ITC Mid-Atlantic Development LLC

PJM Project Submission
14RTEP2-4: Gordonsville – Fairground – Remington CT 230kV
December 5th, 2014

Redacted Version

Contents

A – Executive Summary

A.1 – Name and Address

Question: Name and address of the proposing entity

ITC Mid-Atlantic Development LLC
27175 Energy Way
Novi, MI 48377

A.2 – General Description

Question: A general description of the proposed project

ITC identified the 14RTEP2-4 project as a potential solution to relieve multiple identified reliability issues near the Pratts area in Virginia. The project involves constructing one new transmission line, rebuilding an existing transmission line, and constructing a new substation. Three (3) existing substations would also require modification or expansion. The scope of the project is described below.

- Construct a new Fairground 230/115kV substation with one (1) 115kV line termination, one 230/115kV transformer and two (2) 230kV line terminations.
- Construct approximately 36 miles of new 230kV transmission line from the new Fairground 230/115kV substation to the existing Remington CT substation.
- Expand existing 230kV portion of the Remington CT substation to accommodate termination of the proposed transmission line from Fairground substation.
- Expand the existing 230kV portion of the Gordonsville substation to accommodate termination of the rebuilt 230kV line from Fairground substation.
- Rebuild the existing 115kV Gordonsville – Pratts line to 230kV (approximately 18 miles) and tie into Fairground 230/115kV substation near the existing Pratts substation.
- Tie the 115kV portion of the existing Pratts substation into the new Fairground 230/115kV substation.

A conceptual one line diagram outlining the scope of the project is included as Figure 1 in Appendix A.

A.3 – Problems Addressed

Question: The reliability problem(s) that the project is proposed to resolve

N-1 and N-1-1 analyses were performed using the posted data for the PJM 2014 RTEP Project Proposal Window 2. These analyses were performed using the posted cases (base summer peak and light load) and the modified base cases with the inclusion of 14RTEP2-4. Siemens PSS/E v32.2.1 and the PowerGEM TARA software package v770e AC Contingency Analysis tools were used for simulation. The raw results are available upon request.

The 14RTEP2-4 project addresses the posted thermal violations as shown in the table below. The reported loadings with the addition of the project reflect the worst case loading on the facility under the contingency conditions analyzed.

Table 1 - Thermal Issues Addressed by Project

FG #	Analysis Type	Facility	Outage Type	Cont. Loading (%) Without Project	Cont. Loading (%) With Project
1.1	SP Thermal	Redacted			
1.2	SP Thermal				

The 14RTEP2-4 project addresses the posted voltage drop violations as shown in the table below. The reported voltages with the addition of the project reflect the largest voltage drop on the facility under the contingency conditions analyzed.

Table 2 – Voltage Drop Issues Addressed by Project

FG #	Analysis Type	Facility	Outage Type	Cont. Vdrop (%) Without Project	Cont. Vdrop (%) With Project
N2-VD49	SP Vdrop	Redacted			
N2-VD50	SP Vdrop				
N2-VD51	SP Vdrop				
N2-VD52	SP Vdrop				
N2-VD53	SP Vdrop				
N2-VD54	SP Vdrop				
N2-VD55	SP Vdrop				
N2-VD56	SP Vdrop				
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N2-VD74	SP Vdrop				
N2-VD75	SP Vdrop				
N2-VD76	SP Vdrop				
N2-VD77	SP Vdrop				
N2-VD78	SP Vdrop				
N2-VD79	SP Vdrop				
N2-VD80	SP Vdrop				
N2-VD81	SP Vdrop				
N2-VD82	SP Vdrop				
N2-VD83	SP Vdrop				
N2-VD84	SP Vdrop				
N2-VD85	SP Vdrop				
N2-VD86	SP Vdrop				

The 14RTEP2-4 project addresses the posted low voltage violations as shown in the table below. The reported voltages with the addition of the project reflect the lowest voltage on the facility under the contingency conditions analyzed.

Table 3 – Voltage Magnitude Issues Addressed by Project

				Base Voltage (pu)		Cont. Voltage (pu)	
FG #	Analysis Type	Facility	Outage Type	Without Project	With Project	Without Project	With Project
N2-VM3	SP Voltage Mag.	Redacted					
N2-VM4	SP Voltage Mag.						
N2-VM5	SP Voltage Mag.						
N2-VM6	SP Voltage Mag.						
N2-VM7	SP Voltage Mag.						
N2-VM8	SP Voltage Mag.						
N2-VM9	SP Voltage Mag.						
N2-VM10	SP Voltage Mag.						
N2-VM11	SP Voltage Mag.						
N2-VM12	SP Voltage Mag.						
N2-VM13	SP Voltage Mag.						
N2-VM14	SP Voltage Mag.						
N2-VM15	SP Voltage Mag.						
N2-VM16	SP Voltage Mag.						
N2-VM17	SP Voltage Mag.						
N2-VM18	SP Voltage Mag.						
N2-VM19	SP Voltage Mag.						
N2-VM20	SP Voltage Mag.						
N2-VM21	SP Voltage Mag.						
N2-VM22	SP Voltage Mag.						
N2-VM23	SP Voltage Mag.						
N2-VM24	SP Voltage Mag.						
N2-VM25	SP Voltage Mag.						
N2-VM26	SP Voltage Mag.						
N2-VM27	SP Voltage Mag.						
N2-VM28	SP Voltage Mag.						
N2-VM29	SP Voltage Mag.						
N2-VM30	SP Voltage Mag.						
N2-VM31	SP Voltage Mag.						
N2-VM32	SP Voltage Mag.						
N2-VM33	SP Voltage Mag.						
N2-VM34	SP Voltage Mag.						
N2-VM35	SP Voltage Mag.						
N2-VM36	SP Voltage Mag.						
N2-VM37	SP Voltage Mag.						
N2-VM38	SP Voltage Mag.						

The 14RTEP2-4 project addresses the posted non-converged conditions as shown in the table below.

Table 4 – Non-converged Issues Addressed by Project

				Convergence	
FG #	Analysis Type	Outage	Outage Type	Without Project	With Project
N2-NC1	SP	Redacted			
N2-NC2	SP				
N2-NC3	SP				
N2-NC6	SP				

The addition of the 14RTEP2-4 project provided further loading reduction on several transmission lines in the system. The table below provides the additional benefit in transmission line loading reduction as a result of the 14RTEP2-4 project.

