Ameren Transmission Company of Illinois's
Response to Neighbors United Data Request

In the Matter of the Application of Ameren Transmission Company of Illinois for Other Relief or, in the Alternative, a Certificate of Public Convenience and Necessity Authorizing it to Construct, Install, Own, Operate, Maintain and Otherwise Control and Manage a 345,000-volt Electric Transmission Line from Palmyra, Missouri, to the Iowa Border and an Associated Substation Near Kirksville, Missouri.
Data Request

Data Request No.: NU-A1 - Jennifer Hernandez

For the three 161 kV line segments with projected voltage violations under NERC Category C contingency conditions, answer the following questions:

What are the MVA ratings of line segments?

RESPONSE

Prepared By: Dennis Kramer
Title: Sr. Director – Transmission Policy, Planning and Stakeholder Relations
Date: October 10, 2015

The low voltage conditions that could result in the loss of both Ameren Missouri and Cooperative customer load in the northeastern Missouri area occur when two of the three existing 161 kV lines that supply that area are out of service during peak load conditions. This event could result in loss of customer load and would be a NERC Category C contingency condition.

During the development of the MVP portfolio, MISO (at that time named the Midwest ISO) performed a system analysis to identify facility overloads and resultant NERC contingency conditions that would be created by connecting additional wind generation resources to the existing 161 kV system in northeastern Missouri. MISO's analysis indicated that the Mark Twain Project was the best solution to address the overload conditions.

What are the MVA ratings of line segments?
The below ratings are summer emergency ratings from the Eastern Interconnection System Model 2010 series for 2021 Summer or other sources where indicated. The models are periodically updated by the transmission line owners.
1. Thomas Hill to Adair owned by Ameren Missouri = 315 MVA

2. Appanoose to Adair with Missouri portion owned by Ameren Missouri and Iowa portion owned by ITC Midwest = 223 MVA
3. Adair to Novelty and continuing to Palmyra owned by Associated Electric = 285 MVA. Rating based upon information provided by Associated Electric.

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Data Request

Data Request No.: NU-A2 - Jennifer Hernandez

For the three 161 kV line segments with projected voltage violations under NERC Category C contingency conditions, answer the following questions:

What are the ages of the poles and conductors (for each line segment)?

RESPONSE

Prepared By: Dennis Kramer
Title: Sr. Director – Transmission Policy, Planning and Stakeholder Relations
Date: October 10, 2015

The low voltage conditions that could result in the loss of both Ameren Missouri and Cooperative customer load in the northeastern Missouri area occur when two of the three existing 161 kV lines that supply that area are out of service during peak load conditions. This event could result in loss of customer load and would be a NERC Category C contingency condition.

During the development of the MVP portfolio, MISO (at that time named the Midwest ISO) performed a system analysis to identify facility overloads and resultant NERC contingency conditions that would be created by connecting additional wind generation resources to the existing 161 kV system in northeastern Missouri. MISO's analysis indicated that the Mark Twain Project was the best solution to address the overload conditions.

What are the ages of the poles and conductors (for each line segment)?

1. Thomas Hill to Adair: Miscellaneous replacements have occurred over time, but most of the poles were installed in 1969. The conductor was installed in 1969.
2. Appanoose to Adair (Ameren Missouri portion): Miscellaneous replacements have occurred over time, but most of the poles were installed in 1970. The conductor was installed in 1970.

3. Adair to Novelty and continuing to Palmyra: This line is owned and maintained by Associated Electric, and ATXI is unaware of the ages of the poles and conductors.

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Data Request

Data Request No.: NU-A3 - Jennifer Hernandez

For the three 161 kV line segments with projected voltage violations under NERC Category C contingency conditions, answer the following questions:

What is the material used in the existing conductors for each line segment?

RESPONSE

Prepared By: Dennis Kramer
Title: Sr. Director – Transmission Policy, Planning and Stakeholder Relations
Date: October 10, 2015

The low voltage conditions that could result in the loss of both Ameren Missouri and Cooperative customer load in the northeastern Missouri area occur when two of the three existing 161 kV lines that supply that area are out of service during peak load conditions. This event could result in loss of customer load and would be a NERC Category C contingency condition.

During the development of the MVP portfolio, MISO (at that time named the Midwest ISO) performed a system analysis to identify facility overloads and resultant NERC contingency conditions that would be created by connecting additional wind generation resources to the existing 161 kV system in northeastern Missouri. MISO's analysis indicated that the Mark Twain Project was the best solution to address the overload conditions.

