

NORTHEASTERN ISO/RTO
PLANNING COORDINATION PROTOCOL

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1. Introduction

This protocol describes the foundation for processes and procedures through which coordination of system planning activities will be implemented by the ISOs and RTOs of the northeastern United States and Canada. The parties to this protocol will be the PJM Interconnection, L.L.C. (PJM), the New York Independent System Operator (NYISO), and ISO New England (ISO-NE). This document shall be binding on each party's successors and assigns. The activities of the parties, as defined under this protocol, will be conducted in coordination with the Regional Reliability Councils of northeastern United States and eastern Canada (NPCC\$! and MAAC). In addition, the protocol was developed with participation from Ontario's Independent Electricity Market Operator (IMO), Hydro-Quebec (TransEnergie) and New Brunswick Power. These entities are not parties to this protocol but have accepted to participate, at their convenience, in the Data and Information Exchange process and in regional planning studies for projects that may have inter-area impact to ensure better coordination in the development of the Interconnected Power System. This could include participation in studies of Interconnection Requests and studies of Long Term Firm Transmission Service Requests. The Canadian entities are not participating in any sharing of the costs, as proposed under this protocol, of future system upgrades or modification.

The protocol describes the committee structure that is established to coordinate inter-area planning activities, procedures for the exchange of planning-related data and information, and the system planning analysis procedures that will be utilized by the parties. The primary purpose of this protocol is to contribute, through coordinated planning, to the on-going reliability and the enhanced operational and economic performance of the systems of the parties. This will be accomplished in two ways. First, the parties will coordinate the evaluation, on an on-going basis, of Tariff-provided services, such as generation interconnection, to recognize the impacts that result across the seams between systems. Second, the parties will produce, on a periodic basis, a Northeastern Coordinated System Plan (NCSP) that integrates 1) the system plans of the parties, 2) on-going load growth and retirements or deactivations of infrastructure, 3) market-based additions to system infrastructure, such as generation or merchant transmission projects, 4) distributed resources, such as demand side and load response programs, and 5) transmission upgrades identified, jointly, by the parties to resolve seams issues or to enhance the coordinated performance of the systems.

The Parties agree that, to the extent that changes may be required in their respective tariffs to implement certain provisions of this protocol, they will use their best efforts to achieve the necessary approvals through their respective governance and regulatory processes. Until such tariff changes are enacted or in the event that one or more of the parties is unable to enact such tariff changes, the affected provisions of the protocol will not be implemented until it can be modified to ensure consistency with the tariffs of the parties.

2. Committee Structure

This section defines the committee structures established in support of the comprehensive process of coordinating system planning activities through the Northeastern ISO/RTO Planning Coordination Protocol.

The protocol establishes:

- an Inter-area Planning Stakeholder Advisory Committee, and
- a Joint ISO/RTO Planning Committee.

2.1. Inter-area Planning Stakeholder Advisory Committee

The parties shall form an Inter-area Planning Stakeholder Advisory Committee (IPSAC) for the purpose of allowing for review of and input to coordinated system planning activities by all stakeholder groups.

Initially, the representatives to the existing ISO/RTO planning advisory committees will comprise the membership of the IPSAC. With respect to this protocol, in all cases, stakeholders may include the market participants within the regions of the parties, governmental agencies, regional state committees, regional reliability councils, and any other parties with an interest in the coordination of planning related to the northeastern ISO/RTOs. All such stakeholders may join the IPSAC. With respect to the development of the NCSP, the IPSAC will meet:

- prior to the start of each cycle of the coordinated planning process to review and provide input on the assumptions and scope of analysis upon which the development of the NCSP will be based,
- at least once during the development of the NCSP to review and provide feedback on the preliminary results of the coordinated system planning analysis and to identify sensitivity analyses that may be required, and
- upon completion of the NCSP to review the final results of the system planning analysis.

2.2. Joint ISO/RTO Planning Committee

The parties shall form a Joint ISO/RTO Planning Committee (JIPC), comprised of representatives of the staff of the parties, for the purpose of coordinating planning activities, identifying issues related to the Inter-area planning process, and facilitating the resolution of such issues. In addition, ad hoc committees will be established to resolve specific planning coordination issues. Such ad hoc committees may include representatives of the JIPC, the affected transmission owners, and other interested stakeholders. The JIPC shall:

- be responsible for coordinating planning activities under this protocol, including the development of planning procedures, the conduct of planning analyses, and the production of the NCSP,
- be responsible for the maintenance of a web site and required e-mail lists for the communication of information related to the coordinated planning process,
- meet on at least a semi-annual basis to review and coordinate system planning activities,
- support the review by any federal or provincial agency of elements of the NCSP,

- support the review by multi-state entities, regional state committees, state, provincial, or other similarly situated entities, including the facilitation of new transmission facility additions, and
- establish working groups as necessary to provide adequate development and review of the inter-area plan. Where practical, the JIPC will utilize existing working group and committee structures in support of inter-area planning activities.

