Did EPE perform EI CID testing on the generator in 2017?
- Did EPE perform partial discharge test on the generator in 2013?
- Did EPE install PLC alarming and sequence of events recording in 2013?

If different timing applies to any item, please specify and explain the rationale behind the difference. If other actions apply, please specify and explain the rationale behind those actions.

PAG Q2 Follow-up:

The EPE Response is generic and not specific. Therefore, please provide the following specific information regarding RG7:

- Did EPE spend \$41k in 2013 to inspect superheater and reheater attemperators and downstream piping?
- Did EPE spend between \$10k and \$11k each year from 2013 through 2017 to test safety valves? Does EPE plan to spend \$12k in 2018 and 2019 to test safety valves?
- Did EPE spend \$1.104M in 2016 to chemically clean the boiler?
- Did EPE spend \$3.111M in 2017 to perform turbine and generator inspection?
- Did EPE spend \$53k in 2014 to perform boroscope examination of the turbine rotor?
- Did EPE spend \$525k in 2014 to perform turbine valve inspection?
- Did EPE spend \$51k in 2013 to inspect main steam, hot reheat, cold reheat and feedwater piping hangers?
- Did EPE spend \$55k in 2016 to conduct non-destructive examination of selected areas of main steam, hot reheat, cold reheat, and feedwater piping?
- Did EPE spend \$22k in 2016 to inspect boiler feed pump discharge piping for FAC?
- Did EPE spend \$21k in 2013 to conduct eddy current testing of feedwater heater tubing?
- Did EPE spend \$22k in 2016 to conduct non-destructive examination of dearator and storage tank?
- Did EPE spend \$5k in 2013 and \$6k in 2016 to conduct visual inspection of circ water piping?
- Did EPE spend \$26k in 2013 to conduct inspection of the stack?
- Did EPE spend \$256k in 2013 to comply with ASME TDP-1-2006?
- Did EPE spend \$26k in 2013 to perform structural assessment on the cooling tower?
- Did EPE spend \$50k in 2017 to perform EI CID test?
- Did EPE spend \$41k in 2013 to perform partial discharge test on the generator?
- Did EPE spend \$420k in 2014 on partial boiler waterwall replacements?
- Did EPE spend \$525k in 2014 on turbine shell repairs/replacement?
- Did EPE spend \$735k in 2014 on high energy piping repairs/replacement?
- Did EPE spend \$276k in 2016 on condenser retubing?
- Did EPE spend \$283k in 2017 on cooling tower repairs?
- Did EPE spend \$113k in 2017 on condensate pump/motor replacement?
- Did EPE spend \$315k in 2014 on boiler feed pump/motor repairs/replacement?
- Did EPE spend \$210k in 2014 on circulator pump/motor repairs/replacement?
- Did EPE spend \$135k in 2015 on water treatment upgrades?
- Did EPE spend \$315k in 2015 on cooling water delivery upgrades?
- Did EPE spend \$53k in 2014 on switchgear repairs/replacement?
- Did EPE spend \$84k in 2014 on instrumentation upgrade/replacement?
- Did EPE spend \$110k in 2016 on voltage regulator upgrade/replacement?

If a different amount or different timing applies to any item, please specify and explain the rationale behind the difference. If other actions and expenditures apply, please specify and explain the rationale behind those actions.

PAG Q3 Follow-up:

Please confirm my understanding of the EPE response that there are no known detrimental trends that would significantly impact a decision to extend the operational life of RG7.

PAG Q4 Follow-up:

Please confirm my understanding of the EPE response that EPE has not performed any significant maintenance activities on RG6 since 2012.

PAG Q5 Follow-up:

The EPE Response is generic and not specific. Therefore, please provide the following specific information regarding Newman 1:

- Did EPE conduct non-destructive examination of selective areas of the boiler in 2014? In 2017?
- Did EPE inspect the superheater attemperator(s) and downstream piping in 2014? In 2017?
- Did EPE test the safety valves in 2013? In 2014? In 2015? In 2016? In 2017?
- Did EPE chemically clean the boiler in 2017?
- Did EPE perform turbine inspection in 2014?
- Did EPE perform boroscopic examination of the turbine rotor in 2014?
- Did EPE replace the turbine valves studs and nuts in 2013?
- Did EPE inspect the main steam, hot reheat, cold reheat and feedwater piping hangers in 2013? In 2014? In 2015? In 2016? In 2017?
- Did EPE conduct non-destructive examination of selected areas of the main steam, hot reheat, cold reheat, and feedwater piping in 2013? In 2017?
- Did EPE inspect the boiler feed pump discharge piping for FAC in 2017?
- Did EPE conduct eddy current testing of feedwater heater tubing in 2013? In 2016?
- Did EPE conduct nondestructive examination of deaerator and storage tank in 2013? In 2017?
- Did EPE conduct visual inspection of circulating water piping in 2013? In 2016?
- Did EPE conduct an inspection of the stack in 2013?
- Did EPE comply with ASME TDP-1-2006 in 2013?
- Did EPE perform a structural assessment of the cooling tower in 2013?
- Did EPE monitor the main transformer for dissolved gasses in 2013? In 2014? In 2015? In 2016? In 2017?
- Did EPE monitor quarterly the auxiliary and start-up transformers for dissolved gasses in 2013? In 2014? In 2015? In 2016? In 2017?
- Did EPE inspect adjust, test, and refurbish the medium-voltage switchgear in 2015?
- Did EPE perform EI CID testing on the generator in 2017?
- Did EPE perform partial discharge test on the generator in 2013?

