Thursday, April 21, 2011

Ms. Mary Jo Kunkle
Executive Secretary
Michigan Public Service Commission
6545 Mercantile Way
P.O. Box 30221
Lansing, MI 48909

Re: Case No. U-16515 – In the matter of the investigation, on the Commission's own motion, into the electric supply reliability plans of Michigan's electric utilities for the year 2011

Dear Ms. Kunkle:

As directed by the Commission's December 21, 2010 Order in the above-referenced case, enclosed for filing are the **Comments of ITC*Transmission* and Michigan Electric Transmission Company, LLC on the Assessment of the Michigan Transmission Capacity and Plan for Meeting 2011 Peak Load Demand.**

This is a paperless filing and is therefore being filed only in a PDF format.

Sincerely,

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Comments of ITC*Transmission* and Michigan Electric Transmission Company, LLC on the Assessment of the Transmission Capacity and Plan for Meeting 2011 Peak Load Demand

I. Introduction

The Michigan Public Service Commission ("MPSC") issued an Order, on December 21, 2010, in case No. U-16515, which requires the Commission-regulated electric utilities to file a self-assessment of the utility's ability to meet its customers' electrical requirements for 2011 ("2011 Electric Assessment Report") by March 31, 2011. Alternative electric suppliers and transmission owners were also requested to file initial and/or reply comments by April 21, 2011. The instant filing is International Transmission Company's, d/b/a ITC*Transmission* and Michigan Electric Transmission Company, LLC's ("METC") comments regarding Michigan's transmission reliability and capacity issues.

II. The ITC*Transmission* and METC Reliability and Capacity Evaluation Planning Process

ITC*Transmission* and METC (collectively "ITC")[1], as owners of transmission facilities used in providing wholesale transmission service to Michigan transmission customers including utilities, municipals, cooperatives and independent power producers, focuses mainly on maintaining a reliable and capable transmission system for Michigan. Issues that ITC faces in maintaining a reliable and capable transmission system for Michigan are: 1) the age of existing transmission facilities; 2) the need to increase the state's transmission capacity for renewable and new generation resources; and 3) reliability related issues such as equipment/thermal overloads and voltage problems.

ITC continuously studies and identifies transmission system needs and develops projects to improve Michigan's transmission reliability and capacity issues. ITC also examines the collective networked transmission system to determine if it needs

[1] ITC*Transmission*'s current system footprint mirrors Detroit Edison's retail service territory and is located in an approximately 7,600 square mile area having a population of 4.9 million. It consists of the following assets: (i) approximately 2,700 circuit miles of transmission lines operated at 120kV to 345kV, (ii) approximately 17,000 transmission towers and poles, (iii) 171 stations which connect transmission facilities, (iv) other transmission equipments necessary to safely operate the system (e.g., switching stations, breakers and metering equipments), (v) associated land, rights-of-way and easements, (vi) assets located in ITC's Novi, Michigan corporate office, which consist of a transmission operations control room, furniture, fixtures, office equipment and other associated facilities, and (vii) the Ann Arbor Operations Center, which performs operational control services for all of the electrical systems of ITC*Transmission* and METC.

METC's current footprint covers more than 28,800 square miles in Lower Peninsula of Michigan, comprising all or part of 60 counties, and services approximately six million end-use customers. Its facilities include approximately 5,400 circuit miles of overhead and underground transmission lines, 43,000 towers and poles, and 95 stations connecting the METC facilities. METC's transmission system neighbors that of ITC*Transmission*.

improvements through transmission expansion or maintenance projects. ITC's studies and examination of the networked transmission system are aimed in ensuring that the capacity of the system is sufficient to meet the energy needs of Michigan's transmission customers and the overall transmission system reliability. Through these studies, ITC identifies capital maintenance projects, transmission expansion plans, generation interconnection projects and different transmission improvement alternatives that are not only beneficial for reliability purposes, but that also allow less costly generation dispatch patterns that provide value in lower electric energy costs to Michigan transmission customers.

