
SCHEDULE 1
SCOPE OF WORK
[Name of *project*]
CAA ID 20xx-xxx

1. Project Summary

1.1. The *applicant* proposes (select one):

<input type="checkbox"/> the development of a new renewable energy generation facility
<input type="checkbox"/> modification(s) to an existing renewable energy generation facility
<input type="checkbox"/> other (specify):

1.2. The *project* details include (as applicable):

Project Name:	
Size (MW):	
Location:	
Transmitter:	
Zone:	
Connection location:	
Preliminary in-service date:	
Other	

1.3. Connection arrangement:

<describe the connection arrangement>

2. Initialization

- 2.1. Within 10 days of the *IESO* receiving a connection assessment application, the *IESO* and the transmitter shall examine it for completeness and, if either determines that the application is incomplete, the *IESO* shall inform the *applicant* of the nature of the deficiency. The *IESO* shall promptly advise the *applicant* of the date that the *IESO* has determined the *application* to be “complete”. The service guarantee clock (“SGC”) will begin to run on this date.
- 2.2. An *application* will be considered “complete” after the following *requirements* have been met:
 - 2.2.1. the *IESO* receives the *applicant’s* completed connection assessment *application* form;
 - 2.2.2. the *applicant’s* connection assessment payments are received by the *IESO* and the transmitter;
 - 2.2.3. the *IESO* is in receipt of the *applicant’s* executed *SIA* agreement;
 - 2.2.4. if the *applicant* is an electricity LDC applying on behalf of a generator, the LDC connection impact assessment report has been received by the *IESO*; and
 - 2.2.5. if the *applicant* has retained a consultant to perform the necessary studies on its behalf, the consultant’s studies are received by the *IESO*, in final form satisfactory to the *IESO*.
- 2.3. Should the *applicant* submit new or modified data subsequent to the filing of the *application*, the *IESO* may, in its sole discretion, discard the original *SIA* and/or *CIA* questionnaire(s) and require the *applicant* to submit a new questionnaire containing the updated data.
- 2.4. An *application* will be deemed complete effective as of the date that the last applicable document or material change, as applicable, is received by the *IESO*.
- 2.5. The *applicant* may, at any time during the connection assessment process, request a stay of its *application* until further notice. In such instances, the *IESO* shall promptly:
 - 2.5.1. advise the *applicant* whether the *IESO* approves or denies of such request;
 - 2.5.2. advise the *applicant* whether the *IESO* requires additional details of the reasons for such request; and
 - 2.5.3. advise the *applicant* that the *IESO* may re-start the *SGC* on the day the *applicant* requests that the stay be lifted.

3. System Impact Assessment (SIA)

- 3.1 **Data Verification.** The *IESO* shall review the *application* to verify whether the *project* is in compliance with the *market rules* and the Transmission System Code, based on the data provided by the *applicant*. The *IESO* shall advise the *applicant* of any omissions, errors or inadequacies relating to the *application*.
- 3.2 **Assumptions.** The assessment will take into consideration:
 - 3.1.1. all existing, committed and under-construction transmission projects;
 - 3.1.2. all existing generators, including increased capacity at existing generating facilities; and
 - 3.1.3. new generators that:
 - a. were selected in all procurement processes completed to date;
 - b. have signed a contract with a purchaser; or
 - c. have signed a connection cost recovery agreement with a transmitter.