Table 5 – Additional Thermal Issues Addressed by Project

			Cont. Loading (%)	
Analysis Type	Facility	Outage Type	Without Project	With Project
SP Thermal	Redacted			
SP Thermal				
SP Thermal				

The addition of the 14RTEP2-4 project did not eliminate the overload on the Oak Green to Orange 115 kV line. However the 14RTEP2-4 project marginally reduced the worst case loading as shown in the table below.

Table 6 - Thermal Issues Not Addressed by Project

				Cont. Loading (%)	
FG #	Analysis Type	Facility	Outage Type	Without Project	With Project
2.1	SP Thermal	Redacted			
2.2	SP Thermal				

Redacted

Table 7 - Thermal Issues Addressed by Project with Re-dispatch

FG #	Analysis Type	Facility	Outage Type	Cont. Loading (%) Without Project	Cont. Loading (%) With Project
2.1	SP Thermal	Redacted			
2.2	SP Thermal				
-	SP Thermal				
-	SP Thermal				

Redacted

A.4 – Project Cost

Question: Total proposed project cost

The proposed 14RTEP2-4 project is expected to cost $142.0 million in 2014 dollars. Details are shown in section C.2.

A.5 – Schedule

Question: Overall schedule duration

The proposed project schedule is expected to span approximately 3.75 years from kick-off to energization. This is described in detail in section C.3.

A.6 – Designated Entity Status

Question: Entities that will be requesting Designated Entity status are required to submit a statement affirming that the company pre-qualification information on record with PJM and as posted on PJM's website reflects the company's current qualifications to be eligible for Designated Entity status as defined in the PJM Amended and Restated Operating Agreement ("PJM OA") in Section 1.5.8(a). The entity's PJM pre-qualification ID must also be referenced.

ITC Mid-Atlantic Development LLC (14-02) affirms that the information included in our pre-qualification application dated March 2014 and posted on the PJM website reflects the company's present qualifications.

A.7 – Intent to be Considered Designated Entity

Question: If the proposing entity seeks to be designated to construct, own, operate, maintain and finance the proposed project or some portion of the project, the proposing entity must provide a statement within the project proposal package stating the intent to be considered the Designated Entity for the proposed project.

ITC Mid-Atlantic Development LLC does intend to be the Designated Entity for the project described in this proposed project submittal.

B – Company Evaluation Information

B.1 – Technical and Engineering Qualifications

Question: Description of proposing entity's (or its affiliate, partner or parent company) technical and engineering qualifications relevant to construction, operation and maintenance of the proposed project

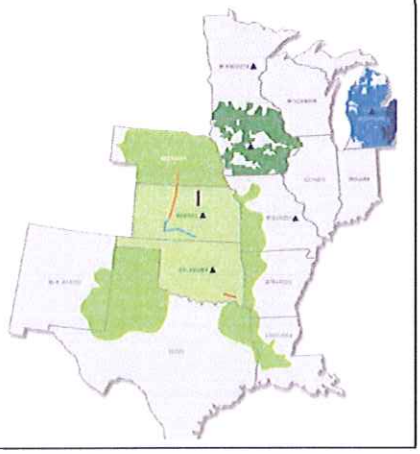
ITC Mid-Atlantic Development LLC (ITC Mid-Atlantic) is a wholly-owned subsidiary of ITC Grid Development, LLC, which is itself a wholly-owned subsidiary of ITC Holdings Corp. (ITC). ITC Mid-Atlantic was formed to develop, construct, own, operate, maintain and finance transmission facilities in PJM. As a wholly-owned subsidiary of ITC Grid Development, LLC, ITC Mid-Atlantic has full access to the resources, capabilities and expertise of ITC Holdings Corp., a Michigan corporation and its affiliates.

ITC is the nation's first, largest and only publicly traded independent transmission company. Since its founding in 2003, ITC has invested over $4.8 billion in the electric transmission grid to improve reliability, expand non-discriminatory access to markets, lower the overall cost of delivered energy, and allow new generating resources to interconnect to its transmission systems regardless of ownership. In its first 10 years, ITC successfully acquired and integrated three transmission businesses. In addition, ITC established a new subsidiary company, ITC Great Plains LLC (ITC Great Plains or ITCGP), a new pioneering transmission-only utility that was created from the ground up. ITC Great Plains has identified and facilitated critical regional transmission infrastructure in the Southwest Power Pool (SPP) footprint, and has constructed a portfolio of actionable transmission development projects by partnering with local utilities and electric cooperatives.

Operating Companies

A brief summary of the existing operating companies provides a high-level context of ITC and its capabilities to develop and own transmission projects (approvals, siting, engineering, construction, operations and maintenance).

ITC Companies in MISO and SPP



ITC has four operating companies that own, operate and maintain transmission assets of multiple voltage levels in diverse geographies and conditions: International Transmission Company, d/b/a IT*Transmission* (ITCT), Michigan Electric Transmission Company, LLC (METC), ITC Midwest LLC (ITCMW), and ITC Great Plains, LLC (ITCGP) (see Table 8).

IT*Transmission* (ITCT), the operating company in Southeast Michigan is comprised of approximately 2,800 circuit miles of transmission assets formerly owned by DTE Electric and its parent company DTE Energy. ITC has invested over $1.4 billion to upgrade and expand this system. ITCT serves the densely populated Detroit metropolitan area and its concentration of automotive and other manufacturing and supplier facilities in the region. ITCT's transmission system includes predominantly 120kV and 345kV facilities. ITCT also owns and operates some 230kV facilities, as well as underground transmission facilities operated at 120kV and 345kV. ITCT has existing transmission interconnections with the IESO (HydroOne) and PJM (ATSI).

The METC transmission system serves much of the remainder of Michigan's Lower Peninsula and is made up of the transmission assets formerly owned by Consumers Energy and its parent company CMS Energy. METC's transmission system has approximately 5,600 circuit miles of 138kV and 345kV facilities.

Over $950 million has been invested in the METC system to strengthen the transmission network. METC also has existing interconnections with PJM (AEP).