Chairmanship of the JIPC will be rotated among the parties with the term of the chairmanship to be one year. The chairman will be responsible for the scheduling of meetings, the preparation of agendas for meetings, and the production of minutes of meetings.

Additionally, the JIPC will establish a schedule for the rotation of responsibility for data management, coordination of stakeholder meetings, coordination of analysis activities, report preparation, and other activities.

Each party shall be responsible for its own costs to support the activities of the JIPC. Administrative costs included for public meetings, website maintenance, etc. shall be divided among the parties on a load ratio basis.

3. Data and Information Exchange

This section defines the on-going process by which data and information are shared among the parties in support of the more comprehensive process of coordinating system planning activities through the Northeastern .ISQ/RTO Planning Coordination Protocol. Identified are:

- the data and information that will be exchanged among the parties,
- the schedule for the exchange of data and information,
- the formats to be used for the exchange of data and information
- the procedures for the development of required analysis models,
- the rules and procedures to be followed with respect to the confidentiality of data and information exchanged among the parties, and
- the procedures for the identification of contact persons, responsible for the exchange of data and information under this protocol.

3.1. Data and Information Exchange

Each party shall provide the others with information as maybe required for the performance of planning studies as agreed upon by the JIPC. The parties will also exchange such data and information as is needed for each party to plan its own system accurately and reliably and to assess the impact of conditions existing on the systems of the other parties. Confidentiality of data and information will be governed by a confidentiality agreement among the parties. All release and/or exchange of data and information will be done in a manner consistent with FERC Critical Energy Infrastructure Information guidelines and procedures, and any confidentiality or information release policy or agreements to which each Party may be subject.

Each party shall provide the others, on a periodic basis, with all data required for system planning analyses that may include the development of power flow cases, short-circuit cases, and stability cases, including ten-year load forecasts and any retirements or deactivations of transmission or generation facilities. All critical assumptions that are used in the development of these cases shall be included, as well as system planning documents that may include long-term and short-term system assessments, geographical system maps, one-line and breaker diagrams, and contingency lists for use in power flow and stability analyses, including lists of all single contingency events and appropriate multiple facility common-mode contingencies consistent with the applicable criteria of the area.

Each party shall identify all interconnection requests that are expected to impact the operation of other parties' systems. The parties will work together to develop the necessary tools or decision criteria so that such potential impacts can readily be identified.

Each party shall provide the others with information regarding long-term firm transmission service and other transmission services on all interfaces relevant to the coordination of planning among their systems.

In addition to the on-going exchange of planning-related information and coordination of planning process activities, System Operations, Market Operations, and System Planning personnel representing the parties will meet once each year to review the issues impacting the coordination of these functions as they impact long range planning and the coordination of planning among their systems.

3.2. Schedule of Data and Information Exchange

Most of the data and information exchanged under this protocol will be provided on an annual basis. Reports of planning or operational analyses will be provided as they are completed. The dates for the exchange of necessary data that may include load forecasts and power flow, short circuit, and stability modeling data will be established by the JIPC to correspond to the appropriate point in the annual planning process time line of each party.

To facilitate the coordination of planning analyses, the parties will inform each other, on a monthly basis, of any interconnection requests that have been received and any long-term firm transmission services that have been approved that may impact the operation of the other parties' systems. On a quarterly basis, the parties will inform each other of the current status of all interconnection requests that have been so identified.

3.3. Data and Information Formats

To the extent practical the maintenance and exchange of power system modeling data will be implemented through databases. The formats for information exchanges will be agreed upon by the parties. Where possible, other information that may include geographical system maps and one-line diagrams will be provided in an electronic format agreed upon by the parties

3.4. Coordination of Power System Analysis Model Development

Detailed procedures for the development of power system analysis models will be prepared and documented by the JIPC. The parties shall develop common power system analysis models to perform the analyses required to develop the NCSP. Models will be developed for necessary system planning analyses such as power flow analyses, short circuit analyses, and stability analyses. For studies of interconnections in close electrical proximity at the boundaries between the systems of the parties, the parties will perform a detailed review of the appropriateness of the required power system models. Other analyses, as agreed upon by the JIPC, will be fully coordinated and may include areas such as resource adequacy and related studies as well as congestion studies. Changes to baseline data and updates to the power system analysis models will be performed annually to capture all system upgrades and allow analyses to accurately identify cross border impacts. Coordination of power system analysis models will rely upon existing working groups to the maximum extent practical.