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- 3.3 **Connection Arrangement.** The *IESO* shall analyze the proposed connection arrangement and the intended mode of operation. This analysis will determine if additional or new equipment is required and whether the proposed equipment is rated appropriately.
- 3.4 **Power System Analysis.** The *IESO* may perform a load flow and/or transient analysis, if necessary, to determine the effect of the *project* on thermal loading, voltage and transient performance of the transmission system and to verify that both the *market rules* and the *IESO's* reliability criteria are met. A power system analysis will:
- 3.1.1. identify the local system upgrades that may be required to allow incorporation of the *project*;
 - 3.1.2. identify the effect of the *project* on the transfer capability of selected transmission interfaces or on existing system operating limits and, if necessary, identify the need for system upgrades that may be required to restore the transfer capabilities of the interfaces or the system operating limits to their former levels;
 - 3.1.3. determine the reactive power compensation that may be required at the *project* to provide adequate dynamic voltage control and to compensate for excessive reactive losses;
 - 3.1.4. determine if there is a need for a special protection system (SPS) such as generation/load rejection, generation run-back or cross-tripping, etc. to maintain acceptable system performance following contingencies and, if necessary, produce a high level functional description for a suitable SPS and provide the necessary evidence to support determination of NPCC type status;
 - 3.1.5. if necessary, review the performance of the proposed equipment and its control systems and assess the transient performance of the *project* under fault conditions; and
 - 3.1.6. identify any deficiencies with the *project*.
- 3.6 **Protection Impact Assessment.** A protection impact assessment shall be performed to examine the transmission system protection changes and coordination needed to accommodate the *project*. This assessment will place an emphasis on functionality, reach and timing (e.g. distance relays zone 1 and zone 2 coverage and timing). This assessment shall be performed by the transmitter on behalf of the *IESO*. If protection changes are required, this assessment will examine measures that could be implemented to mitigate the reliability impacts of the protection changes (e.g. modifications of the connection arrangement, etc.) and confirm that these measures would be effective.
- 3.7 **Short Circuit Assessment.** The *IESO* shall assess the impact on fault levels due to the incorporation of the *project* and identify any equipment that would be inadequately rated for the increased fault levels. This short circuit assessment shall be performed by the transmitter on behalf of the *IESO*. If inadequately rated equipment is identified, this assessment will examine measures that could be implemented to avoid the need for replacing breakers (e.g. installing reactors, introducing normally-open points, operating with busbars split, etc.) and confirm that these measures would be effective.
- 3.8 **Consultants.** If a consultant is retained by the *applicant* to perform any of the studies listed under this section 3, such studies shall be deemed to form a part of the *application*. The consultant shall be required to enter into a non-disclosure agreement with the *IESO*. The *IESO* will work closely with the consultant in preparing the scope and the reporting requirements of the study. The *IESO* will support the consultant, as necessary, while performing the study. The *applicant* shall be charged for the *IESO's* time and expense associated with these activities, as

well as for the connection assessment work based on the study results and the preparation of the *SIA* report.

4. Connection Assessment Timeline

- 4.1 Within 75 days from the *SGC* start, the *IESO* shall provide a list of *SIA* requirements to the transmitter, who will then be in a position to proceed with the *CIA*. The *applicant* shall execute the *CIA* agreement with the transmitter well within 75 days from the *SGC* start.
- 4.2 Within 100 days from the *SGC* start, a preliminary version of the *SIA* report will be circulated to the *applicant* and the transmitter for comments. The *applicant* shall then have 10 days to provide comments, failing which the *IESO* will assume no comments are forthcoming from the *applicant* and the *IESO* may proceed with the *SIA* process based on such assumption.
- 4.3 Within 120 days from the *SGC* start, the transmitter shall provide its list of *CIA* requirements to the *IESO*.
- 4.4 Within 130 days from the *SGC* start, a revised draft *SIA* report, modified to reflect the comments received from the *applicant* and transmitter and incorporating the *CIA* requirements will be circulated for comment to the *applicant* and the transmitter. The *applicant* shall then have 10 days to provide comments, failing which the *IESO* will assume no comments are forthcoming from the *applicant* and the *IESO* may proceed with the *SIA* process based on such assumption.
- 4.5 Within 150 days from the *SGC* start the *IESO* shall issue the connection assessment report summarizing the results of the *SIA* and *CIA* for the *project*. The transmitter's *CIA* process allows for a period of 30 calendar days for comments from the affected customers. Should these comments merit material changes to the connection assessment report, then an addendum to the connection assessment report may be issued.
- 4.6 The final connection assessment report will be posted on the *IESO* web site.