ITC Midwest (ITCMW) serves most of Iowa and parts of Minnesota, Illinois and Missouri with approximately 6,600 circuit miles of transmission assets formerly owned by Interstate Power and Light Company and its parent company Alliant Energy. ITC has invested over $1.4 billion into the ITCMW system since acquiring the assets in late 2007. The ITCMW footprint is predominantly rural and includes 34.5kV, 69kV, 115kV, 161kV, and 345kV facilities. ITCMW has existing interconnections with PJM (ComEd) as well.

ITC Great Plains (ITCGP) operates approximately 200 miles of 345kV transmission facilities in Kansas and Oklahoma and is constructing more than 120 additional miles of 345kV transmission in Kansas. Route approval is also in process for another 30 miles of 345kV transmission. Unlike ITC's other operating companies, ITCGP was not created from the acquisition of an existing transmission system; it was built from the ground up by establishing a presence in a new region, acquiring discrete transmission assets, and also acquiring the rights to construct, own and operate specific facilities through co-development agreements with utilities in Kansas and Oklahoma.

ITC is also expanding into PJM and is actively engaged in ensuring all PJM requirements will be met when the new Covert to Segreto 345kV line in Southwest Michigan goes into service on June 1, 2016. This will be ITC's first project energized in PJM.

Table 8- ITC Line Miles by Voltage

Voltage	ITC Line miles
<100kV	*4,271*
100kV – 230kV	*7,338*
345kV	*3,754*
Total	*15,363*

In summary, ITC offers the following benefits to PJM:

- Largest independent transmission owner in the country: *resources needed to undertake complex projects*
- Experience in the PJM region through existing connections and the Covert-Segreto project: *reduces leorning curve and enables ITC to hit the ground running on day one*
- Experience owning, operating and maintaining more than 15,300 miles of transmission line in seven states serving a combined peak load of more than 26,000 megawatts (MW): *processes in place to operate infrastructure in many different regions*
- Transmission-owning member of both Midcontinent Independent System Operator (MISO) and SPP Regional Transmission Organizations (RTOs): *experience participating in multiple regional processes*
- Close working relationships with industry-leading consulting firms: *ability to scale up and down resources to match expertise with PJM's needs*

ITC Engineering

ITC's in-house engineering staff totals nearly 260 engineering employees across the Design, Project Management, Operations, and Planning departments. These resources include: 37 engineers (S67 total years of experience) in project development functions such as detailed design for high-voltage electrical infrastructure, and 15 project management engineers (334 total years of experience). ITC has also developed close working relationships with industry-leading consulting firms that work hand-in-hand with ITC on detailed engineering and design packages. These consultants act as an extension of ITC and

often have teams solely dedicated to ITC projects. This arrangement enables ITC to scale resources up and down to match expertise with the present transmission development needs.

All design packages are reviewed, finalized and approved for construction by ITC internal engineering staff. ITC will continue to use its internal expertise in both substation design engineering and transmission line design engineering in coordination with its consulting firms to develop future projects.

Through the detailed design process, ITC strives to create efficiency and optimize the system performance and functionality. This effort has resulted in standardization of substation layouts, protective relay and control panels, control center design, substation equipment, and line structures. This standardization method streamlines design, creates efficiencies during maintenance practices, and optimizes required inventories due to the use of interchangeable parts.

To ensure ITC's expectations are achieved, certain policies, practices, processes and field manuals have been developed. These include but are not limited to:

- *Field Supervisor Checklists*: Task lists for various activities typically completed as part of a construction project.
- *ITC Safety Manual*: ITC safety rules are given to all ITC contractors. Contractors adhere to the more stringent standard when comparing ITC's and their own.
- *Daily Logs*: Listing of crew and other resources on the job site and activities that occurred.
- *Project Close-out Process*: Process for closing project and reporting documents such as red-lined as-built drawings.

ITC's design and construction standards meet or exceed National Electric Safety Code (NESC) requirements. ITC has committed to constructing transmission to a NESC Grade B standard or above. It is the objective of ITC to maintain best-in-class construction standards and techniques to provide a reliable and efficient transmission system.

Operations & Maintenance

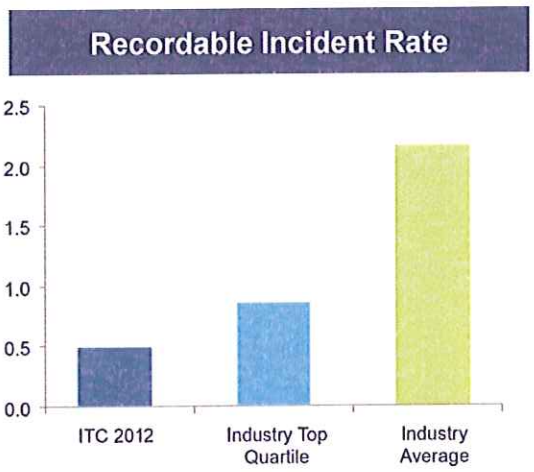
Effective maintenance ensures ITC's transmission facilities remain in proper condition to perform their intended function, whether during routine operations, switching, or emergency conditions. ITC's maintenance program has four building blocks:

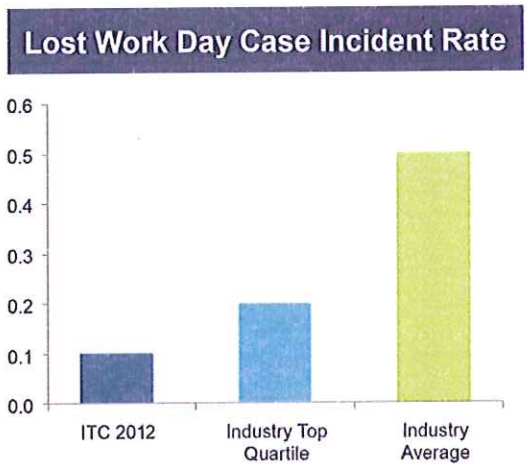
1. Maintenance practices must be thorough, so that all individual components receive the appropriate level of preventive maintenance; and they must be comprehensive, so that all equipment is included.
2. Completion of 100% of the maintenance plan every year, so that if a component requires periodic maintenance, it must receive the required maintenance within its scheduled interval.
3. The "immediate action" approach, where corrective actions are taken for any equipment deemed unfit for service.
4. Continuous improvement, by implementing outage root-cause analysis and feedback into both the maintenance and the capital improvement plans.

These maintenance practices, when taken together and applied to the various categories of maintenance we perform (preventative, reactive, facilities, vegetation, vehicular, etc.), form our comprehensive maintenance program.