3.5. Data Contacts

Each party shall name a person responsible for the coordination and exchange of all data and information, on a periodic basis, as agreed to by the parties pursuant to this protocol.

4. Northeastern Coordinated System Plan (NCSP)

This section defines the ongoing process by which system planning analyses are performed by the parties and a coordinated system plan is developed through the Northeastern ISO/RTO Planning Coordination Protocol. The primary purpose *of* this process is to ensure that coordinated analyses are performed *to* identify power system reliability concerns or other system needs, and *to* recommend upgrades *to* mitigate identified reliability concerns. The identification *of* other system needs should, in turn, provide market signals to address those needs, including investment in generation, merchant transmission facilities, and demand (*or* load) response programs, which promote power system reliability and robustness. If the market responds with an adequate solution *to* identified system needs or a solution that helps *to* mitigate identified reliability concerns, these solutions will be evaluated and included in the NCSP. If inadequate market solutions are proposed, regulated solutions will be developed and included in the NCSP. As a result, the NCSP will present a coordinated, cost effective transmission plan that identifies appropriate projects for ensuring reliability of service and a robust system. This coordinated plan is updated as market responses *to* identified problems develop.

The goal of the NCSP is to achieve a reliable system of generation, distributed resources, demand side management and transmission, and helps to ensure that sufficient regulated transmission solutions are identified in the event market-based resources do not respond to identified needs. Therefore, the NCSP identifies expansions or enhancements to transmission system capability needed to maintain reliability, improve operational performance, or enhance the competitiveness of electricity markets in full coordination with market responses.. Discussed are:

- the procedures for on-going analysis of interconnection requests that may impact the systems of the parties,
- the procedures for ongoing analysis of requests for long-term firm transmission service and other transmission services that may impact the systems of the parties,
- the procedures for periodic analysis of the collective system of the parties and the development of a NCSP, and ~
- the procedures for the establishment of contact persons, responsible for the coordination of system planning analysis activities under this protocol.

As will be discussed later in this section, all analyses performed to evaluate cross-border impacts on the system facilities of one of the parties will be based on the criteria, guidelines, procedures or standards applicable to those facilities. In the event that system upgrades are required to resolve cross-border impacts, such upgrades will be constructed according to the standards, terms, and conditions of the party on whose system the upgrade is required.

4.1. Analysis of Interconnection Requests (also applicable to Merchant Transmission)

In accordance with applicable Interconnection Procedures under which the parties are providing Interconnection Service, each party will coordinate with the other parties the conduct of any studies required for determining the impact of a request for generator or merchant transmission interconnection. Results of such coordinated studies will be included in the impacts reported to the interconnection customers as appropriate. Coordination of studies will include the following steps:

- Upon the posting to the OASIS of a request for interconnection, the entity receiving the request ("direct connect system") will notify potentially impacted systems of the request, along with the information provided in the posting.
- If the potentially impacted system believes that its system may be materially impacted by the interconnection, the potentially impacted system will contact the direct connect system and indicate a desire to participate in the interconnection studies that may be performed. The JIPC will develop screening procedures to assist in the identification of interconnection requests that may impact systems or parties other than the direct connect system.
- If the direct connect system performs or contracts for the performance of any system impact studies for the interconnection customer, the direct connect system will contact potentially impacted systems to determine the nature and cost of any studies to be performed to test the impacts of the interconnection on the potentially impacted system who will perform the studies. The parties will strive to maximize the efficiency of the coordinated study process.
- Any coordinated studies will be performed in accordance with the study timeline requirements of the applicable interconnection procedures of the direct connect system. Both the direct connect system and the potentially impacted systems will use their best efforts to meet the applicable study timelines. However, the direct connect system will be responsible for satisfying the requirements of its tariff related to the interconnection request. The potentially impacted system may participate in the coordinated study either by taking responsibility for performance of studies of its system, or by providing input to the studies to be performed by the direct connect system. The study cost estimates indicated in the study agreement between the direct connect system and the interconnection customer will reflect the costs and the associated roles of the study participants. The direct connect system will review the cost estimates submitted by all participants for reasonableness, based on expected level of participation and responsibilities in the study.
- The direct connect system will collect from the interconnection customer and forward to the potentially impacted systems the costs incurred by the potentially impacted systems associated with the performance of such studies.
- If in the determination of the potentially impacted system, the results of a coordinated study indicate that network upgrades are required in accordance with procedures, guidelines, criteria, or standards applicable to the potentially impacted system, the direct connect system will identify the need for such network upgrades in the system impact study prepared for the interconnection customer.
- Requirements for the construction of such network upgrades will be under the terms and conditions of the potentially impacted system and consistent with applicable federal or provincial regulatory policy.