What is the material used in the existing conductors for each line segment?

1. Thomas Hill to Adair is 954 KCMIL ACSR 45/7 RAIL conductor).
2. Appanoose to Adair (Ameren Missouri portion) is 795 KCMIL ACSR 45/7 TERN conductor.
3. Adair to Novelty and continuing to Palmyra is owned and maintained by Associated Electric, and ATXI is unaware of the existing conductor material.

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Data Request

Data Request No.: NU-A10 - Jennifer Hernandez

For the three 161 kV line segments with projected voltage violations under NERC Category C contingency conditions, answer the following questions:

Provide the length (in miles) of the three 161 kV line segments that experience NERC reliability violations under Category C contingency conditions.

RESPONSE

Prepared By: Dennis Kramer
Title: Sr. Director – Transmission Policy, Planning and Stakeholder Relations
Date: October 10, 2015

The low voltage conditions that could result in the loss of both Ameren Missouri and Cooperative customer load in the northeastern Missouri area occur when two of the three existing 161 kV lines that supply that area are out of service during peak load conditions. This event could result in loss of customer load and would be a NERC Category C contingency condition.

During the development of the MVP portfolio, MISO (at that time named the Midwest ISO) performed a system analysis to identify facility overloads and resultant NERC contingency conditions that would be created by connecting additional wind generation resources to the existing 161 kV system in northeastern Missouri. MISO's analysis indicated that the Mark Twain Project was the best solution to address the overload conditions.

Provide the length (in miles) of the three 161 kV line segments that experience NERC reliability violations under Category C contingency conditions.

1. Thomas Hill to Adair: Approximately 44 miles.
2. Appanoose to Adair (Ameren Missouri portion): Approximately 41 miles.

Adair to Novelty and continuing to Palmyra: This line is owned and maintained by Associated Electric, and ATXI does not know the exact line length.

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Data Request

Data Request No.: NU-A11 - Jennifer Hernandez

For the three 161 kV line segments with projected voltage violations under NERC Category C contingency conditions, answer the following questions:

Describe the location and assumed output (in MW) of wind power generation facilities that contribute to the Category C violations on the three 161 kV lines.

RESPONSE

Prepared By: Dennis Kramer
Title: Sr. Director – Transmission Policy, Planning and Stakeholder Relations
Date: October 10, 2015

The low voltage conditions that could result in the loss of both Ameren Missouri and Cooperative customer load in the northeastern Missouri area occur when two of the three existing 161 kV lines that supply that area are out of service during peak load conditions. This event could result in loss of customer load and would be a NERC Category C contingency condition.

During the development of the MVP portfolio, MISO (at that time named the Midwest ISO) performed a system analysis to identify facility overloads and resultant NERC contingency conditions that would be created by connecting additional wind generation resources to the existing 161 kV system in northeastern Missouri. MISO's analysis indicated that the Mark Twain Project was the best solution to address the overload conditions.

Describe the location and assumed output (in MW) of wind power generation facilities that contribute to the Category C violations on the three 161 kV lines.

A NERC Category C contingency condition occurs when two of the existing 161 kV lines that supply the northeastern Missouri area are out of service during peak load conditions.

The location and assumed output of wind power generation facilities do not contribute to the low voltage condition.

The MISO analysis of the impact of connecting additional wind generation resources to the existing 161 kV system in northeastern Missouri identified facility overloads. The assumptions used by MISO in its analysis are contained in publically available MISO materials.

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Data Request

Data Request No.: NU-C7 - Jennifer Hernandez

Identify the 2021 wind power capital cost assumption and annual capacity factor assumption used as inputs in the MTEP14 Triennial Review cost-benefit calculations.

RESPONSE

Prepared By: Dennis Kramer
Title: Sr. Director – Transmission Policy, Planning and Stakeholder Relations
Date: October 10, 2015

Identify the 2021 wind power capital cost assumption and annual capacity factor assumption used as inputs in the MTEP14 Triennial Review cost-benefit calculations.

ATXI possesses only the publicly available information provided by MISO regarding the assumptions used by MISO in its analysis.

Page 40 of the MISO MTEP14 Triennial Review Report states, “The incremental wind benefits were monetized by applying a value of $2 to $2.8 million/MW, based on the U.S. Energy Information Administration’s estimates of the capital costs to build onshore wind.”

Page 23 of the MTEP14 Triennial Review Report states, “A MISO-wide per-unit capacity factor was averaged from the 2028 incremental wind zone capacities to 31.4 percent.”