The comprehensive maintenance program described above has increased reliability by maximizing the availability of critical equipment during the times of greatest need. ITC is committed to completing all annual maintenance activities necessary to ensure North American Electric Reliability Corporation (NERC) compliance in all areas (vegetation management, line, substation equipment, etc.). This is the link between the first and second components of ITC's maintenance practices. We have a set of robust practices for performing maintenance on the transmission system, and we have consistently performed 100% of the annual maintenance plan.

ITC also has a reputable safety record, well inside the top quartile for both recordable incident rates and lost work day case incident rates.





B.2 - Experience

B.2.a – Developing, Constructing, Operating and Maintenance

Question: Detailed description of proposing entity's (or its affiliate, partner or parent company) experience in: developing, constructing, operating and maintaining the types of transmission facilities included in the project proposal.

ITC has significant experience developing, constructing, operating and maintaining transmission facilities to help improve reliability, reduce congestion, improve system efficiency, and interconnect new generation to load all leading to lowering the overall costs of delivered energy to ITC's customers. ITC's history demonstrates that we do this with the intent of holding those assets over the long term (ITC does not "flip" transmission investments). Several recent examples of transmission development and construction are provided below. ITCT has over a hundred circuit miles of 230kV lines supporting the transmission grid throughout Lower Michigan with interconnections to neighboring systems. ITC is well prepared to successfully construct, own and operate the proposed facilities given the well-established ITC resources for similar facilities.

Thumb Loop Project

The Michigan Thumb Loop project was the first of MISO's Multi-Value Projects (MVPs) to be approved and will serve as the backbone of a system designed to meet requirements set by Michigan's Wind Energy Resource Zone Board. The Thumb Loop project will also provide additional power delivery capacity for future economic development thereby helping existing businesses grow and also attract

new businesses, jobs and investment to the region. Representing a $510 million investment in Michigan's grid, the project consists of approximately 140 miles of double-circuit, 345kV lines and four new substations. ITC has led the planning, construction and development phases, working with skilled labor, engineering and project management organizations to prudently manage project resources and deliver exceptional results. ITC continues to be on-time and on-budget with this project – a testament to the company's project management and construction team abilities.

Phase 1 of the project was placed in-service in September 2013, while Phase 2 entered into service in May, 2014. The remainder of the project is expected to be completed and in-service in 2015. In total, the Thumb Loop project will include nearly 800 structures consisting of both tubular steel poles and lattice steel towers. Additional lines and facilities are being added as wind generators go into service and connect to the system to fulfill the requirements of the state's Renewable Portfolio Standard. The Thumb Loop project is an example of ITC's efforts to improve the national electric transmission system, create access to competitive energy markets, and foster growth for local and regional economies – all for the benefit of customers.

Underground Experience

ITC owns, operates and maintains 53 circuits that are either partially, or entirely, underground. These transmission circuits are located in dense urban areas and serve as integral components of the ITCT footprint. In locations with routing and siting constraints that make overhead transmission lines impractical, these underground circuits provide ITC a prudent method of ensuring vital system reliability.

ITC utilizes its strong relationships with qualified firms to install underground circuits via Engineering/ Procurement/ Construction (EPC) contracts. Recently ITC improved its underground facilities by reconductoring 7.29 miles of the Caniff-Stephens 345kV circuit in Metropolitan Detroit. High Pressure Oil Filled 2500 kcmil conductor was installed, replacing the existing 2000 kcmil cable to provide a reliable solution to system issues. ITC also recently installed a new 4.53 mile Erin to Stephens 120kV circuit in Metropolitan Detroit. Both of these circuits, along with the remainder of its underground transmission circuits, supplement ITC's overhead backbone system, providing a comprehensive transmission network.

KETA Project

The Kansas Electric Transmission Authority (KETA) identified this particular project in 2007 through its initiatives to bring significant economic and reliability benefits to Kansas and the regional transmission grid. KETA is an organization created in 2005 by the Kansas Electric Transmission Authority Act (HB 2263) and is intended to promote and facilitate expansion of Kansas transmission infrastructure for the betterment of the Kansas economy. This 227-mile project runs from Spearville, Kansas, in the southwestern part of Kansas; north to the Post Rock substation just outside of Hays, Kansas; and then north to Axtell, Nebraska. ITCGP worked with the incumbent electric cooperatives to acquire the rights to build the Kansas portion of this 345kV project, from Spearville to the Kansas/Nebraska state line. This allowed the electric cooperatives to deploy their own limited capital for other projects in their footprints and to utilize ITC's expertise in building, operating and maintaining the transmission project. Our agreement with the electric cooperatives prevented them from having to choose between new generation resources for meeting their load obligations, and transmission investment to bring cheaper and renewable resources to the region. The electric cooperatives chose to allow ITC the opportunity to bring the transmission project to fruition. ITC placed its portion of the KETA (Spearville-Axtell) transmission project into service in 2012. The Nebraska portion was constructed and is operated by the Nebraska Public Power District. ITC completed its 174-mile portion in Kansas significantly under budget and ahead of schedule, which demonstrates ITC's focus and commitment to cost containment and operational excellence.

V-Plan

In cooperation with Sunflower Electric Power Corporation and Mid-Kansas Electric Company, ITC has designed and is constructing two segments of the V-Plan project totaling approximately 122 miles of double-circuit, 345kV line. The high-voltage transmission line is designed to connect eastern and western Kansas to improve electric reliability and enable energy developers to tap into the transmission grid. The project is expected to be in-service in December 2014.

Au Sable Circuit

This 110-mile line from Zilwaukee to Mio, Michigan, is important to electric reliability in northeastern Michigan. In June 2014, ITC completed rebuilding and upgrading this line from single-circuit, 138kV to future double-circuit 230kV design and construction standards. This will increase its capacity and reliability, provide increased lightning protection, and facilitate potential future 230kV expansion in northern Michigan. The project is the result of ITC's rigorous planning process that is designed to anticipate future customer needs and provide the grid flexibility to meet those needs in an efficient and cost-effective manner.