ITC's maintenance projects are driven by ITC time-based interval inspection programs that seek to proactively identify maintenance issues before they cause outage problems on the system. Through these inspection and testing programs, ITC identifies assets that are at end of their useful life or assets with frequent maintenance issues where replacement is the preferred or required solution. These capital maintenance projects increase reliability and lower ITC's field operations and maintenance cost. Further, poor performing equipment is removed from the system. With respect to transmission expansion projects, the transmission system is analyzed to look at factors such as: 1) the existing and projected loads; 2) the addition of generating resources for example coal, natural gas, wind generation, and other renewable resources; 3) exports or imports of power into and out of the region, including power that may flow through the region from interregional energy transactions; and 4) the economics of the system.

In addition to ITC's internal evaluation and planning procedures, ITC participates in the Midwest ISO's Transmission Expansion Plan ("MTEP") process. The MTEP is a Federal Energy Regulatory Commission ("FERC") Order 890 approved planning process where ITC's capital maintenance projects and transmission expansion and generation interconnection projects are reviewed and approved by the Midwest ISO Board of Directors. This MTEP process for Michigan includes the Sub regional Planning Meetings (SPM) and the Michigan Technical Study Task Force (MTSTF) meetings. These meetings are designed to provide an open stakeholder forum to ensure that the transmission and capital maintenance projects identified by ITC and other transmission owners are integrated and coordinated on a local and regional basis. These meetings are attended by affected stakeholders including incumbent utilities, state public service commission staffs, electric power cooperatives, other Midwest ISO transmission owners and other interested parties. Throughout these meetings, stakeholders have the opportunities to identify and propose an alternative to ITC's identified baseline reliability transmission solutions. Further, the Midwest ISO will schedule additional meetings if the Midwest ISO believes that additional discussion/study is needed on some of the projects that have been identified by ITC or other transmission owners within Michigan. Failure to implement projects that have been approved through the MTEP process could result in a higher overall cost of delivered energy due to the reduced access to lower cost generators; i.e., the system capacity is not sufficient to allow lower cost generator transactions to occur.

ITC's transmission expansion and maintenance analyses also include consideration of, and testing against, mandatory reliability standards established by the North American Electric Reliability Corporation ("NERC"). Failure to implement a transmission solution to solve a baseline reliability project could also result in reliability violations such as line or equipment overloads, low voltage situations, power quality problems, or other violations.

Through out the planning year, ITC also implements generation interconnection projects to meet Michigan's transmission reliability and capacity issues. Generation interconnection projects are system reinforcement projects that are necessary to facilitate the connection of new or upgraded generation, including renewable resources. These projects are included in the MTEP process and provide the interconnected generators the ability to deliver their power output into the Midwest ISO's energy market. Likewise, failure to implement these projects would either 1) prohibit the connection of new low cost generation resources or 2) could restricts output from the generators if the generators operated at full output after interconnecting without the identified system reinforcement projects.

In addition to participating in the MTEP annually, prior to the summer peak season, ITC facilitates the Michigan Reliability Group ("MRG") meeting. This is a group of Michigan Load Serving Entities that includes Consumers Energy, Detroit Edison, Holland Board of Public Works, Lansing Board of Water and Light, Wolverine, Michigan Public Power Agency, Michigan South Central Power Agency, and the City of Wyandotte. The Midwest ISO and MPSC staff also participates in this annual meeting. The MRG primary purpose is to determine how load shedding, ordered by the Midwest ISO, for capacity shortages in the Midwest ISO footprint would be allocated within Michigan. The MRG collaboratively develops the procedure, process and tools needed to accomplish the agreed upon protocol for allocating load shedding. While load shedding is the primary focus, the MRG has also been used as a forum to exchange views, ideas, and concerns related to various Midwest ISO, NERC, and FERC issues and activities including: training, market issues, and NERC compliance issues. The MRG meeting for 2011 has not been finalized yet but is tentatively scheduled to take place in late May of this year.

