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Wind XI Update September 1, 2020

A. Background

This is MidAmerican Energy Company's ("MidAmerican") status update for the Iowa Utilities Board ("Board") in response to the Board's August 26, 2016 *Order Approving Settlement with Reporting Requirements*, issued in Docket No. RPU-2016-0001 ("Order"). This document is offered in fulfillment of the requirements established in the said Board Order. Pursuant to the Board's April 19, 2019 Order Consolidating Semi-Annual Reports, the updates for the Wind VIII through Wind XII projects, and the Repowering project, are now filed in Docket No. 2018-0003.

B. Status for Wind XI Iowa Project (Docket No. RPU-2016-0001)

The Wind XI facilities were placed in-service from 2017 through 2020 at multiple sites. The final 8 turbines for this project were placed into service in January 2020. Through June 30, 2020, expenditures on Wind XI totaled \$3,219.8 million. The currently estimated project cost is \$3,220 million, or \$1,610/kW. The five largest components of the \$3,220 million total are: (i) \$[REDACTED] million including spent, committed and estimated amounts for the purchase of the wind turbines, (ii) the balance of plant services are estimated at approximately \$[REDACTED] million, (iii) substation development costs are estimated at \$[REDACTED] million, (iv) site acquisition costs are estimated at \$[REDACTED] million, and (v) off-site transmission costs are estimated at \$[REDACTED] million. (An unredacted copy of this page has been provided pursuant to a Request for Confidential Treatment.) The remaining project costs are estimated at \$198 million, approximately 6% of the total estimated cost, for general project expenses such as operations and maintenance buildings, MidAmerican Energy Company labor, contractor labor, AFUDC, etc. The estimated project cost of \$1,610/kW or \$1.610 million per MW (including AFUDC) is below the cost cap of \$1.792 million per MW (including AFUDC).

Actual Operating and Capital Costs of Wind XI

Through June 30, 2020, operating costs total \$[REDACTED] million. Operating capital costs associated with Wind XI during this period have been \$[REDACTED] million. (An unredacted copy of this page has been provided pursuant to a Request for Confidential Treatment.)

Revenue Sharing Reporting

Revenue Sharing for each calendar year is reported in a separate filing with the Iowa Utilities Board in February of each year.

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Income from PTCs, REC Sales, Capacity Sales, and Net System Benefits Attributable to Wind XI

Through June 30, 2020, PTC's generated from Wind XI totaled \$87.3 million. There were no REC sales. There were no capacity sales associated with these wind assets and net system benefits totaled \$41.8 million.

Annual Report Regarding the Quantity of All Environmental Benefits Retired on Behalf of Each ICR Customer That Elects Retirement per Ratemaking Principle No. 7 (Environmental Benefits)

- i. Quantity of Environmental Benefits Retired on Behalf of Each Electing ICR Customer for 2020: MidAmerican will report on retirement of these environmental benefits in its March 2021 update as prescribed by the Board's order.
- ii. Quantity of Environmental Benefits Sold and the Value of Sold Benefits Maintained in the Regulatory Liability Account Defined in Ratemaking Principle No. 7: MidAmerican will report on these matters in its March 2021 update as prescribed by the Board's order.

C. Transmission Studies and Off-site transmission

Please see the transmission related discussion under the Project updates below.

The Wind XI facilities were installed at multiple sites: the 168 MW Prairie site, in Mahaska County, the 170 MW Beaver Creek site in Boone and Greene Counties, the 170 MW Beaver Creek II site in Boone and Greene Counties, the 200 MW North English site in Poweshiek County, the 310.4 MW Arbor Hill site in Adair County, the 90.8 MW Ivester site in Grundy County, the 500.8 MW Orient site in Adair County, the 140 MW North English II site in Poweshiek County, and the 250 MW Palo Alto site in Palo Alto County, which will result in a total project size of 2,000 MW.