Multi-Value Projects (MVPs)

ITC is advancing its portions of four Multi-Value Projects (MVPs) in Iowa, Minnesota and Wisconsin. Following approval of these projects by MISO in late 2011, ITC has focused on siting preparations and worked with other utilities to finalize ownership levels of the projects in support of our targeted in-service dates. In 2014, two 345kV line sections received Iowa regulatory approval and easements have been secured. Also in 2014, regulatory hearings were completed toward the Certificate of Need and Route Permit in Minnesota. These projects are part of the broader MVP portfolio and are anticipated to provide broad regional benefits while also supporting approved state and federal energy policy mandates in the MISO region. Anticipated in-service dates of the projects range from 2015 to 2020.

ITC will build portions of the following projects:

- MVP 3 – a joint project with MidAmerican Energy Company of about 70 miles in Minnesota and about 145 miles in Iowa.
- MVP 4 –a joint project with MidAmerican Energy Company of approximately 190 miles in Iowa.
- MVP 5 – a joint project with American Transmission Company (ATC) of about 160 miles in Wisconsin and Iowa.
- MVP 7 – a joint project with MidAmerican; approximately 90 miles in Iowa and Missouri.

B.2.b – Standardized Construction Practices

Question: Detailed description of proposing entity's (or its affiliate, partner or parent company) experience in: adhering to standardized construction, maintenance, and operating practices, including the capability for emergency response and restoration of damaged equipment

Adherence to Standardized Construction, Maintenance & Operating Practices

ITC has an exceptionally strong record of adhering to standardized construction, maintenance and operating procedures. ITC's construction capabilities are demonstrated in numerous transmission projects that have been completed on time and, as noted above, within their original budget. ITC's operations and maintenance practices are equally strong with similar records of achievement. We have standard construction specification documents to which our construction teams adhere.

Operations and Maintenance

ITC's operations and maintenance activities deliver exceptional reliability benefits to our customers and help accommodate evolving demands on the systems such as increased use of the transmission system, integration into energy markets and facilitation of public policy initiatives. ITC has a fundamental responsibility to comply with all applicable NERC Reliability Standards and Requirements and to operate and maintain its systems in accordance with good utility practice. In addition to these, and perhaps most visible to our customers, is ITC's goal of striving for top quartile reliability performance. Reliability depends on four key system factors:

1. Design
2. Capital Improvements
3. Operations
4. Maintenance

Efficient system design and cost-effective capital improvements help ensure the system expands and is improved, promoting consistently fewer and shorter outages. The ITC Capital Maintenance Program involves the systematic upgrading of aging and/or obsolete equipment such as circuit breakers, switches, relays, surge arrestors, transmission line structures, security infrastructure, and other equipment on a recurring basis. As an example, the average age of circuit breakers in the ITC*Transmission* and METC systems has decreased more than 11 years as a result of this program. Additionally, unreliable or maintenance-intensive equipment is upgraded or replaced with state-of-the-art equipment that is more dependable, more environmentally friendly and easier to maintain.

Our focus on operations involves using existing assets in the most efficient and reliable manner possible. For example, advanced protection schemes and systems monitor the transmission grid and maintain reliability during outages. These systems have the ability to collect data, localize a fault, and help determine the cause of an outage.

The importance that ITC places on effective maintenance ensures ITC's transmission facilities remain in proper condition to perform their intended function, whether during routine operations, switching, or emergency conditions. ITC's maintenance practices are comprised of four components:

1. Practices must be thorough, so that all individual components receive the appropriate level of preventive maintenance; and they must be comprehensive, so that all equipment is included.
2. Completion of 100% of the maintenance plan every year. If a component requires periodic maintenance, then it must receive the required maintenance within its scheduled interval.
3. The "immediate action" approach, where corrective actions are taken for any equipment deemed unfit for service.
4. Continuous improvement, by implementing outage root-cause analysis and feedback into both the maintenance and the capital improvement plans.

These maintenance practices, when applied to ITC's multiple maintenance categories (preventive, reactive, facilities, vegetation and vehicular) comprise our comprehensive maintenance program, which has increased reliability by maximizing the availability of critical equipment during times of greatest need. ITC's focus, commitment and execution in these areas has not only markedly improved system reliability, it has reduced the annual cost for reactive maintenance and enabled ITC to shift approximately three-quarters of the total operations and maintenance budget to preventive maintenance and operations/training. Trend data reveals a consistent reduction in reactive or

unplanned maintenance -which indicates fewer outages- and an emphasis on proactive preventive maintenance.

Emergency Response & Restoration Capability

Redacted

B.2.c – Regional Experience

Question: Detailed description of proposing entity's (or its affiliate, partner or parent company) experience in: working in the geographical region in which the project has been proposed

ITC has experience working with PJM through its multiple existing system interconnections and is familiar with its functions and history. As noted in our response to question B.1, three of our four operating companies have interconnections with PJM transmission owners.

ITC maintains a strong track record of providing crews to support PJM during extreme weather and other emergency events. We believe our extensive experience with other RTOs combined with our experience in PJM offers tangible benefits in the form of our independence and history as an owner, operator, and developer of transmission throughout the country.

ITC resources have supported utilities in PJM in emergency situations, including deployment of 167 personnel to New Jersey and eastern Pennsylvania in response to Hurricane Sandy. These resources came from Michigan, Iowa, and Minnesota. ITC resources have also supported PJM member Commonwealth Edison during emergency situations.

Outside of PJM, ITC has extensive experience in a wide range of activities with multiple RTOs including transmission project development, advocacy and participation in Federal Energy Regulatory Commission (FERC) Order 890 Compliant stakeholder planning processes. ITC has MISO transmission assets in Michigan, Iowa, Minnesota, Illinois and Missouri. ITC also has SPP operational transmission assets in Oklahoma and Kansas.

ITC has been a member of MISO since the company's inception in 2003. ITC is one of the largest transmission owners in MISO, and is actively involved in a wide range of activities, committees, and working groups. We have a valuable working relationship with MISO management and staff, and have proven to be a contributing and collaborative member.

ITC played a key leadership role in advocating regional transmission projects which resulted in MISO's MVPs – a set of 17 regional projects valued at $5.2 billion.

ITCGP has been a member of the SPP since 2007. As an SPP transmission owner, we have strong working relationships with SPP management and staff. Since 2007, through its leadership positions on various task forces and working groups, ITCGP has been a consistent participant in the SPP planning process, advocating for specific large-scale regional projects. Participation and advocacy in these groups resulted

in SPP's approval of approximately $500 million of transmission expansion projects that are in varying stages of development or operation by ITCGP.

