

**Baltimore Gas and Electric  
Transmission Planning Procedure**

**TAM-I-02**

**Coordination of Plans for New or Materially Modified Facilities**

**Revision: 12**

**BGE Transmission Planning Procedure**  
**TAM-I-02**  
**Coordination of Plans for New or Materially Modified Facilities**


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**Record of Revision**

<u>Revision</u>	<u>Description of Change</u>	<u>Approval</u>	<u>Date</u>
0	Initial Issue	<u>See original</u>	<u>2/27/07</u>
1	Update BGE Organization Titles	<u>See original</u>	<u>6/17/08</u>
2	Performed 2009 review per Section 6. All sections were reviewed and updated as applicable.	<u>See original</u>	<u>12/15/2009</u>
3	Performed 2010 review per Section 6. All sections were reviewed and updated as applicable.  Reorganize procedure for clarity	<u>See original</u>	<u>12/13/2010</u>
4	Performed 2011 review per Section 6. All applicable references were reviewed and updated. The revisions of these references were found to have no impact on the contents of this document. No other changes made as part of this revision.	<u>See original</u>	<u>9/30/2011</u>
5	Performed 2012 review per Section 6. All applicable references were reviewed and updated.	<u>See original</u>	<u>1/2/2013</u>
6	Performed 2013 review per Section 8. All applicable references were reviewed and updated.	<u>See original</u>	<u>10/30/2013</u>
7	Performed 2014 review per Section 8. All applicable references were reviewed and updated.	<u>See original</u>	<u>11/05/2014</u>

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8	Performed 2015 review per Section 8. All applicable references were reviewed and updated.	<u>See Original</u>	<u>12/08/15</u>
9	Updated document to reflect changes brought about by the requirement changes from FAC-002-1 to FAC-002-2.	<u>See Original</u>	<u>12/30/15</u>
10	Performed 2016 review per Section 8. All applicable references were reviewed and updated	<u>See Original</u>	<u>12/19/16</u>
11	Performed 2017/2018 review per Section 8. All applicable references were reviewed and updated	<u>See Original</u>	<u>04/20/18</u>
12	Performed 2018/2019 review per Section 8. All applicable references were reviewed and updated	 <u>See Original</u>	<u>05/21/19</u>

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#### 1. Purpose & Scope

Under the NERC Functional Model, Baltimore Gas and Electric (BGE), is registered as a Transmission Owner (TO) and Distribution Provider (DP). NERC Standard FAC-002-2 (Facility Interconnection Studies) applies to BGE as a Transmission Owner & Distribution Provider.

NERC Standard FAC-002-2 requires entities to study the impact of interconnecting new or materially modified Facilities on the Bulk Electric System. BGE under the direction of PJM Interconnection (PJM), coordinate and cooperate all the required studies for FAC-002-2. PJM is registered as both the Transmission Planner and Planning Authority for the BGE transmission zone.

This procedure defines the process by which BGE coordinates and cooperates with PJM on plans for interconnection of new transmission, generation, and end-user facilities, as required by NERC Standard FAC-002-2.

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## 2. Definitions

- 2.1.1 BGE Interconnection Facilities - The structures, facilities, equipment, devices and apparatus owned or leased by, or under contract to BGE which are necessary to interconnect, and to facilitate the interconnection of, the Developer's facilities to the BGE System.
- 2.1.2 BGE Transmission System - The system of high voltage facilities (generally 100 kV and above) that are within the BGE service area.
- 2.1.3 Developer – A company or group seeking to interconnect with the BGE Transmission System. The developer may be seeking to connect a Generator, Transmission, or End-User (load serving) facilities.
- 2.1.4 Developer's Interconnection Facilities - The structures, facilities, equipment, devices and apparatus NOT owned or leased by, or under contract to BGE which are used to interconnect, and to facilitate the interconnection of the Developer's facilities to the BGE System.
- 2.1.5 End-user facility – A facility or facilities connected to the BGE Transmission System for the purpose of serving load.
- 2.1.6 Generator Developer – A Developer that seeks to interconnect to the BGE System for the purpose of connecting generation to the PJM system.
- 2.1.7 Good Utility Practice - Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather is intended to include acceptable practices, methods, or acts generally accepted in the region.
- 2.1.8 Joint Use Facilities - Equipment owned by either BGE or the Developer but also essential to the operational reliability of the non-owning Party.
- 2.1.9 Jointly Operated Facility – Joint Use Facilities that are to be operated by either BGE or the Developer for the benefit of the either party.
- 2.1.10 PJM Interconnection Coordinator – An individual within the BGE Planning organization that is responsible for Coordinating and documenting Interconnection evaluations with PJM and document.
- 2.1.11 Point of Interconnection - Each physical point of interconnection where capacity, energy, and ancillary services are transferred between the Developer's facilities and the BGE System.
- 2.1.12 Routine Inspection and Maintenance - Any inspection, certification, test and/or work required pursuant to Good Utility Practice on either Party's property or facilities to ensure (a) reliable substation, transmission, and distribution operations, and (b) transmission and distribution system integrity.