III. ITC*Transmission* and METC Transmission Reliability and Capacity Improvement Projects

ITC*Transmission* and METC completed a series of expansion and maintenance projects in 2010. These projects were approved in previous MTEPs. In addition, as a result of ITC's internal planning process and after successfully obtaining approval through the MTEP process, ITC*Transmission* and METC plan to complete additional expansion and maintenance projects in future years. Some of these projects have been submitted to the Midwest ISO to be included as "planned" projects in the 2011 MTEP. These projects are described in the attached Projects Appendix and further details can

also be found on the Midwest ISO's ftp site (ftp://mtep.midwestiso.org/) for those that have this site access.

Another noteworthy issue for long term reliability in Michigan is the efficient integration of renewable resources into the system. Effectively integrating renewable resources takes considerable planning that considers the existing generation interconnection requests as well as future requests for interconnection. Of particular note in this years' plan is the inclusion of the Thumb loop project. This project is designed to efficiently provide a backbone transmission system that will support the minimum and maximum wind generation amounts for the Thumb and was approved through the MTEP process. This project was approved at the Midwest ISO in August, 2010. The project was then filed at the MPSC for expedited siting approval in case U-16200. This process comported with the provisions outlined in Public Act 295 of 2008. The Michigan Public Service Commission granted the siting certificate for the Thumb loop project on February 25, 2011.

IV. Conclusion

As the Midwest ISO's energy market continues to evolve, there will be continued need to develop, maintain, and enhance the reliability of Michigan's transmission infrastructure in order to support Michigan's electric energy needs and to continue to allow access to the competitive wholesale electric market for the sale and purchase of electric energy. In light of a changing energy landscape, ITC works with stakeholders to implement the identified transmission reliability and capacity enhancement projects. Further, it is imperative that ITC, now and in the future, address the development of cost effective transmission improvements in the areas currently being targeted by new generation resources since the locations of these resources will impact the transmission system.

Therefore, ITC does not foresee any impediments on the transmission system that will affect the reliable supply of energy to Michigan transmission customers for the 2011 planning year.

2010 & 2011 COMPLETED, PLANNED AND PROPOSED PROJECTS APPENDIX FOR ITC*TRANSMISSION* AND METC

Projects Appendix ITC*Transmission* and METC Projects

ITC*Transmission* (ITCT) Projects Completed in 2010

- Load Interconnection Projects: The following is a list of new load interconnection projects put into service in 2010: Deacon, Durant (GM Proving Grounds), Hurst and Navarre.

- Adams - Spokane and Jewell - St. Clair 2 120 kV: The project split the Jewell - Spokane - St. Clair 120 kV circuit into two circuits each having two-terminals. (Adams - Spokane 120 kV and Jewell - St. Clair #2 120 kV). This project eliminated protective relay over-trips at Spokane on the Jewell - Spokane - St. Clair 120 kV circuit that occurred as a result of faults on the Jewell - St. Clair – Spokane 120kV circuit.

- Bloomfield - Wheeler 120 kV: This project replaced terminal equipment at Bloomfield station. This project reduced the line flows on the Bloomfield - Wheeler 120 kV circuit since they were projected to exceed emergency ratings following several contingencies involving loss of Bloomfield - Troy 120 kV.

- Genoa-Latson 120 kV: This project replaced 3.7 miles of wood H-frames on the Genoa-Latson line with 138kV steel structures. The Genoa-Latson line is an ITCT-METC interconnection and the impacted segment was on the ITCT portion. The Genoa-Latson is a section of the Genoa-Oakland-Tihart line which had twenty-one (21) line related outages since 1991. This line was approaching 70 years old and was at the end of its design life. The Genoa-Latson was done in association with Durant load interconnection the project to provide two (2) -120 kV feeds to the GM Milford Proving Grounds

- Hunters Creek-Stratford-Pontiac 120 kV: This project included installation of a second lightening protection shield wire and improvement of the lightning protection to the structures on the Hunters Creek-Stratford-Pontiac 120 kV circuit which brought this line up to ITCT current standards. The Hunters Creek - Stratford line had three outages and the Pontiac-Stratford line had five outages since 2002 with six resulting from lightning strikes.

