

Methodology for Completing a System Impact Study

1.0 Introduction

The purpose of this document is to describe the NLSO's methodology used for completing a System Impact Study. Pursuant to Section 7.0 of the *NL Transmission Policies and Procedures* and Section 12.0 of the *Generator Interconnection Procedures*, a System Impact Study may be performed by the NLSO to determine whether a request for Interconnection Service, or a request for Long-Term Firm Point-to-Point Transmission Service, Long-Term Conditional Firm Point-To-Point Transmission Service, or Network Integration Transmission Service by an Eligible Customer can be accommodated without impacts to the NL Transmission Study Area, or if modifications or additions would be required to accommodate such requested service. For the purpose of this document, the NL Transmission Study Area includes all transmission facilities located in NL operating at a voltage level of 46 kV and above. All capitalized terms in this document are defined in Section 2.0 of the *NL Transmission Policies and Procedures* and in Section 2.0 of the *Generator Interconnection Procedures*.

2.0 Scope

The System Impact Study shall identify:

- i. system constraints, identified with specificity by transmission element;
- ii. redispatch options (when requested by an Eligible Customer), including an estimate of the cost of redispatch;
- iii. conditional curtailment options (when requested by an Eligible Customer) including the number of hours per year and the system conditions during which conditional curtailment may occur; and
- iv. any modifications or additions to the NL Transmission Study Area required to provide the requested service.

System Impact Studies are not required for Short-Term Firm Point-to-Point, Short-Term Conditional Firm Point-to-Point, or Non-Firm Point-to-Point Transmission Service requests.

3.0 Queue Management

The capabilities of the NL Transmission Study Area are essentially allocated on a first-come, first-served basis. In support of this practice, the NLSO will maintain a queue for the conduct of System Impact Studies.

3.1 Receipt of Completed Application

The NLSO shall assign a Queue Position to each Completed Application based upon the Date Stamp for its submission, as further described below. The Queue Position of each Completed Application will be used to determine the order of initiating System Impact Studies, and the study assumptions to be used in applicable analyses.

For purposes of such queue management, the NLSO shall promptly register all applications for new or modified interconnections or transmission service and record the date and time on which it originally received each application. The date and time of the original submission of the application shall constitute the “Date Stamp” of the application. Upon confirmation that the Eligible Customer has submitted a Completed Application, such application will be entered into the queue and assigned a priority according to its assigned Date Stamp, with the earliest application receiving the highest priority.

The NLSO reserves the right to group multiple applications into a single System Impact Study, provided that such grouping still recognizes the relative Queue Position of each Completed Application.

3.2 Modifications of an Application

If the Eligible Customer requests a change to its Completed Application, the NLSO shall review whether such request constitutes a material modification to the Completed Application. For purposes of this evaluation, a “material modification” substantively changes the request for transmission or interconnection service in time, amount, scope or location, or otherwise is determined to be likely to introduce a new material adverse impact on the NL Transmission Study Area. If such change is determined to be a material modification, the NLSO shall promptly notify the Eligible Customer that the Completed Application will be assigned a new priority consistent with the date of submission of such modification to the NLSO. If at the time the Eligible Customer seeks a material modification to its Completed Application the NLSO already has commenced a System Impact Study, the Eligible Customer shall be responsible for payment of any already-accrued costs of that study.

3.3 Withdrawal of a Completed Application

A Completed Application may be withdrawn by the Eligible Customer at any time by written notice to the NLSO, or a Completed Application may be deemed withdrawn by the NLSO, with written notice, if the Eligible Customer fails to adhere to requirements of the *NL Transmission Policies and Procedures* and/or the *Generator Interconnection Procedures*. Withdrawal of a Completed Application shall result in the loss of the applicant's Queue Position. If upon withdrawal the NLSO already has commenced a System Impact Study, the applicant shall be responsible for payment of any already-accrued costs of that study.

4.0 System Impact Study Procedures

4.1 Scoping Meeting

Within ten (10) business days of receiving a completed application, the NLSO will arrange a scoping meeting with the Eligible Customer at a date mutually agreed to by the parties. The purpose of the Scoping Meeting is to discuss the Interconnection or Transmission Service request, review existing studies, if any, relevant to the request, and ensure that both the Eligible Customer and the NLSO are in agreement on the scope of the project and the required study details. Meetings will be held face-to-face or by conference call at the NLSO's offices or other mutually agreed to location. Participation in this meeting will be at the customer's own cost. This scoping meeting may be omitted by mutual agreement of the parties.

4.2 System Impact Study Agreement

Within ten (10) business days of the Scoping Meeting, the NLSO will provide the Customer with a System Impact Study Agreement, pursuant to which the Eligible Customer shall agree to reimburse the NLSO the actual costs for performing the System Impact Study. This agreement will detail the System Impact Study scope, its cost, schedule, and other contractual clauses as appropriate. The Eligible Customer will have thirty (30) business days to execute the System Impact Study Agreement and return it to the NLSO with a security deposit as specified in the System Impact Study Agreement. Should the Eligible Customer fail to return the executed System Impact Study Agreement within the specified time period, the application shall be deemed to be withdrawn.

4.3 System Impact Study

Upon receipt of the executed System Impact Study Agreement, the NLSO will use due diligence to complete the required System Impact Study within one hundred and twenty (120) business days, or otherwise within a mutually agreed-upon number of days. In the event that the NLSO is unable to complete the required System Impact Study within such time period, it shall so notify the Eligible Customer and provide an estimated completion date along with an explanation of the reasons why additional time is required to complete the required studies.