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### 3. Overview of the Interconnection Process

Baltimore Gas and Electric Company (BGE) is a member of the PJM Interconnection, a Regional Transmission Organization (RTO) that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. PJM, in coordination with its Members, manages a sophisticated regional planning process to ensure the continued reliability of the electric system.

PJM has the responsibility of planning and operating BGE transmission system, as defined in the Transmission Owners Agreement. PJM implements this function pursuant to the Regional Transmission Expansion Planning Protocol set forth in Schedule 6 of the PJM Operating Agreement. RTEPP governs the means by which PJM coordinates the preparation of plans for the enhancement and expansion of the bulk electric system of its Members, including BGE.

All expansion plans developed by PJM, and endorsed by its Members, conform to NERC Reliability Standards, all applicable Regional, subregional and individual Members' planning criteria and facility connection requirements and various Nuclear Plant Licensees' Final Safety Analysis Report grid requirements.

A key part of RTEPP is the evaluation of both generation interconnection and merchant transmission interconnection requests, procedures codified under Part IV of the PJM Open Access Transmission Tariff. Any entity that requests interconnection of a generating facility (including increases to the capacity of an existing generating unit) or requests interconnection of a merchant transmission facility within the PJM RTO must do so within PJM's defined interconnection process. In addition, RTEPP identifies Baseline upgrades, Transmission Owners' self-identified transmission enhancements plans and upgrades identified through PJM's Economic Planning Process and Operational performance issue reviews and accompanying analyses also become part of Regional Transmission Expansion Plan.

PJM, as a Regional Transmission Organization, leads the interconnection process. BGE, as a transmission owner, fully participates in all stages of the process. All parties in the process coordinate and cooperate under PJM's direction, assuring the interconnection in no way adversely impacts the reliability of the transmission system. For all BGE bulk power facilities, through load flow, short circuit, and dynamic analyses, PJM will identify all potential NERC/RF/PJM/BGE criteria violations, develop a potential solution, and discuss it with BGE. BGE will study the recommended enhancement, determine if any operating procedures mitigate the violation, and either endorse the system upgrade or propose an alternative solution. The final decision is made by PJM, with concurrence from BGE. The result of the analysis is posted on the PJM website.

The details of each part of the interconnection process are explained in PJM's M14 series of Manuals:

- Manual 14A: New Services Request Process
- Manual 14B: Regional Transmission Planning Process
- Manual 14C: Generation & Transmission Interconnection Facility Construction
- Manual 14D: Generator Operational Requirements
- Manual 14E: Additional Information for Upgrade & Transmission Interconnection Projects

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- Manual 14G: Generation Interconnection Requests

End-user facility interconnection requests for interconnection within BGE footprint are submitted directly to BGE in accordance with the process described in the Baltimore Gas and Electric Retail Service Tariff. All Developer information remains strictly confidential unless specifically agreed otherwise by the Developer. BGE performs an assessment of the impact of the end-user's facility on the transmission system in accordance with all applicable NERC, ReliabilityFirst (RF), PJM and BGE planning standards. As needed, the assessment is coordinated with PJM. BGE updates planning models to reflect the new load and communicates the information to PJM, but these model changes are communicated with no information that distinguishes it from BGE native load increases.



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#### 4. Coordination of Assessments to Integrate Generation and Merchant Transmission Facilities

Per NERC Standard FAC-002-2, the Transmission Owner is required to coordinate and cooperate with their Transmission Planner or Planning Coordinator on studies regarding requested new or materially modified generation, transmission and end-user facilities.