Each party will maintain a separate interconnection queue. A composite listing of interconnection requests will be maintained by the JIPC of all interconnection projects that have been identified as potentially impacting the systems of parties other than the direct connect system. In all cases, the queue date associated with an interconnection request for which coordinated studies will be performed will be determined by the original request to the direct connect system. The composite listing of interconnection requests will be maintained on the web site established by the JIPC for the communication of information related to the coordinated planning process. The web site will contain links to the web sites of each of the parties where individual interconnection study results will be maintained.

4.2. Analysis of Long Term Firm Transmission Service Requests

In accordance with applicable procedures under which the parties may be providing Long- Term Firm Transmission Service, each party will coordinate with the other parties the conduct of any studies required in determining the impact of applicable requests for such service. Results of such coordinated studies will be included in the impacts reported to the transmission service customers as appropriate. Coordination of studies will include the following steps:

- The parties will work together to coordinate the calculation of ATC values associated with long term firm point-to-point transmission services, based on contingencies on the systems of each party that may be impacted by the granting of such services.
- Upon the posting to the OASIS of a request for long-term firm transmission service, the system receiving the request will notify potentially impacted systems of the request, along with the information provided in the posting.
- If an Impact Study is to be performed, and if the potentially impacted system believes that its system may be materially impacted by the service or request for Merchant expansion, the potentially impacted system will contact the entity receiving the request and indicate a desire to participate in the studies that may be performed. The JIPC will develop screening procedures to assist in the identification of service requests that may impact systems of parties other than the system receiving the request.
- If the system receiving the request performs or contracts for the performance of any system impact studies for the transmission service customer, the system receiving the request will contact potentially impacted systems to determine the nature and cost of any studies to be performed to test the impacts of the service on the potentially impacted system and who will perform the studies. The parties will strive to maximize the efficiency of the coordinated study process.
- Any coordinated studies will be performed in accordance with the study timeline requirements of the applicable transmission service procedures of the system receiving the request. Both the system receiving the request and the potentially impacted systems will use their best efforts to meet the applicable study timelines. However, the system receiving the request will be responsible for satisfying the requirements of its tariff related to the request.
- The potentially impacted system may participate in the coordinated study either by taking responsibility for performance of studies of their system, or by providing input to the studies to be performed by the system receiving the request. The study cost estimates indicated in the study agreement between the system receiving the request and the transmission service customer will reflect the costs and the associated roles of the study participants. The system receiving the request will review the cost estimates submitted by all participants for reasonableness, based on expected level of participation and responsibilities in the study.

- The system receiving the request will collect from the interconnection customer and forward to the potentially impacted systems the costs incurred by the potentially impacted systems associated with the performance of such studies.
- If in the determination of the potentially impacted system, the results of a coordinated study indicate that network upgrades are required in accordance with procedures, guidelines, criteria, or standards applicable to the potentially impacted system, the system receiving the request will identify the need for such network upgrades in the system impact study prepared for the transmission service customer.
- Requirements for the construction of such network upgrades will be under the terms and conditions of the potentially impacted system and consistent with applicable federal or provincial regulatory policy.

4.3. Development of the Northeastern Coordinated System Plan

Each party shall engage in such system planning activities as are necessary to fulfill its obligations under its agreements and open access transmission tariff. Such planning shall conform to applicable reliability requirements of the North American Electric Reliability

Council, applicable regional reliability councils, or any successor organizations, the local sub-region and areas, and all applicable requirements of federal, state, or provincial laws or regulatory authorities. Each party agrees to document the procedures, methodologies, and business rules that are utilized in preparing and completing this system planning report.

In addition, each party will coordinate with the other parties the conduct of any studies required to assure the reliable, efficient, and effective operation of the power system and assist in the preparation of an NCSP. Each party's applicable periodic system plan will be incorporated into the NCSP. The NCSP will also include a section that describes the results of the analysis for the combined systems, as well as the procedures, methodologies, and business rules that were utilized in preparing and completing the joint system analysis.