- Hunters Creek - Robin - Wabash 120 kV: This project included installation of a second lightning protection shield wire and improvement of the lightning protection to the structures on the Hunters Creek - Robin - Wabash 120 kV circuit which brought this line up to ITCT current standards. This line had thirty-six outages since 1990. Almost one-third of the outages have been caused by lightning with 70% of them occurring in last five years.

- Generation Interconnections: ITC Transmission is a Transmission Owner in the Midwest ISO and complies with the FERC order 890 planning process for generator

interconnections by participating in the Midwest ISO Generation Interconnection Process. The following is a list of generator interconnections that were placed into service in 2010 on the ITCTransmission system. For further information on the interconnection process see the Midwest ISO generation interconnection website (https://www.midwestiso.org/PLANNING/GENERATORINTERCONNECTION/Pages/GeneratorInterconnection.aspx) for more details on the network upgrades associated with each interconnection.

  - J043, Macomb County, 3.2 MW Landfill Gas

- Breaker Replacements: Some existing breakers across the system are at or near their maximum fault interrupting capability. Many of these breakers are also costly to maintain and have limited availability of replacement parts. ITCT has undertaken an aggressive system wide breaker replacement program to address these types of breakers. ITCT replaced fourteen 345 kV breakers and three 120 kV breakers in 2010.

- Maintenance Projects: ITCT has programmatic maintenance plans in place to correct operating performance deficiencies on the transmission system. These programs include the following: Capacitor Replacements, Gas Termination Replacements, New Synchronizing Sites, Potential Device Replacements, Power Plant Control Relocations, Relay Replacements, and defective Wood Pole Replacements. ITCT manages multi-year projects to improve system performance, upgrade station equipment where appropriate, and replace problematic system equipment in order to avoid potential miss-operations.

METC 2010 Project Completed in 2010

- Load Interconnection Projects: The following is a list of new load interconnection projects that were put into service in 2010: Bullock, Chase, College, Corvis, Gray Road, Hubbardston and LaBarge.

- Argenta Breakers: This project added a breaker at the Argenta Station in each of the rows where transformer #3 ties into the 345 kV and 138 kV busses. This project prevents a breaker fault or failure from automatically tripping two Argenta transformers which would overload the third transformer.

- Cobb Swamp Rebuild: The Cobb - Felch Road, Cobb - Tallmadge Circuits 1 and 2, Cobb - Four Mile and Cobb - Sternberg 138 kV Lines each have 4.5 miles in the floodplain swamp of the Muskegon River, immediately east of the B.C. Cobb Generating Station. This project rebuilt the floodplain swamp section of the five circuits, with the final configuration having the Cobb - Tallmadge Circuits #1 and #2 sharing new double circuit structures, Cobb - Four Mile and Cobb - Sternberg sharing new double circuit structures, and Cobb – Felch Road as a single circuit on a third future double circuit structure. The existing five individual H-frame single-circuit lines were originally built back in the late 1950's and showed deterioration due their

age and exposure to the harsh weather conditions at the project location. In addition, physical site access to the existing lines was very limited and needed to be improved.

- 345kV Ludington and Kenowa Reactor Circuit Switcher Replacements: These projects involved replacement of 345kV circuit switchers with 345kV breakers at Kenowa and Ludington. The circuit switchers were replaced due to a combination of many factors such as age and past poor performance. These switchers have had maintenance inspections that show the equipment was nearing its end of life. Additionally, spare parts for these aging switchers were difficult and very expensive to obtain.

- Saginaw River – Almeda- Twining 138 kV Circuit: The Saginaw River to Almeda to Twining 138 kV line was rebuilt using a new larger conductor. This project prevents the line from exceeding its line rating under contingencies involving the Livingston - Gallagher - Tittabawassee 345 kV circuit.

- Tyler Switching Station: The Tyler project included looping the existing Campbell - Tallmadge 138 kV line into a new station and constructing a new eleven mile 138 kV line between Tyler and Black River stations. This new switching station project prevents the Black River station from experiencing low voltage for either a bus outage or breaker failure trip that removes Bus #1 from Black River station.