ITC is also expanding into the PJM footprint and actively engaged in ensuring all PJM requirements will be met when the new Covert to Segreto 345kV line in Southwest Michigan goes into service on June 1, 2016. This will be ITC's first project energized in PJM.

B.2.d – Acquiring Rights of Way and Permitting

Question: Detailed description of proposing entity's (or its affiliate, partner or parent company) experience in: acquiring rights of way with specific emphasis on the geographical region in which the project has been proposed.

ITC has extensive experience acquiring rights of way (ROW) in the eastern interconnection. ITC's primary land acquisition firm, who would likely work on this project if we are successful, has extensive experience working on Right-of-Way acquisition projects in the region where this project is proposed. This experience is another strength offered by ITC. ITC will acquire ROW in PJM in the same manner that has generated success by obtaining broad stakeholder support in routing, siting and permitting. The siting process begins with a routing study that considers multiple stakeholders broadly and carefully. As a project advances, ITC begins ROW acquisition, working extensively and collaboratively with landowners to secure land rights on a voluntary basis. ROW is generally secured voluntarily and ITC makes every effort to work with land owners. However, even when ITC has filed condemnation actions, the company continues to work with the land owners and is often able to reach mutually acceptable resolution outside of the judicial forum.

Transmission development requires a wide variety of permits ranging from road crossing permits to Department of Natural Resources and U. S. Army Corps of Engineer permits. Since 2009, ITC has obtained more than 1,500 permits. ITC has a well-established permitting process involving a cross-functional team led by Design Engineering and including Project Engineering, Environmental, Legal, and Local Governmental and Community Affairs groups. This team works closely with consulting firms to identify required permits for the project and provide the information needed for filing permit applications. ITC has effectively leveraged a variety of local, regional and national firms to successfully acquire the required permits, including Black & Veatch, Burns & McDonnell, Louis Berger Group, Environmental Consulting Technology, Ulteig, Terracon and Atwell Group. A few examples of our siting and permitting experience are cited below.

As part of our environmental management system and in line with our best-in-class approach to conducting business, ITC is committed to considering environmental impacts in its decision-making process when planning infrastructure improvement projects. Transmission line projects can span many miles and occasionally cross environmentally sensitive areas. ITC's project teams understand this and include environmental assessments for wetlands, threatened and endangered species, and other sensitive habitats as part of the planning process.

Examples

KETA project: A 174-mile, single-circuit, 345kV line on new ROW in Kansas. ITC performed a routing study and worked with the state siting authority to secure route approval. ITC secured 10 Department of Transportation (DOT) permits and 15 Department of Environmental Quality (DEQ) permits for the project. ITC also worked with the U.S. Fish and Wildlife Service and the Kansas Department of Wildlife,

Parks and Tourism on whooping crane protection and lesser prairie chicken habitat protection and remediation.

Salem-Hazleton project: An 81-mile, single-circuit, 345kV line on mostly new ROW in Iowa. ITC was able to successfully negotiate co-locating approximately 20 miles of the new line jointly with another transmission company's facility. ITC worked through the Iowa Utilities Board siting process. ITC secured six Iowa DOT permits, one DEQ permit, 124 road crossing permits, two Department of Natural Resources permits or letters of no effect, three Federal Aviation Administration permits, three county floodplain permits and two Army Corp of Engineers permits or letters of no effect.

Thumb Loop project: A 140-mile, double-circuit, 345kV line in Michigan. ITC actively participated in the Michigan Public Service Commission (MPSC), which approved the preferred route. Phase 1 of the project was energized in September 2013. Phase 2 was placed in-service in May 2014. The project has an in-service date of 2015. To date, ITC has obtained 16 Michigan DOT permits, 20 DEQ permits, six soil erosion permits, 175 county road crossing permits and 60 drain commission permits.

V-Plan project: A 122-mile, double-circuit, 345kV line under construction in Kansas with a projected in-service date of December 2014. ITC obtained siting approval from the Kansas Corporation Commission and to date has obtained nine Kansas DOT and five DEQ permits. ITC worked with environmental stakeholders to find alternative routes to minimize impact to landowners and to lesser prairie chicken habitat and to help facilitate further wind farm development.

B. 3 – Financing Plan

Question: Proposed financing plan for the project including discussion of any cost advantages available to the proposing entity as a result of their financing plan and structure. Such submittal may include a letter of intent from a financial institution approved by the Office of the Interconnection or such other evidence of financial resources available to finance the construction, operation and maintenance of the proposed project.

ITC Mid-Atlantic Development LLC is a wholly-owned subsidiary of ITC Holdings Corp. (ITC). ITC is the nation's largest independent electricity transmission company, operating in seven states and serving a combined peak load in excess of 26,000 MW through its regulated operating subsidiaries. ITC is a highly rated entity with senior unsecured ratings of BBB+/Stable from Standard & Poor's and Baa2/Stable at Moody's.

ITC has significant access to liquidity with a present capacity on its revolving credit facility of $400 million. This facility is financed by banking institutions including Bank of America, Barclay's, Co-Bank, Comerica, Credit Suisse, Deutsche Bank, Goldman Sachs, JP Morgan, Mizuho, Morgan Stanley, PNC and Wells Fargo. The facility also has an optional $100 million expansion feature that would allow the company the capability to access $500 million in cash in a short time. Moreover, ITC has a proven track record of accessing both public and private capital markets on a timely basis to construct green-field projects and reinvestments in existing assets. In summary, ITC has a solid balance sheet, strong credit ratings and significant access to liquidity with deep access to capital markets.

B.4 – Cost Containment

Question: Description of proposing entity's (or its affiliate, partner or parent company) managerial ability to contain costs and adhere to construction schedules for the proposed project, including a description of verifiable past achievement of these goals

Redacted

ITC Achievements

The KETA project is a 174-mile, 345kV transmission line project in western Kansas from the city of Spearville in the south to the Kansas/Nebraska border in the north. The scope included a significant expansion of the existing Spearville substation, and the building of a new substation at the line's midpoint in Hays, KS. The project was completed six months prior to SPPs *Notice to Construct* required in-service date, and was $40 million under budget for a total cost of $148 million.