The System Impact Study shall evaluate the impact of the proposed request on the reliability of the NL Transmission Study Area, which would result without project modifications or electric system modifications, focusing on potential impacts, including but not limited to, those identified in the scoping meeting. The System Impact Study will be performed with the participation of interconnecting Transmission Operators. The study may include load flow, short circuit, stability, loss evaluation, economic and other analyses as appropriate and will be conducted according to the following:

- The NLSO criteria and guidelines for operation and planning; and
- Good Utility Practice.

In order to perform a System Impact Study, the NLSO will develop system models for the NL Transmission Study Area, including appropriate representation of load and generation for the time frame during which any Transmission Service or Interconnection Service is requested. These models will include existing Transmission Service Agreements and Interconnection Agreements, as well as other pending Completed Applications holding a higher Queue Position. These models may include the representation of neighboring systems using base cases available to the NLSO through its participation in regional planning initiatives.

The NLSO shall coordinate the conduct of any studies required to determine the impact of requests for service or interconnection on affected systems with affected system operators and, if possible, include those results (if available) in its applicable System Impact Study. For any discussion with the Eligible Customer regarding impacts to affected systems, the NLSO will invite affected system operators to participate in the discussion and afford them an opportunity to review and comment upon a System Impact Study that covers potential adverse impacts on their electric systems.

4.4 Actions Upon Completion of System Impact Study

The NLSO shall notify the Eligible Customer immediately upon completion of the System Impact Study and provide to the customer the System Impact Study Report and other study deliverables (e.g., relevant work papers), as further detailed in the System Impact Study Agreement. The System Impact Study Report shall indicate if the NL Transmission Study Area will be adequate to accommodate all or part of a request for transmission or interconnection service or if additional costs are likely to be incurred for modifications or additions to the NL Transmission Study Area to provide the requested service. A presentation of the System Impact Study results may be provided by the NLSO at the Eligible Customer's request.

If modifications or additions to the NL Transmission Study Area are identified, the NLSO, within fifteen (15) business days of completion of the System Impact Study, will issue a Facilities Study Agreement, including study scope and a good faith estimate of the cost and schedule for undertaking a Facilities Study. If modifications are not required, the NLSO will issue a Transmission Service or Interconnection Agreement (as applicable) within five (5) business days of issuing the System Impact Study Report.

5.0 Facilities Study Procedures

If the NLSO determines that a Facilities Study is required it will issue a Facilities Study Agreement, within fifteen (15) business days of completion of the System Impact Study. The Facilities Study Agreement will detail the scope of the study, and a good faith estimate of the cost and schedule to complete the study, and other contractual clauses as appropriate.

5.1 Facilities Study Agreement

The Eligible Customer will have thirty (30) business days to execute the Facilities Study Agreement, pursuant to which the Eligible Customer shall agree to reimburse the NLSO the actual costs for performing the Facilities Study, and return it to the NLSO with a security deposit as specified in the Facilities Study Agreement. Should the Eligible Customer fail to return the executed Facilities Study Agreement within the specified time period, the application shall be deemed to be withdrawn.

5.2 Facilities Study

Upon receipt of an executed Facilities Study Agreement and in accordance with the queue management system described above, the NLSO will use diligence to complete the required Facilities Study within one hundred and twenty (120) business days or otherwise mutually agreed-upon number of days. If the NLSO is unable to complete the Facilities Study in the allotted time period, the NLSO shall notify the Eligible Customer and provide an estimate of the time needed to reach a final determination.

The Facilities Study shall specify and include a good faith estimate of the cost of the equipment, engineering, procurement and construction work needed to implement the conclusions of any System Impact Studies to physically and electrically provide the transmission service or connect the interconnection facility to the existing NL Transmission Study Area, as applicable. The Facilities Study Report also shall identify the electrical switching configuration of the connection equipment, including, without limitation: the transformer, switchgear, meters, and other station equipment; the nature and estimated cost of any system upgrades necessary to accomplish the transmission service or interconnection; and an estimate of the time required to complete the construction and installation of such facilities and initiate service.

The NLSO shall coordinate the Facilities Study with affected system operators and, if possible, include those results (if available) in its applicable Facilities Study, and for any discussion with Eligible Customers in regards to the Facilities Study, afford affected system operators an opportunity to review and comment upon a Facilities Study that covers potential adverse impacts on their electric systems.

5.3 Actions Upon Completion of Facilities Study

The NLSO shall notify the Eligible Customer immediately upon completion of the Facilities Study and provide to the Eligible Customer the Facilities Study Report. The Facilities Study Report will include a good faith estimate of the Eligible Customer's appropriate share of the cost of any required modifications or additions to the NL Transmission Study Area to provide the requested service as well as the time required to complete such construction and initiate service. A presentation of the Facilities Study results may be provided by the NLSO at the Eligible Customer's request. Upon completion of the Facilities Study, and with the agreement of the Eligible Customer to pay for the addition of any new facilities or modifications to existing facilities, the NLSO shall issue a Transmission Service or Interconnection Agreement (as applicable) within five (5) business days of issuing the Facilities Study Report.

6.0 Transmission Service and Interconnection Agreement Procedures

The NLSO will issue a Transmission Service or Interconnection Agreement within five (5) business days of the scoping meeting, if a System Impact Study is not required; completion of a System Impact Study, if a Facilities Study is not required; or issuance of the Facilities Study Report. The Eligible Customer shall have thirty (30) business days to execute a Transmission Service Agreement or Interconnection Agreement (as applicable) and provide the required letter of credit, or other form of security acceptable to the NLSO, equivalent to the costs of new facilities or modifications to existing transmission facilities (if applicable). Should the Eligible Customer fail to return the executed Transmission Service or Interconnection Agreement within the specified time period, the application shall be deemed to be withdrawn.