- METC Area Clearance ("Sag") Limits: Various 138 kV circuits throughout the METC footprint were identified as having National Electric Safety Code clearance limits, which have reduced the operating and planning line ratings. Projects were completed on the following list of circuits to address Sag issues: Palisades – Argenta 345kV, Tallmadge - Roosevelt 345kV, Croton - Mecosta 138kV, Delhi - Island Road 138kV, Warren – Bullock 138kV, Battle Creek - Island Road 138kV, Verona – Batavia 138kV, Twining – Mio 138kV, and Bard Road – Warren 138kV.

- Breaker Replacements: Some existing breakers across the system are at or near their maximum fault interrupting capability. Many of these breakers are also costly to maintain and have limited availability of replacement parts. METC has undertaken an aggressive system wide breaker replacement program to address these types of breakers. METC replaced seven 345 kV breakers and four 138 kV breakers in 2010.

- Maintenance Projects: METC has programmatic maintenance plans in place to correct operating deficiencies on the transmission system. These programs include the following: Battery Replacements, NERC Transmission Relay Loadability Relay Replacements, Pole Top Switch Replacements, Potential Device Replacements, Power Plant Control Relocations, Relay Replacements, Transformer Monitoring, and defective Wood Pole Replacements. METC manages multi-year projects to improve system performance, upgrade station equipment where appropriate, and replace problematic system equipment in order to avoid potential mis-operations.

ITC*Transmission* Projects for 2011 and Beyond

- Load Interconnection Projects: The following list of potential new load interconnection projects has been identified: Ariel, Bristol, Calla, Clyde, Detroit Waste Water, Earhart, Hurst, MacSteel, Phoenix, Scio, Tahoe, and Upper Rouge.

- Candidate MVP Portfolio 1 - Michigan Thumb Wind Zone: The Thumb Loop Project calls for the construction of approximately 140 miles of double circuit 345 kV lines and four new substations that will serve as the "backbone" of the transmission system needed to support the interconnection of renewable generation sources in the Thumb area of Michigan. Additional lines and facilities will be needed in the future as wind generators go into service and connect to this backbone system. The system is designed to meet the identified minimum and maximum wind energy potential of the Thumb region (2,367 and 4,236MW respectively) and is capable of supporting a maximum capacity of about 5,000MW. The new system will be constructed in stages, with the first segment, the western side of the loop from Tuscola County to Huron County, tentatively planned to enter service in late 2013. The remainder is targeted for completion by 2015 in time to support Michigan's 2015 Renewable Portfolio Standard target mandated by Public Act 295 of 2008.

- Air Flow Spoilers (used to minimize the galloping of the conductors on a line): These will be installed on the Belle River-Greenwood-Pontiac & Belle River-Blackfoot 345kV circuits. There have been eight outages due to galloping on the double circuit towers carrying these circuits since 2003. Five of the outages affected the Belle River-Greenwood-Pontiac 345 kV line while three affected the Belle River-Blackfoot 345 kV line.

- Bunce Creek - Scott (B3N) 230 kV Ontario Interconnection: The Bunce Creek 230 kV phase shifting transformer failed in-service as did the Bunce Creek - Scott (B3N) 230 kV Ontario interconnection. While the B3N 230 kV line interconnection has been returned to service, the back to back phase shifting transformers at Bunce Creek were installed in 2010 but not been placed into service awaiting several regulatory and legal issues yet to be settled. One major event that is pending is the Department of Energy approval of the Presidential permit.

- Southfield – Sunset 120kV: This planned project is to rebuild a 6.4 mile section of the circuit with new larger conductor utilizing 120kV double circuit structures. The other side of these structures will be utilized by portions of the existing Quaker–Drake and Drake-Northwest 120kV circuits. This project will address projected overloads identified in the 2010 ITCT planning assessments.