The Thumb Loop project is a 140-mile, double-circuit, 345kV line looping through the "thumb" area of Michigan. The scope also includes four new transmission substations and a major substation expansion. Major milestones were identified and an overall project schedule was established in the summer of 2010. Since that time, due to the success of the team approach, ITC has been able to stay on track to meet the schedule requirements for each segment of the line and remains on track to meet the in-service date for the entire loop.

B.5 – Cost Caps or Commitments

Question: Details of any construction cost caps or commitment the proposing entity wishes PJM to consider in its analysis, including the conditions and exceptions to such construction cost caps or commitments (Note: As per the Tariff, submittal of such proffered cost caps are at the discretion of the proposing entity but will be considered by PJM in its analysis of the costs of various proposals).

B.6 – Unique Qualifications

Question: Description of any other unique qualifications the entity may have to construct, operate, and maintain the proposed project, including any cost commitment the entity may wish to submit.

ITC's success story is the proven integration of established systems, organic expansions and non-incumbent developments into a unified independent transmission company. ITC will apply resources and experience with non-incumbent development to integrate this green-field project into an ITC facility.

ITC has successfully expanded from its origins in Southeast Michigan to include planning, construction, operation and maintenance of over 15,000 miles of transmission facilities in seven states covering three NERC regions and two RTO footprints. ITC is expanding into the PJM footprint and is actively engaged in ensuring all PJM requirements will be met when the new Covert to Segreto 345kV line in Southwest Michigan goes into service on June 1, 2016. This will be ITC's first project energized in PJM.

Since ITC was formed in 2003, contract maintenance services have been used over its entire multistate footprint. These services have been typically performed via a specialized utility maintenance contractor but in some cases have been in partnership with local utilities.

ITC is a utility in eight states (including Wisconsin where we are in pre-construction on an MVP, our first project in that state) and recognizes states have varying requirements. ITC has gone through many state regulatory processes to become a public utility in the states in which it operates and expects to do the same in any PJM states where ITC is successful in securing projects through the PJM competitive process. ITC will dedicate the necessary resources to pursue that state's requirements to secure such status.

Independent Business Model

ITC's independent transmission business model is unique and vital to its corporate identity. ITC does not own generation or distribution assets; ITC employees and directors are prohibited from owning the stock of market participants (generation owners, load-serving entities, marketers, etc.); and there are strict restrictions on market participants owning ITC stock. Unlike some utilities that have created stand-alone transmission subsidiaries, ITC is not owned by utility companies, holding companies of utilities, or entities that buy or sell energy.

Because ITC is fully independent, it does not have and is not distracted by, conflicting interests with generators, markets, electricity retailers and other market participants. ITC's attention is focused on the reliable delivery of low cost energy to end users.

The independent transmission model provides numerous, substantial benefits:

- **Transparency:** Throughout transmission development and operations, ITC is transparent in its planning processes, design and routing, construction, operations and maintenance
- **Operational Excellence:** Since high-voltage transmission is ITC's sole focus and the core of its business, it is attentive to transmission operations and brings experience, creative and flexible solutions, and an exceptional focus on how an excellent transmission system can benefit customers.
- **Reliability:** Without other activities or lines of business that can become distractions, ITC is completely focused on the reliability of transmission systems.

- **Infrastructure Investment:** Since ITC does not have other capital-intensive businesses such as generation or distribution, there are no internal conflicts for capital that can lead to deferring needed transmission investments.
- **High Quality Credit:** ITC's unique business model and long-term record of achievements in financial management, project development, construction, and operations have resulted in investment grade credit ratings which ITC is committed to retaining. Higher credit quality enables consistent and predictable access to capital, even during challenging economic times, and results in lower borrowing costs.
- **Public Policy Alignment:** ITC's independence does not favor any specific type of generation, but ITC's focus on transmission efficiency and flexibility results in a more robust transmission system that can be a strong facilitator of various public policies.
- **Facilitate Generator Interconnections:** Since ITC does not own generation that may be impacted by new generation or transmission facilities, generators will be treated fairly throughout the interconnection process.
- **Customer Focus:** ITC's independence from all electricity generators, buyers and sellers allows planned improvements to the electric transmission grid for the broadest public benefit including seams and regional projects.

FERC has also recognized the benefits of an independent transmission company. ITC's superior record of investment in reliability and economic infrastructure to facilitate energy markets has been recognized in federal policies aimed at perpetuating and replicating ITC's independent model. Benefits cited by FERC include:

1. Improved asset management, including increased investment;
2. Improved access to capital markets, given a more focused business model than that of vertically-integrated utilities;
3. Development of innovative services; and
4. Additional independence from market participants

B.7 – Assumptions

Question: List of assumptions used in developing the project proposal package such as work to be executed by incumbent Transmission Owner(s).

ITC made assumptions regarding the facilities constructed by others outlined in section C.1.c. Specifically the demarcation point between proposed transmission line and existing substations will be determined at a later date. Other assumptions include the following:

- The proposed route is preliminary and was used to determine the project cost estimate. The actual route will be studied and determined at a later date.
- The work required to modify the existing substations will be performed by the existing transmission owners and is subject to their standards & specifications.
- The proposed Gordonsville – Pratts line rebuild would be performed by the existing transmission owner.

- The demarcation point between the proposed transmission line and the existing substations will occur at the first structure within the substation fence.
- The control buildings at the existing substations have sufficient room for any needed relay additions and/or modifications.

C – Constructability Information

ITC identified the 14RTEP2-4 project as a potential solution to relieve multiple identified reliability issues near the Pratts area in Virginia. The project involves constructing one new transmission line, rebuilding an existing transmission line, and constructing a new substation. Three (3) existing substations would also require modification or expansion. The scope of the project is described below.

- Construct a new Fairground 230/115kV substation with one (1) 115kV line termination, one 230/115kV transformer and two (2) 230kV line terminations.
- Construct approximately 36 miles of new 230kV transmission line from the new Fairground 230/115kV substation to the existing Remington CT substation.
- Expand existing 230kV portion of the Remington CT substation to accommodate termination of the proposed transmission line from Fairground substation.
- Expand the existing 230kV portion of the Gordonsville substation to accommodate termination of the rebuilt 230kV line from Fairground substation.
- Rebuild the existing 115kV Gordonsville – Pratts line to 230kV (approximately 18 miles) and tie into Fairground 230/115kV substation near the existing Pratts substation.
- Tie the 115kV portion of the existing Pratts substation into the new Fairground 230/115kV substation.