The process for interconnection of new or materially modified generation and merchant transmission facilities into the PJM transmission system is described in detail in PJM's M14 series of Manuals. BGE will assure that all the requirements of the NERC FAC-002-2 Standard are satisfied, by adhering to the following process:

- 4.1. The responsible BGE transmission planner shall direct the initiators of all requests to connect Generation or Merchant Transmission facilities to follow the PJM interconnection process for the interconnection of new or materially modified facilities, as outlined in PJM Manual 14 series.
- 4.2. The responsible BGE transmission planner shall actively participate in the PJM interconnection process, and coordinate and cooperate with PJM in its assessment of the reliability impact of new or materially modified facilities as required by the PJM Manual 14 series, and the PJM Tariff in all phases of the interconnection queue process (Feasibility, Impact, Facility, etc.).
- 4.3. Once PJM has completed their assessment of the Interconnection request and the Developer has signed the Interconnection Service Agreement indicating his/her intent to integrate a facility to the BGE system, the responsible BGE transmission planner shall review the PJM interconnection assessment to ensure it includes the following:
  - 4.3.1. An evaluation of the reliability impact of the new or materially modified facilities and their connections on the interconnected transmission systems.
  - 4.3.2. All applicable elements necessary to ensure compliance with all NERC Reliability Standards and applicable ReliabilityFirst, PJM and BGE planning standards and Facility Connection Requirements.
  - 4.3.3. Evidence that the parties involved in the assessment have coordinated and cooperated on the study assumptions, system performance, alternatives considered and the results are jointly evaluated and coordinated by all entities involved.
  - 4.3.4. All necessary steady-state, short-circuit, and dynamic studies necessary to evaluate performance in accordance with NERC Reliability Standard TPL-001-4.
- 4.4. The responsible BGE transmission planner shall document the review of the PJM assessment and store the review along with the PJM assessment and all documentation necessary to support the review in accordance with Section 7 of this document.
- 4.5. If the review uncovers any deficiencies in the PJM assessment, the BGE Planner shall work with PJM to resolve them.

## 5. Coordination of Assessments to Integrate Supplemental Transmission Facilities

As outlined in Section 3, the need for the addition of baseline transmission facilities is determined through PJM’s baseline reliability analyses, market efficiency analyses, and operational performance issue reviews and accompanying analyses. These analyses are explained in detail in PJM Manual 14B “Region Transmission Planning Process”. New baseline transmission facilities and upgrades to existing transmission facilities identified through these analyses are not the subject of FAC-002-2 Standard.

In addition to baseline upgrades required to satisfy planning criteria, PJM also recognizes supplemental RTEP projects – projects that are not required for compliance with PJM reliability, market efficiency, or operational performance criteria. These projects include facilities necessary to integrate new native load, as well as projects that address aging infrastructure or other risk factors.

Per Section 1 of PJM Manual 14B, the Transmission Owner initiates such projects and introduces them to the PJM Regional Planning Process through PJM’s Transmission Expansion Advisory Committee (TEAC) or Subregional RTEP Committee. Supplemental projects are subject to the same open, transparent, and participatory PJM committee activities as baseline projects through the PJM Attachment M-3 Process. BGE plans and coordinate supplemental projects in accordance with the Attachment M-3 Process as described in Manual 14B and PJM Open Access Transmission Tariff. In accordance with Attachment M-3 Process, BGE supplemental projects are presented through the TEAC (230 kV and above facilities ) or the Subregional RTEP Committees (below 230 kV facilities) for review and comment in a three-part meeting process that includes at a minimum (i) an Assumptions Meeting, (ii) a Needs Meeting and (iii) a Solutions Meeting. The Subregional RTEP Committees’ Solutions Meetings are followed by a round of comments from stakeholders before BGE finalize the supplemental projects. Prior to integrating a supplemental project into the RTEP base case, PJM performs a “do no harm study” to evaluate whether a proposed supplemental project will adversely impact the reliability of the Transmission System as represented in the planning models used in all other PJM reliability planning studies. Once PJM determines that the proposed supplemental project will not adversely impact the reliability of the Transmission System, the proposed supplemental project may be integrated into the RTEP base case.

As part of BGE’s supplemental project study coordination, the following actions are performed:

- 5.1.1. The responsible BGE transmission planner shall provide all the required modeling information to PJM. Subsequently, PJM will perform the “no harm study” and coordinate the results with BGE to determine the impact of the proposed supplemental RTEP project on the interconnected transmission system. The PJM ‘no harm study’ evaluation will address all applicable elements necessary to ensure compliance with all applicable NERC, ReliabilityFirst, PJM and BGE planning standards, and BGE facility connection requirements. Short-circuit, steady-state, and dynamic analyses will be performed as deemed necessary.
- 5.1.2. The responsible BGE transmission planner shall develop a preliminary scope of projects needed to permit the introduction of the supplemental project.

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- 5.1.3. In coordination with PJM, the responsible BGE transmission planner shall share the results of the PJM “no harm study” with other impacted transmission owners (if any), and will ensure communication and coordination of necessary project plans. The project will be presented at the TEAC or Subregional RTEP Committee for stakeholder input in accordance with PJM Manual M14B
- 5.1.4. Once a project has been presented to TEAC or the Subregional RTEP Committee, the responsible BGE transmission planner shall ensure the project is included in PJM planning models.
- 5.1.5. The responsible BGE transmission planner shall document the resulting assessment. That documentation shall include all study assumptions, system performance, any alternatives considered, and jointly coordinated recommendation.
- 5.1.6. The responsible BGE transmission planner shall store the resulting assessment along with all project documentation in accordance with Section 7 of this document.