- Generation Interconnections: ITC Transmission is a Transmission Owner in the Midwest ISO and complies with the FERC order 890 planning process for generator interconnections by participating in the Midwest ISO Generation Interconnection Process. The following is a list of generator interconnections in ITC Transmission

with in-service dates of 2011 or later that have signed interconnection agreements or have interconnection agreements that were filed un-executed. For further information on the interconnection process see the Midwest ISO generation interconnection website(https://www.midwestiso.org/PLANNING/GENERATORINTERCONNECTION/Pages/GeneratorInterconnection.aspx) for more details on the network upgrades associated with each interconnection.

  - G503, Huron County, increase to 158 MW wind from 68 MW wind , 2011 In Service
  - G867, Monroe County, 1563 MW Nuclear, 2017 In Service

- Breaker Replacements: Some existing breakers across the system are at or near their maximum fault interrupting capability. Many of these breakers are also costly to maintain with few readily available parts. ITCT has undertaken an aggressive system wide breaker replacement program to address these types of breakers. ITCT currently plans to replace two 345 kV breakers, and thirty one 120 kV breakers in 2011 and beyond.

- NERC Alert: In October 2010, NERC issued an alert to all Transmission and Generation Owners to review their facility ratings and confirm that they meet their actual field conditions. This alert was issued by NERC in response to an event that occurred on a Transmission Owner's system external to Michigan. The NERC Alert specifies that all facilities will be reviewed and ratings certified to actual field conditions and when necessary, ratings will be adjusted or remediation performed for the entire system. Based on a variety of factors, ITCT has prioritized its facilities as high- priority, medium-priority and low-priority; with roughly one third of the system in each classification. The assessments are required to be completed for the high-priority facilities in 2011 with any remediation to be completed within one year of the high-priority facilities assessment. The medium-priority assessments are required to be completed in 2012 with again the remediation to be completed within one year. Finally, the low-priority facilities will be completed in 2013 with the remediation in one year. This alert impacts all transmission owners across the country and ITCT is actively monitoring both the industry and NERC to ensure our response will meet the intent of the alert.

- Maintenance Projects: ITC*Transmission* has programmatic maintenance plans in place to improve operating performance deficiencies on the transmission system. These programs include the following: Capacitor Replacements, Gas Termination Replacements, New Synchronizing Sites, Potential Device Replacements, Power Plant Control Relocations, Relay Replacements, and defective Wood Pole Replacements. ITC*Transmission* manages multi-year projects to improve system performance, upgrade station equipment where appropriate, and replace problematic system equipment in order to avoid potential mis-operations.

METC Projects for 2011 and Beyond

- Load Interconnection Projects: The following list of potential new load interconnection projects have been identified by customers as requiring new transmission service: Acme, Birchwood, Capital Ave, Chums Corner, Discovery Way, Eagles Landing, Eaton Rapids, Edenville, Egan, Faussett, Forest Grove, Haakwood, Hawthorne, Ironwood, Maines, Pearline, Ratigan, Ryno, Saginaw River, Scenic Lake and Traverse City L&P East.

- Alcona – Mio 138kV Circuit: This is a planned project to rebuild the circuit with larger conductor utilizing a 230 kV future double circuit construction. The line has experienced 42 outages since 1993 and has numerous infrastructure issues.

- Batavia to Simpson 138 kV Circuit: This planned project is to construct a new circuit from Simpson to Batavia. This project will add an additional source into this area to alleviate overloads and support voltage in the area.

- Chase - Mecosta 138kV Circuit: This circuit is projected to become overloaded for the shutdown plus contingency scenario that involves portions of the Cobb to Felch Road 138 kV and Four Mile to Croton 138 kV circuits. This planned project is to rebuild the circuit with new larger conductor utilizing a 230 kV future double circuit construction.

- Cottage Grove-East Tawas 138 kV Circuit: This circuit is projected to become overloaded for various shutdown plus contingency scenarios that involve the Livingston – Gallagher – Tittabawassee 345 kV circuit. This planned project is to rebuild the circuit with new larger conductor utilizing a 138 kV single circuit construction.