168 MW Prairie Site

The Prairie site, located in Mahaska County, is a wind farm acquired from a subsidiary of RPM Access which interconnects to the 161 kV system at a new substation in Mahaska County. Construction at Prairie began in 2017 with all turbines placed in-service by January 9, 2018 (all but two turbines—4 MW—were in-service by December 31, 2017).

MISO queue project J344 was studied in the August 2014 West Definitive Planning Phase (DPP) System Impact Study (SIS) which is now complete. MISO's completed transmission study is available at the following MISO link:

https://www.misoenergy.org/planning/generator-interconnection/GI_Studies

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Once on the MISO site, select the desired documents.

A Conditional Generation Interconnection Agreement (Conditional GIA) was executed on June 17, 2016.

Operation of the site is guided by the Conditional GIA. However, this site is no longer subject to the MISO Annual ERIS Evaluation or the MISO Quarterly Operating Limit reviews.

340 MW Beaver Creek and Beaver Creek II Sites

The Beaver Creek and Beaver Creek II sites, located in Boone and Greene Counties, are a wind farm which was self-developed by MidAmerican and that interconnects to the 345 kV system at a new substation in Boone County. Construction at the 170 MW Beaver Creek site began in 2017 with all turbines placed in-service by December 29, 2017. Construction at the 170 MW Beaver Creek II site began in 2018 with all turbines placed in-service by October 8, 2018.

MISO queue project J498 was studied in the February 2016 West Definitive Planning Phase (DPP) System Impact Study (SIS) which is now complete. MISO's completed transmission study is available at the following MISO link:

https://www.misoenergy.org/planning/generator-interconnection/GI_Studies

Once on the MISO site, select the desired documents.

A Conditional GIA was executed on January 25, 2019.

Operation of the site is guided by the Conditional GIA. Until all identified upgrades and contingent facilities are completed, the output may be limited on an annual basis through the MISO Annual ERIS Evaluation and/or on a quarterly basis through the MISO Quarterly Operating Limit (QOL) review that could reduce output by as much as its fully requested output. As reported in previous updates on other MidAmerican Wind Projects, in response to input from stakeholders, including MidAmerican, MISO reviewed its QOL review process. MISO's revised process reduces, but does not eliminate, the possibility of any future limitations at the site while the site is part of the QOL review.

In MISO's Annual ERIS Evaluation, it was determined that 8.8 MW of the 340 MW (the GIA injection limit) is subject to curtailment in the QOL process for MISO's 2020-2021 planning year (June 1, 2020 through May 31, 2021). To date, this site has not been limited in any of the QOL studies. MISO's forward-looking results of the next two seasons do not show the site being limited.

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The structure replacements on the Franklin-Wall Lake 161 kV line to increase the rating were completed in February 2020. The rebuild and reconductor of MidAmerican's section of the Substation T Fort Dodge-Boone Jct 161 kV line and Substation T terminal upgrades to increase the line rating were completed in May 2020.

200 MW North English Site

The North English site, located in Poweshiek County, is a wind farm which was developed by a subsidiary of Tradewind Energy, Inc. that interconnects to the 345 kV system at the Montezuma Substation in Poweshiek County. Construction at North English began in 2018 with all turbines placed in-service by December 22, 2018.

MISO queue project J475 was studied in the February 2016 West Definitive Planning Phase (DPP) System Impact Study (SIS) which is now complete. MISO's completed transmission study is available at the following MISO link:

https://www.misoenergy.org/planning/generator-interconnection/GI_Studies

Once on the MISO site, select the desired documents.

A Conditional GIA was executed on January 25, 2019.

Operation of the site is guided by the Conditional GIA. Until all identified upgrades and contingent facilities are completed, the output may be limited on an annual basis through the MISO Annual ERIS Evaluation and/or on a quarterly basis through the MISO Quarterly Operating Limit (QOL) review that could reduce output by as much as its fully requested output. As reported in previous updates on other MidAmerican Wind Projects, in response to input from stakeholders, including MidAmerican, MISO reviewed its QOL review process. MISO's revised process reduces, but does not eliminate, the possibility of any future limitations at the site while the site is part of the QOL review.

