

Wind XI Update March 2, 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 are planned to be installed over three years at multiple sites. Through December 31, 2019, expenditures on Wind XI totaled \$3,173.8 million. The currently estimated project cost is \$3,185 million, or \$1,593/kW. The five largest components of the \$3,185 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) off-site transmission costs are estimated at \$ [REDACTED] million, (iv) substation development costs are estimated at \$ [REDACTED] million, and (v) site acquisition 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 \$160 million, approximately 5% 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 \$1,593/kW or \$1.593 million per MW (including AFUDC) is below the cost cap of \$1.792 million per MW (including AFUDC). The final 8 turbines for this project were placed into service in January 2020.

Actual Operating and Capital Costs of Wind XI

Through December 31, 2019, 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 December 31, 2019, PTC's generated from Wind XI totaled \$112.5 million. There were no REC sales. There were no capacity sales associated with these wind assets and net system benefits totaled \$82.8 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 2019: MidAmerican retired 976,970 Renewable Energy Credits on behalf of the electing ICR Customers for calendar year 2019.
- ii. Quantity of Environmental Benefits Sold and the Value of Sold Benefits Maintained in the Regulatory Liability Account Defined in Ratemaking Principle No. 7:
 - Quantity of Benefits Sold: 0
 - Value of Benefits Maintained in the Regulatory Liability Account: \$0

C. Transmission Studies and Off-site transmission

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

The Wind XI facilities are being 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 up to 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 will interconnect 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

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. Until all identified upgrades and contingent facilities are completed, output may be limited on an annual basis through the MISO Annual ERIIS Evaluation and/or on a quarterly basis through the MISO Quarterly Operating Limit (QOL) review that could reduce output by as much as it's fully requested output. As reported in previous updates, 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 ERIIS Evaluation, it was determined that 157.6 MW of the 169 MW (the GIA injection limit) is subject to curtailment in the QOL process for MISO's 2019-2020 planning year (June 1, 2019 through May 31, 2020). 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.

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 ERIIS 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

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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 340 MW (the GIA injection limit) is subject to curtailment in the QOL process for MISO's 2019-2020 planning year (June 1, 2019 through May 31, 2020). 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.

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 186.7 MW of the 200 MW (the GIA injection limit) is subject to curtailment in the QOL process for MISO's 2019-2020 planning year (June 1, 2019 through May 31, 2020). 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.

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 will interconnect to the 345 kV system at the Fallow to Grimes 345 kV line in Adair County. Construction at Arbor Hill began in 2018 and is planned to be completed in 2019.

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 0 MW of the 340 MW (the GIA injection limit) is subject to curtailment in the QOL process for MISO's 2019-2020 planning year (June 1, 2019 through May 31, 2020).

90.8 MW Ivester Site

The Ivester site, located in Grundy County, is a wind farm 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:

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 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 0.8 MW of the 90 MW (the GIA injection limit) is subject to curtailment in the QOL process for MISO's 2019-2020 planning year (June 1, 2019 through May 31, 2020).

500.8 MW Orient Site

The Orient site, located in Adair County, is a wind farm which was self-developed by MidAmerican and that will interconnect 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 and is planned to be completed in 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 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.

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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 2019-2020 planning year (June 1, 2019 through May 31, 2020).

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 and is planned to be completed in 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 by December 2019.

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 2019-2020 planning year (June 1, 2019 through May 31, 2020).

250 MW Palo Alto Site

The Palo Also site, located in Palo Alto County, is a wind farm which was developed by a subsidiary of Invenergy 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 and is planned to be completed in 2019.

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. 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 250 MW (the GIA injection limit) is subject to curtailment in the QOL process for MISO's 2019-2020 planning year (June 1, 2019 through May 31, 2020).

Next Report

MidAmerican's next update is due September 1, 2020.