- Croton-Nineteen Mile 138kV Circuit: This circuit is projected to become overloaded for various shutdown plus contingency scenarios that involve the Ludington - Keystone 345 kV circuit. This planned project is to rebuild the circuit with new larger conductor utilizing a 230 kV future double circuit construction.

- David Jct - Hubbardson Jct - Bingham Sag Circuit Remediation: Replace 20 wood poles associated with clearance ("Sag") National Electric Safety Code violations with new 138kV steel structures.

- Delhi - Island Road 138 kV Circuit: The Canal Jct. to Island Road portion of the Delhi - Island Road 138 kV circuit had 13 line condition related outages in the last 15 years. The majority of this circuit is nearly 50 years old and has been deemed to have reached the end of its design life.

- Edenville Jct - Warren 138 kV Circuit: The Bullock - Edenville Jct. - Warren 138 kV circuit had 34 line related outages in the last 15 years. The majority of this circuit is nearly 60 years old and the structures reached the end of their designed life. This

planned project is to replace all line structures and insulators on the circuit.

- Genoa to Oakland to Tihart 138 kV Circuit: The Tihart - Oakland 138 kV Line had a large number of line related outages in the last 20 years. The majority of this circuit is nearly 70 years old and has reached the end of its designed life. There is a planned project to replace all wood line structures and associated insulators on the circuit.

- Iosco to Karn 138 kV Circuit: The Iosco - Karn 138 kV Circuit had 21 line related outages in the last 20 years. The majority of this circuit is nearly 50 years old and has been deemed to be at the end of its' design life. Portions of the circuit, overload for various shutdown plus contingency scenarios involving the Livingston - Gallagher - Tittabawassee 345 kV circuit. There is a planned project to rebuild the portion from Iosco to East Tawas due to infrastructure conditions.

- Keystone-Hodenpyl 138 kV Circuit: The circuit is projected to become overloaded for the shutdown plus contingency scenario that involves the Livingston – Gallagher – Tittabawassee 345 kV and Keystone – Ludington 345 kV circuits. This planned project is to rebuild the circuit with larger conductor utilizing a 230 kV future double circuit construction.

- Livingston to Gaylord 138 kV Dual Pilot Relay Protection Scheme Installation: This planned project includes installation of a dual pilot relay protection scheme on the Livingston to Gaylord 138 kV circuit. This protection scheme would be placed in service to mitigate possible dynamic instability issues involving the Gaylord and Livingston peaking generating units for various shutdown plus contingency scenarios.

- Livingston to Riggsville138 kV Circuit: The Livingston - Emmet, Livingston - Riggsville, and Livingston - Gaylord 138 kV circuits feed into the far northern area of the Lower Peninsula of Michigan. Losing any two of these circuits is projected to cause thermal overloads on the remaining circuit and create low voltage conditions in the area. This is a planned project is to rebuild the Livingston – Vanderbilt 138V section of this circuit with new larger conductor, utilizing future double circuit 230 kV construction. The remaining section from Vanderbilt to Riggsville is proposed to be rebuilt by 2015.

- Murphy Station: This planned project adds a new second 345/138 kV transformer and loops the Tittabawassee to Thetford 345 kV circuit through the station. This project relieves transformer overloads at Murphy and Tittabawassee stations and also brings two new 345 kV circuits into Murphy to increase the reliability of the transmission system in this area.

- Plum-Stover 138kV Circuit: This circuit is projected to become overloaded for the shutdown plus contingency scenario that involves the Livingston – Gallagher – Tittabawassee 345 kV and Keystone – Livingston 345 kV circuits. This planned project is to rebuild the circuit with new larger conductor utilizing a 230 kV future double circuit construction.

- Riggsville 138 kV bus Rebuild: The equipment at this station has reached the end of its useful life. This planned project will rebuild the 138 kV bus and associated switches.

- Tippy – Chase 138kV Circuit: This is a planned project to rebuild the circuit with larger conductor utilizing a 230 kV future double circuit construction. This project is slated to deal with overloads in certain contingency scenarios.