If different timing applies to any item, please specify and explain the rationale behind the difference. If other actions apply, please specify and explain the rationale behind those actions.

PAG Q6 Follow-up:

The EPE Response is generic and not specific. Therefore, please provide the following specific information regarding Newman 1:

- Did EPE spend \$105k in 2014 and \$113k in 2017 to conduct non-destructive examination of selective areas of the boiler? Does EPE plan to spend \$122k in 2020 to conduct non-destructive examination of selective areas of the boiler?
- Did EPE spend \$42k in 2014 and \$45k in 2017 to inspect superheater and reheater attemperators and downstream piping?
- Did EPE spend between \$10k and \$11k each year from 2013 through 2017 to test safety valves? Does EPE plan to spend \$12k in 2018, 2019, 2020, and 2021 to test safety valves?
- Did EPE spend \$1.104M in 2016 to chemically clean the boiler?
- Did EPE spend \$1.885M in 2015 to perform turbine and generator inspection?
- Did EPE spend \$54k in 2015 to perform boroscope examination of the turbine rotor?
- Did EPE plan to spend \$580k in 2018 to perform turbine valve inspection?
- Did EPE spend between \$10k and \$11k each year from 2013 to 2017 to inspect main steam, hot reheat, cold reheat and feedwater piping hangers? Does EPE plan to spend \$12k in 2018, 2019, 2020, and 2021 to inspect main steam, hot reheat, cold reheat and feedwater piping hangers?
- Did EPE spend \$53k in 2014 and \$57k in 2017 to conduct non-destructive examination of selected areas of main steam, hot reheat, cold reheat, and feedwater piping? Does EPE plan to spend \$61k in 2020 to conduct non-destructive examination of selected areas of main steam, hot reheat, cold reheat, and feedwater piping?
- Did EPE spend \$21k in 2014 and \$23k in 2017 to inspect boiler feed pump discharge piping for FAC? Does EPE plan to spend \$24k in 2019 to inspect boiler feed pump discharge piping for FAC?
- Did EPE spend \$21k in 2013 and \$22k in 2016 to conduct eddy current testing of feedwater heater tubing? Does EPE plan to spend \$24k in 2019 to conduct eddy current testing of feedwater heater tubing?
- Did EPE spend \$20k in 2014 and \$23k in 2017 to conduct non-destructive examination of deaerator and storage tank? Does EPE plan to spend \$24k in 2020 to conduct non-destructive examination of deaerator and storage tank?
- Did EPE spend \$5k in 2013 and \$6k in 2016 to conduct visual inspection of circulating water piping?
- Did EPE spend \$26k in 2013 and \$28k in 2016 to conduct inspection of the stack? Does EPE plan to spend \$30k in 2019 to conduct inspection of the stack?
- Did EPE spend \$26k in 2013 to perform structural assessment on the cooling tower?
- Did EPE spend \$50k in 2014 to perform EI CID test on the generator?
- Did EPE spend \$4.308M in 2015 to rewind the generator?
- Did EPE spend \$350k in 2015 to comply with ASME TDP-1-2006?
- Did EPE spend \$315k in 2014 on the well water storage tank (apportioned cost)?
- Did EPE spend \$103k in 2013 on DCS Logic Review/modifications?
- Did EPE spend \$368k in 2014 on 2.4kV switchgear upgrade/replacement?

If a different amount or different timing applies to any item, please specify and explain the rationale behind the difference. If other actions and expenditures apply, please specify and explain the rationale behind those actions.

PAG Q7 Follow-up:

Please confirm my understanding of the EPE response that EPE continues to plan Newman Unit 1 retirement based on the 2012 Burns & McDonnell assessment and recommendations.

PAG Q8 Follow-up:

The EPE Response is generic and not specific. Therefore, please provide the following specific information regarding Newman 2:

- Did EPE conduct non-destructive examination of selective areas of the boiler in 2014? In 2017?
- Did EPE inspect the superheater and reheater attemperator(s) and downstream piping in 2014? In 2017?
- Did EPE test the safety valves in 2013? In 2014? In 2015? In 2016? In 2017?
- Did EPE chemically clean the boiler in 2015?
- Did EPE perform turbine inspection in 2014?
- Did EPE perform boroscopic examination of the turbine rotor in 2014?
- Did EPE inspect the main steam, hot reheat, cold reheat and feedwater piping hangers in 2013? In 2014? In 2015? In 2016? In 2017?
- Did EPE conduct non-destructive examination of selected areas of the main steam, hot reheat, cold reheat, and feedwater piping in 2014? In 2017?
- Did EPE inspect the boiler feed pump discharge piping for FAC in 2014? In 2017?
- Did EPE conduct eddy current testing of feedwater heater tubing in 2013? In 2016?
- Did EPE conduct nondestructive examination of deaerator and storage tank in 2013? In 2017?
- Did EPE conduct visual inspection of circulating water piping in 2013? In 2016?
- Did EPE conduct an inspection of the stack in 2013?
- Did EPE comply with ASME TDP-1-2006 in 2013?
- Did EPE perform a structural assessment of the cooling tower in 2013?
- Did EPE monitor quarterly the main and auxiliary transformers for dissolved gasses in 2013? In 2014? In 2015? In 2016? In 2017?
- Did EPE inspect adjust, test, and refurbish the medium-voltage switchgear in 2015?
- Did EPE perform EI CID testing on the generator in 2017?

If different timing applies to any item, please specify and explain the rationale behind the difference. If other actions apply, please specify and explain the rationale behind those actions.

PAG Q9 Follow-up:

The EPE Response is generic and not specific. Therefore, please provide the following specific information regarding Newman 2:

- Did EPE spend \$105k in 2014 and \$113k in 2017 to conduct non-destructive examination of selective areas of the boiler? Does EPE plan to spend \$122k in 2020 to conduct non-destructive examination of selective areas of the boiler?
- Did EPE spend \$42k in 2014 and \$45k in 2017 to inspect superheater and reheater attemperators and downstream piping?

- Did EPE spend between \$10k and \$11k each year from 2013 through 2017 to test safety valves? Does EPE plan to spend \$12k in 2018, 2019, 2020, and 2021 to test safety valves?
- Did EPE spend \$1.077M in 2015 to chemically clean the boiler?
- Did EPE spend \$1.839M in 2014 to perform turbine inspection?
- Did EPE spend \$53k in 2014 to perform boroscope examination of the turbine rotor?
- Did EPE plan to spend \$580k in 2018 to perform turbine valve inspection?
- Did EPE spend between \$10k and \$11k each year from 2013 to 2017 to inspect main steam, hot reheat, cold reheat and feedwater piping hangers? Does EPE plan to spend \$12k in 2018, 2019, 2020, and 2021 to inspect main steam, hot reheat, cold reheat and feedwater piping hangers?
- Did EPE spend \$53k in 2014 and \$57k in 2017 to conduct non-destructive examination of selected areas of main steam, hot reheat, cold reheat, and feedwater piping? Does EPE plan to spend \$61k in 2020 to conduct non-destructive examination of selected areas of main steam, hot reheat, cold reheat, and feedwater piping?
- Did EPE spend \$21k in 2014 and \$23k in 2017 to inspect boiler feed pump discharge piping for FAC? Does EPE plan to spend \$24k in 2019 to inspect boiler feed pump discharge piping for FAC?
- Did EPE spend \$21k in 2013 and \$22k in 2016 to conduct eddy current testing of feedwater heater tubing? Does EPE plan to spend \$24k in 2019 to conduct eddy current testing of feedwater heater tubing?
- Did EPE spend \$20k in 2014 and \$23k in 2017 to conduct non-destructive examination of deaerator and storage tank? Does EPE plan to spend \$24k in 2020 to conduct non-destructive examination of deaerator and storage tank?
- Did EPE spend \$5k in 2013 and \$6k in 2016 to conduct visual inspection of circulating water piping?
- Did EPE spend \$26k in 2013 and \$28k in 2016 to conduct inspection of the stack? Does EPE plan to spend \$30k in 2019 to conduct inspection of the stack?
- Did EPE spend \$26k in 2013 to perform structural assessment on the cooling tower?
- Did EPE spend \$50k in 2017 to perform EI CID test on the generator?
- Did EPE spend \$315k in 2014 to modify lower boiler header for cycling?
- Did EPE spend \$359k in 2013 to comply with ASME TDP-1-2006?
- Did EPE spend \$525k in 2014 to replace second feedwater heater?
- Did EPE spend \$315k in 2014 on the well water storage tank (apportioned cost)?
- Did EPE spend \$256k in 2013 to replace the exciter and voltage regulator?
- Did EPE spend \$105k in 2014 on DCS Logic Review/modifications?
- Did EPE spend \$377k in 2015 on 2.4kV switchgear upgrade/replacement?

If a different amount or different timing applies to any item, please specify and explain the rationale behind the difference. If other actions and expenditures apply, please specify and explain the rationale behind those actions.

PAG Q10 Follow-up:

Please confirm my understanding of the EPE response that the only rationale for the Newman Unit 2 retirement date of 2022 is to align with the retirements of RG7 and Newman 1.

PAG Q11 Follow-up:

Please confirm my understanding of the EPE response that the retirement plan for Newman Unit 4 is no longer a phased retirement. Also, that there are no known detrimental trends that would significantly impact a decision to extend the operational life of Newman Unit 2.