In MISO's Annual ERIS Evaluation, it was determined that 0 MW of the 200 MW (the GIA injection limit) is subject to curtailment in the QOL process for MISO's 2020-2021 planning year (June 1, 2020 through May 31, 2021). To date, this site has not been limited in any of the QOL studies. MISO's forward-looking results of the next two seasons do not show the site being limited.

The structure replacements on the Diamond Trail-Hills 345 kV line to increase the rating were completed in June 2020.

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310.4 MW Arbor Hill Site

The Arbor Hill site, located in Adair County, is a wind farm which was self-developed by MidAmerican that interconnects to the 345 kV system at the Fallow to Grimes 345 kV line in Adair County. Construction at Arbor Hill began in 2018 with all turbines placed in-service by January 18, 2020.

MISO queue project J499 was studied in the February 2016 West Definitive Planning Phase (DPP) System Impact Study (SIS) which is now complete. MISO's completed transmission study is available at the following MISO link:

https://www.misoenergy.org/planning/generator-interconnection/GI_Studies

Once on the MISO site, select the desired documents.

A Conditional GIA was executed on January 25, 2019.

Operation of the site is guided by the Conditional GIA. Until all identified upgrades and contingent facilities are completed, the output may be limited on an annual basis through the MISO Annual ERIS Evaluation and/or on a quarterly basis through the MISO Quarterly Operating Limit (QOL) review that could reduce output by as much as its fully requested output. As reported in previous updates on other MidAmerican Wind Projects, in response to input from stakeholders, including MidAmerican, MISO reviewed its QOL review process. MISO's revised process reduces, but does not eliminate, the possibility of any future limitations at the site while the site is part of the QOL review.

In MISO's Annual ERIS Evaluation, it was determined that 7.5 MW of the 340 MW (the GIA injection limit) is subject to curtailment in the QOL process for MISO's 2020-2021 planning year (June 1, 2020 through May 31, 2021). To date, this site has not been limited in any of the QOL studies. MISO's forward-looking results of the next two seasons do not show the site being limited.

90.8 MW Ivester Site

The Ivester site, located in Grundy County, is a wind farm development which was acquired from a subsidiary of EDF Renewable Energy, Inc. that interconnects to the 161 kV system at the Wellsburg 161 kV substation in Grundy County. Construction at Ivester began in 2018 with all turbines placed in-service by December 31, 2018.

MISO queue project J041 was studied in the August 2015 West Definitive Planning Phase (DPP) System Impact Study (SIS) which is now completed. MISO's completed transmission study is available at the following MISO link:

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https://www.misoenergy.org/planning/generator-interconnection/GI_Studies

Once on the MISO site, select the desired documents.

A Conditional GIA was executed on September 11, 2017.

Operation of the site is guided by the Conditional GIA. Until all identified upgrades and contingent facilities are completed, the output may be limited on an annual basis through the MISO Annual ERIE Evaluation and/or on a quarterly basis through the MISO Quarterly Operating Limit (QOL) review that could reduce output by as much as its fully requested output. As reported in previous updates on other MidAmerican Wind Projects, in response to input from stakeholders, including MidAmerican, MISO reviewed its QOL review process. MISO's revised process reduces, but does not eliminate, the possibility of any future limitations at the site while the site is part of the QOL review.

In MISO's Annual ERIE Evaluation, it was determined that 0 MW of the 90 MW (the GIA injection limit) is subject to curtailment in the QOL process for MISO's 2020-2021 planning year (June 1, 2020 through May 31, 2021). To date, this site has not been limited in any of the QOL studies. MISO's forward-looking results of the next two seasons do not show the site being limited.

500.8 MW Orient Site

The Orient site, located in Adair County, is a wind farm which was self-developed by MidAmerican and that interconnects to the 345 kV system at a new substation at the intersection of the Booneville to Atchison County 345 kV line and the Rolling Hills to Madison County 345 kV line in Adair County. Construction at Orient began in 2018 with all turbines placed in-service by December 28, 2019.