- Twining to Alcona 138kV Circuit: This planned project is to rebuild the circuit with new larger conductor utilizing a 230 kV future double circuit construction due to extensive clearance ("Sag")violations, deteriorating condition of towers, frequent outages and power flows on this circuit getting close to rated amount under contingency conditions.

- Weeds Lake: The majority of the electrical demand in the Kalamazoo area is served from the Argenta substation. This station has three 345/138kV transformers. The loss of one of those transformers during the planned shutdown of another will overload the third. To address this, this is a planned project to construct a new 345/138 kV station. Weeds Lake station would be located south of Argenta and would loop the Argenta - Robison Park 345 kV circuit to AEP into the station. It would also bring two existing Argenta - Milham 138 kV circuits to this new station.

- NERC Alert: In October 2010, NERC issued an alert to all Transmission and Generation Owners to review their facility ratings and confirm that they meet their actual field conditions. This alert was issued by NERC in response to an event that occurred on a Transmission Owner's system external to Michigan. The NERC Alert specifies that all facilities will be reviewed and ratings certified to actual field conditions and when necessary, ratings will be adjusted or remediation performed for the entire system. Based on a variety of factors, METC has prioritized its facilities as high- priority, medium-priority and low-priority; with roughly one third of the system in each classification. The assessments are required to be completed for the high-priority facilities in 2011 with any remediation to be completed within one year of the high-priority facilities assessment. The medium-priority assessments are required to be completed in 2012 with again the remediation to be completed within one year. Finally, the low-priority facilities will be completed in 2013 with the remediation in one year. This alert impacts all transmission owners across the country and METC is actively monitoring both the industry and NERC to ensure our response will meet the intent of the alert.

- Generation Interconnections: METC is a Transmission Owner in the Midwest ISO and complies with the FERC order 890 planning process for generator interconnections by participating in the Midwest ISO Generation Interconnection Process. The following is a list of generator interconnections in METC with in-service dates of 2011 or later that have signed interconnection agreements or have interconnection agreements that were filed un-executed. For further information on the interconnection process see the Midwest ISO generation interconnection website

https://www.midwestiso.org/PLANNING/GENERATORINTERCONNECTION/Pages/GeneratorInterconnection.aspx, for more details on the network upgrades associated with each interconnection.

  - G809, Midland County, 193 MW Gas, 2011 In Service
  - H075, Oceana County, 43.2 MW Wind, 2012 In Service
  - G513, Oceana County, 100 MW Wind, 2012 In Service
  - G905, Gratiot and Saginaw Counties, 200 MW Wind, 2011 In Service
  - J102, Van Buren County, 26 MW Nuclear (increase in output of plant), 2011 In Service

- Breaker Replacements: Some existing breakers across the system are at or near their maximum fault interrupting capability. Many of these breakers are also costly to maintain and have limited availability of replacement parts. METC has over the last several years undertaken an aggressive system wide breaker replacement program to address these types of breakers. METC currently plans to replace eight 345 kV breakers and thirty 138 kV breakers in 2011 and beyond.

- Terminal Equipment Upgrades: These projects will replace terminal equipment at various stations that are projected to be overloaded. These are low cost solutions to improve the circuit's capacity during contingency events. The following circuits and stations will be impacted by projects of this type:

  - Tippy – Wexford 138kV;
  - Bullock to Dow Corning 138 kV
  - Bullock to Tittabawassee 138 kV;
  - Garfield to Hemphill 138kV;
  - Keystone to Hodenpyl 138 kV
  - Stronach to Tippy 138 kV.

- Maintenance Projects: METC has programmatic maintenance plans in place to identify improve operating deficiencies on the transmission system. These programs include the following: Battery Replacements, NERC Transmission Relay Loadability Relay Replacements, Potential Device Replacements, Power Plant Control Relocations, Relay Replacements, Spill Prevention Control and Countermeasure Program, Transformer Monitoring, and defective Wood Pole Replacements. METC manages multi-year projects to improve system performance, upgrade station equipment where appropriate, and replace problematic equipments in order to avoid potential miss-operations. Additionally, these plans include urgent maintenance work identified during the year.