Coordination of studies required for the development of the NCSP will include the following steps:

- Periodically, the parties agree to perform a comprehensive, coordinated inter-area system assessment and system expansion planning study. Sensitivity analyses will be performed, as required, based on a review by the IPSAC and the JIPC of discrete reliability problems or operability issues that arise due to changing system conditions.
- Each party will be responsible for providing the technical support required to complete the analysis for the study. The responsibility for the coordinated study and the compilation of the coordinated study report will rotate among the parties.
- The JIPC will develop a scope and procedure for the inter-area planning assessment,
- The scope of the study will include evaluations of the power system against the applicable reliability criteria, operational performance criteria, and economic performance criteria.
- Each party will provide a baseline model that includes all system enhancements included in the party's system expansion plan, and all of the committed interconnection projects and any associated system upgrades.
- The study will initially evaluate the reliability of the combined power systems. Any upgrades required to resolve criteria violations will be agreed upon and included in an updated baseline model.

- The performance of the combined power systems will be tested against agreed upon operational and economic criteria, where applicable, using the updated baseline model. Upgrades required to resolve operational and/or economic performance criteria violations will be included in the NCSP.
- Where applicable, and consistent with planning and operating criteria, the parties will evaluate operational solutions as a means to resolve reliability, operational, and/or economic performance criteria violations. Operational solutions will be considered for either short term or long-term application and, when determined to be an appropriate means to resolve such violations, will be identified in the NCSP.

The NCSP will be reviewed with the IPSAC Feedback from this Committee will be included in the final NCSP.

Each party will include in its own system plan all elements of the NCSP, which are to be constructed on its system. Each party will be responsible for securing approval of the elements of the NCSP, which are to be constructed on its system through the procedures by which the party secures approval of its system plan.

In the event that a party does not secure approval of elements of the NCSP which are to be constructed on its system or does not proceed, or is unable to implement the construction of such elements, the remaining parties may agree to re-evaluate the plan in an effort to develop alternative recommendations, pursue dispute resolution through procedures established by the parties, or pursue any other remedies that may be available through applicable federal or provincial regulatory agencies.

4.4. Cost Allocation

The allocation of cost for elements of the NCSP will be addressed consistent with applicable provisions of each Party's tariff, and any applicable guidance provided by FERC Orders or interpretations.

4.5. Contact Persons

Each party shall name a representative and an alternate to the JIPC and a person with primary responsibility for all coordinated system planning analyses performed under this protocol. The representative to the JIPC will be responsible for assuring that the proper policies and procedures are maintained and followed.

5. Dispute Resolution

If the parties to this Protocol are unable to complete any of the tasks outlined herein, or if an issue arises associated with implementation of this Protocol that cannot be resolved by the JIPC, any party may refer the matter to the Chief Executive Officers of the parties ("CEOs"). The CEOs agree to schedule a meeting to resolve the issue or to provide direction, as appropriate, on a priority basis.

In the event that the CEOs do not reach agreement on any issue referred to them within ten (10) days, then any party may refer the matter to a neutral, third-party Dispute Resolution Service, which may include the FERC's Dispute Resolution Service, and request a session be convened to initiate non-binding dispute resolution services. Costs assessed by the Dispute Resolution Service for the use of such service shall be borne by all parties to this agreement equally.

PJM, NYISO or ISO NE may refer issues between or among them that are not resolved pursuant to the above provisions to FERC's Dispute Resolution Service and request a session be convened to initiate non-binding dispute resolution services.

6. Liability and Indemnity

The parties acknowledge that, in the course of our cooperative efforts under the protocol, each RTO and ISO that is a party to the protocol will continue to maintain and be obligated by its own, separate and individual governance, tariffs and agreements.

More specifically, each party additionally agrees as follows:

- Nothing in the protocol is intended to override the separateness or compromise the independence of each party.
- Each party agrees to indemnify, defend and hold the other party harmless from and against any and/or all judgments, awards, demands, liability, losses, costs and expenses (including reasonable attorneys' fees and court costs) arising out of any claim by a third-party grounded in facts or events taking place within its RTO or ISO and arising from the protocol. Except for the preceding obligation to indemnify, no party to this Protocol shall have any liability to any other party to this Protocol for any obligation arising hereunder.
- Each party agrees that the protocol does not create or acknowledge any partnership, joint venture or further agreement or obligation among the parties above and beyond the exact words of the protocol. Nor does the protocol create any third-party beneficiaries or impart any legal right or expectation to any member or market participant of a party.
- Each party acknowledges and agrees that the protocol will not impact the rights *of* each party's respective members under the separate and individual governance, tariffs and agreements of each RTO or ISO.

EXECUTION

Wherefore, this Agreement is executed by the parties as of _____
which is the effective date of the Agreement.

PJM Interconnection, LLC

By: Phillip G. Harris 11/19/04
Phillip G. Harris Date
President and CEO

New York Independent System Operator

By: William J. Museler 11/22/04
William J. Museler Date
President and CEO

ISO New England Inc.

By: Gordon van Welie 12/08/00
Gordon van Welie Date
President and CEO