MISO queue project J500 was studied in the February 2016 West Definitive Planning Phase (DPP) System Impact Study (SIS) which is now completed. MISO's completed transmission study is available at the following MISO link:

https://www.misoenergy.org/planning/generator-interconnection/GI_Studies

Once on the MISO site, select the desired documents.

A Conditional GIA was executed on January 28, 2019.

Operation of the site is guided by the Conditional GIA. Until all identified upgrades and contingent facilities are completed, the output may be limited on an annual basis through the MISO Annual ERIE Evaluation and/or on a quarterly basis through the

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MISO Quarterly Operating Limit (QOL) review that could reduce output by as much as its fully requested output. As reported in previous updates on other MidAmerican Wind Projects, in response to input from stakeholders, including MidAmerican, MISO reviewed its QOL review process. MISO's revised process reduces, but does not eliminate, the possibility of any future limitations at the site while the site is part of the QOL review.

In MISO's Annual ERIS Evaluation, it was determined that 0 MW of the 500 MW (the GIA injection limit) is subject to curtailment in the QOL process for MISO's 2020-2021 planning year (June 1, 2020 through May 31, 2021). To date, this site has not been limited in any of the QOL studies. MISO's forward-looking results of the next two seasons do not show the site being limited.

140 MW North English II Site

The North English II site, located in Poweshiek County, is a wind farm which was developed by a subsidiary of Tradewind Energy, Inc. that will interconnect to the 345 kV system at the Montezuma Substation in Poweshiek County. Construction at North English II began in 2019 with all turbines placed in-service by December 14, 2019.

MISO queue project J555 is being studied in the August 2016 West Definitive Planning Phase (DPP) System Impact Study (SIS) Phase 3 which kicked off on January 15, 2019. The final Phase 3 study was published on March 14, 2019. The Network Upgrade facility studies are currently underway. A Conditional Generator Interconnection Agreement (Conditional GIA) is expected to be executed in August 2020.

A Provisional Generation Interconnection Agreement (Provisional GIA) was executed on November 7, 2017.

Operation of the site is guided by the Provisional GIA. Until all identified upgrades and contingent facilities are completed, the output may be limited on an annual basis through the MISO Annual ERIS Evaluation and/or on a quarterly basis through the MISO Quarterly Operating Limit (QOL) review that could reduce output by as much as its fully requested output. As reported in previous updates on other MidAmerican Wind Projects, in response to input from stakeholders, including MidAmerican, MISO reviewed its QOL review process. MISO's revised process reduces, but does not eliminate, the possibility of any future limitations at the site while the site is part of the QOL review.

In MISO's Annual ERIS Evaluation, it was determined that 0 MW of the 140 MW (the GIA injection limit) is subject to curtailment in the QOL process for MISO's 2020-2021 planning year (June 1, 2020 through May 31, 2021). To date, this site has not been limited in any of the QOL studies. MISO's forward-looking results of the next two seasons do not show the site being limited.

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The structure replacements on the Montezuma-Diamond Trail 345 kV line to increase the rating were completed in June 2020.

250 MW Palo Alto Site

The Palo Alto site, located in Palo Alto County, is a wind farm which was developed by a subsidiary of Invenenergy and that will interconnect to the 345 kV system on the Obrien to Kossuth 345 kV line in Palo Alto County. Construction at Palo Alto began in 2019 with all turbines placed in-service by January 14, 2020.

MISO queue project J529 was studied in the February 2016 West Definitive Planning Phase (DPP) System Impact Study (SIS) which is now completed. MISO's completed transmission study is available at the following MISO link:

https://www.misoenergy.org/planning/generator-interconnection/GI_Studies

Once on the MISO site, select the desired documents.

A Conditional GIA was executed on January 25, 2017.

Operation of the site is guided by the Conditional GIA. However, this site is no longer subject to the MISO Annual ERIS Evaluation or the MISO Quarterly Operating Limit reviews.

Next Report

MidAmerican's next update is due March 1, 2021.