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#### 6. Coordination of Assessments to Integrate End-User Facilities

End-user facility interconnection requests for interconnection within BGE footprint will be submitted directly to BGE in accordance with process described in Baltimore Gas and Electric Retail Service Tariff. All requests for interconnection of end-user facilities to the BGE transmission system shall be handled through the following process:

- 6.1. The BGE Distribution Provider functional area will notify the BGE transmission area of the request to interconnect an end-user facility at a specific location for:
  - i. Distribution stations identified for meeting the needs of BGE load
  - ii. Specific large end-user facilities
- 6.2. For all end-user connections to BGE Distribution Substations, the responsible BGE transmission planner shall coordinate with Distribution planning to establish a connection point and configuration which meets all BGE requirements and fulfills the Distribution needs.
- 6.3. For all end-user connections that are not BGE Distribution Substations, the responsible BGE transmission planner shall coordinate with Distribution planning as well as the customer to establish a connection point and configuration which meets BGE requirements and fulfills the End-User's needs.
- 6.4. Once a configuration is decided upon, the responsible BGE transmission planner shall compile the necessary information and develop a supplemental project in accordance with Section 5 above.

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#### 7. Data Storage and Retention

In accordance with NERC Reliability Standard FAC-002-2 (Requirement R3, R4), BGE shall retain all documentation pertinent to the connection of new facilities for seven years in accordance with Exelon policy LE-AC-401.

To ensure compliance, BGE has set up a secure network storage folder, accessible only to BGE Transmission Planning Unit (TPU) personnel. The network location of this folder is “\\NAS-RBC-03\BGEShare\D30SHR\TAMU Compliance\FAC-002” (without the quotes). All required documents are stored in the appropriate subfolder(s).

To ensure documentation is kept in accordance with FAC-002-2 requirement, TPU adheres to the following process:

- The leader of the TPU designates an individual within its planning organization as the “*PJM Interconnection FAC-002-2*”. The PJM Interconnection FAC-002-2 serves as the central point of contact for all communication with PJM regarding the interconnection process.
- The PJM Interconnection FAC-002-2 maintains all communication with PJM and saves all communication documentation to the network storage annually. The completion of the transfer is followed by the confirmation letter or e-mail to BGE NERC Compliance & Standards Unit Manager.

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#### 8. Document Maintenance

BGE Transmission Planning will perform a review of this document for technical accuracy and consistency with current version of the following documents as needed:

- NERC Reliability Standards FAC-001 and FAC-002
- PJM Open Access Transmission Tariff
- PJM Manual 14A: New Services Request Process
- PJM Manual 14B: Regional Transmission Planning Process
- PJM Manual 14C: Generation & Transmission Interconnection Facility Construction
- PJM Manual 14D: Generator Operational Requirements
- PJM Manual 14E: Additional Information for Upgrade & Transmission Interconnection Projects
- PJM Manual 14G: Generation Interconnection Requests
- Exelon Transmission Planning Criteria
- Any other NERC/RF/PJM/BGE document regarding interconnection of new facilities

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**9. References**

- 9.1 Exelon Transmission Planning Criteria, Effective 03/25/2019
- 9.2 Exelon Utilities Transmission Facility Interconnection Requirements; Effective 01/01/2019
- 9.3 Baltimore Gas & Electric Retail Service Tariff; Filed 09/25/2014.
- 9.4 Amended and Restated Operating Agreement of PJM Interconnection, L.L.C; Schedule 6 - Regional Transmission Expansion Planning Protocol; Effective 07/14/2017
- 9.5 "PJM Open Access Transmission Tariff"; Effective 09/17/2010
- 9.6 Manual 14A: New Services Request Process; Revision 24; Effective 07/26/2018
- 9.7 Manual 14B: Regional Transmission Planning Process; Revision 44; Effective 02/21/2019
- 9.8 Manual 14C: Generation & Transmission Interconnection Facility Construction; Revision 13; Effective 08/23/2018
- 9.9 Manual 14D: Generator Operational Requirements; Revision 48; Effective 02/25/2019
- 9.10 Manual 14E: Additional Information for Upgrade & Transmission Interconnection Projects; Revision 06; Effective 12/20/2018
- 9.11 Manual 14G: Generation Interconnection Requests; Revision 01; Effective 01/24/2019