A conceptual one line diagram outlining the scope of the project is included as Figure 1 in Appendix A.

C.1 – Component Scope

C.1.a – Greenfield Transmission Line Element Details

The project consists of one (1) greenfield transmission line:

- Approximately 36 miles of new single-circuit 230kV overhead line from the proposed Fairground substation to the existing Remington CT substation (see Table 9 below).

Question: The proposing entity shall include:

- *Terminal points*

Table 9 – Terminal Points (230kV Fairground – Remington CT)

	Beginning Station	Ending Station
Station Name	Fairground	Remington CT
Owner	ITC Mid-Atlantic Development LLC	Virginia Electric & Power Co.
Voltage	230kV	230kV
State	Virginia	Virginia
County	Madison	Fauquier
Coordinates	Redacted	

Redacted

C.2 – Project Component Cost Estimates

Question: A table listing construction cost estimates for each proposed component shall be provided.

At a minimum, cost estimates shall be included with the following level of detail, along with the total.

- *Engineering and design costs*
- *Material and equipment costs*
- *Construction and commissioning costs*
- *Right of way and land procurement costs*
- *Permitting costs*
- *Construction management costs*
- *Contingency*
- *Other cost adders such as corporate overhead*

Table 15 - Project Costs ITC 14RTEP2-4	($ millions)
Overhead Line: New 230kV Fairground to Remington (36 miles)	Redacted
Engineering & Design	
Material & Equipment	
Construction & Commissioning	
Construction Management	
Right-of-Way & Land	
Permitting	
Subtotal	
Overhead Line: Rebuild Fairground – Gordonsville 115kV to 230kV (18 miles)	
Engineering & Design	
Material & Equipment	
Construction & Commissioning	
Construction Management	
Permitting	
Subtotal	
New Fairground Substation	
Engineering & Design	
Material & Equipment	
Construction & Commissioning	
Right-of-Way & Land	
Permitting	
Construction Management	
Subtotal	
Gordonsville Substation Modification	
Material	
Engineering	
Construction	
Subtotal	
Pratts Substation Modification	
Material	
Engineering	
Construction	
Subtotal	
Remington CT Substation Modification	
Material	
Engineering	
Construction	
Subtotal	
Contingency (20%)	
Grand Total (2014 dollars)	**$142.0**

Cost Estimate Assumptions

- All costs are shown in 2014 dollars and rounded to the nearest $0.1 million.
- Costs for right of way and site acquisition include the steps identified in section C.1.d, although every project is unique and there may be variances in processes within or between projects.
- Cost for all applicable federal, state, and local permits are estimated based on previous projects located in the geographic area of the Project with similar permitting requirements.
- Costs for the 115kV connection from Fairground to Pratts are included in the Fairground substation costs.
- It was assumed that the Fairground to Gordonsville rebuild will not require an expansion of the existing right of way based on measurements obtained using public data sources; however, right of way expansion and any associated cost will be determined by the existing transmission owner(s).
- Cost estimates for land, right of way, and permitting do not include possible legal fees or costs associated with condemnation.

C.3 – Schedule

Question: A milestone schedule, including the following major milestones, shall be provided for each proposed component:

- *Applicable state and local jurisdictional siting approvals, such as Certificate of Public Convenience and Necessity requirements*
- *Site acquisition and/or right of way acquisition*
- *Engineering and design*
- *Long lead time equipment*
- *Construction activities*
- *Outage plan to support construction and energization*
- *Testing and commissioning*

Redacted

C.4 – Ongoing Transmission Facility Items

C.4.a – Operational Plan

Question: The package shall contain the proposing entity's plan for operating the new transmission facilities for the proposed project. At a minimum, the plan should discuss the proposing entity's plan for securing a control center facility and provide required telemetry to PJM.

ITC incorporated new service territories into its existing operations and control center as the company has grown. This is both a result of existing systems and organic growth of ITCGP and other operations.

ITC has navigated the interconnection process with various PJM Transmission Owners related to our multiple system interconnections. As noted in the response to question B.1, three of four ITC operating companies have interconnections with PJM transmission owners.

ITC will operate the new transmission facilities from its primary control center, which is operates 15,000 miles of transmission lines and associated facilities in three NERC regions (Midwest Reliability Organization, RF, and SPP) as well as in two ISO/RTO footprints (MISO and SPP). In anticipation of continued growth, the control center was designed with flexibility to allow additional capacity as ITC's system expands.

All ITC system operators and key management staff are NERC certified at the Reliability Coordinator level and maintain this certification through a comprehensive ongoing training program. ITC also has a redundant and independent backup control center capable of operating all of ITC's transmission facilities, including all future assets. The ITC control center facilities provide all required telemetry on existing facilities to the MISO and SPP RTOs and we would develop similar links for any projects secured in PJM. ITC will become a PJM Member in conjunction with the future Covert to Segreto 345kV line and is in the process of ensuring all requirements of the PJM manuals are met before the scheduled in-service date of June 1, 2016, including the PJM telemetry requirements identified in Attachment A of Manual 01 and the operator certification requirements in Manual 40. Many of the requirements covered in the manuals are similar to those ITC already meets for other RTO footprints.

C.4.b – Maintenance Plan

Question: The package shall contain the proposing entity's plan for maintaining the new transmission facilities for the proposed project including equipment spares.

Redacted

C.5 – Assumptions

Question: A list of assumptions, uncertainties and / or qualifiers that may impact the estimated costs and schedules must be identified.

ITC made assumptions regarding the facilities constructed by others outlined in section C.1.c. Specifically the demarcation point between proposed transmission line and existing substations will be determined at a later date. Other assumptions include the following:

- The proposed route is preliminary and was used to determine the project cost estimate. The actual route will be studied and determined at a later date.
- Costs associated with condemnation, such as legal fees, were not included in the cost estimate.
- The work required to modify the existing substations will be performed by the existing transmission owners and is subject to their standards & specifications.
- The proposed Gordonsville – Pratts line rebuild would be performed by the existing transmission owner.
- The demarcation point between the proposed transmission line and the existing substations will occur at the first structure within the substation fence.
- The control buildings at the existing substations have sufficient room for any needed relay additions and/or modifications.

Appendix A – Supporting Figures

Redacted