

Nova Scotia Power System Operator (NSPSO)

Market Procedure

MP-09

Outage Planning and Approval

Issue: 01.2

Effective Date: 2008 12 31

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MPF-09-01 Transmission Outage Request
MPF-09-02 Generation Facility Outage Request
MPF-09-03 Change request for approved Outage Plan

1 Document Control and General Provisions

1.1 Issue and revision History

Issue	Date	Reason for Issue
01	2007 10 01	Original Procedure (published in draft form)
01.1	2008 09 17	Revisions to draft
01.2	2008 12 31	Revisions to draft; finalized procedure

1.2 Contact for queries and submissions

For queries concerning the application or interpretation of this Market Procedure and for submission of documents required under this procedure (unless noted otherwise) contact:

Name: Market Administrator
Phone: 902 428 7719
Address: 5 Long Lake Drive
Halifax, Nova Scotia
B3S 1N8
E-mail: nspsoadmin@nspower.ca

1.3 Incorporation of general provisions

The general provisions set out in part 3 of Market Procedure 01, General Market Procedure, are incorporated into this Market Procedure (unless superseded by explicit wording to the contrary in this Market Procedure).

2 Overview of this procedure

2.1 Purpose of this Market Procedure

The purpose of this Market Procedure is to describe the process for Outage management in respect of all elements of the Transmission System and all Generating Facilities, and in particular the processes by which:

- ◆ NSPI Customer Operations division in respect of transmission, and Generation Market Participants may request approval of Outage Plans;
- ◆ Generation Market Participants for Export Generating Facilities and Minor Generating Facilities are required to advise the NSPSO of Outage Plans;
- ◆ the NSPSO will review, coordinate between, and approve or reject Outage Plans;
- ◆ NSPI Customer Operations division in respect of transmission, and Generation Market Participants may request approval to commence an Outage; and
- ◆ the NSPSO will review and approve or reject the commencement of an Outage

2.2 Market Rules – References

This Market Procedure is established in accordance with paragraphs 3.5.1.1 of the Market Rules and Published by the NSPSO in accordance with paragraph 1.5.1.1 of the Market Rules.

The processes described in this Market Procedure comply with the requirements of section 3.5 of the Market Rules.

2.3 Scope and Application

This Market Procedure applies to all Outages except Forced Outages.

Outages include de-ratings of a transmission element or a Generating Facility.

Outages include the removal from service of any redundant common service equipment which would increase the impact of a single contingency.

Outages include Outages to communications, protection and control equipment which can impact operating limits or monitoring of the security of the Bulk Electricity Supply System.

2.4 Responsibilities of Parties under this Market Procedure

The NSPSO's responsibilities under this procedure are set out in MR 3.5.2.1 and are repeated for convenience in Appendix A, section A2, of this Market Procedure. Within those broad responsibilities, the NSPSO is responsible for:

- ◆ issuing the Outage planning calendar,
- ◆ assessing Outage Plans against the criteria set out in Appendix A,
- ◆ assisting the Transmitter and Generation Market Participants in coordination of their Outage Plans and
- ◆ approving or rejecting Outage requests in accordance with the criteria set out in Appendix A

Nova Scotia Power's Customer Operations division is responsible for planning its Transmission System Outages in a timely manner according to the NSPSO's calendar, and for collaborating in the coordination of Outage Plans with Generation Market Participants.

Generation Market Participants are responsible for planning their Generating Facility Outages in a timely manner according to the NSPSO's calendar, and for collaborating in the coordination of Outage Plans with the Transmitter and with other Generation Market Participants.

Nova Scotia Power's Customer Operations division and Generation Market Participants are all responsible to use best efforts to ensure their Outage Plans are realistic assessments of the Outage requirements.

2.5 Other Market Procedures

None at this time

2.6 Terminology

For simplicity of drafting, the following terms are used in this Market Procedure, with the meanings also set out below:

"transmitter" means NSPI Customer Operations division in its role as owner of the transmission system

"Participant" means the transmitter or a Generation Market Participant

"Reliability" refers to the Reliability of the Bulk Electricity Supply System or any Zone thereof.

3 Process Description

3.1 Classification of Facilities and elements

3.1.1 Transmission element classification (MR 3.5.3.3)

3.1.1.1 Transmission elements are classified according to the impact of their removal from service.

- a) Major elements, comprising:
 - i) Class A elements are those whose removal from service would affect the transfer capacity of the 345 kV interconnection between NSPI and NBSO (L8001 / 3025).
 - ii) Class B elements are those whose removal from service would require transfer of load (...Maccan or Amherst areas) to NBSO.
- b) Intermediate, or class C, elements are all other elements of the 345 kV and 230 kV systems, all other elements of the 138 kV interconnections between NSPI and NBSO, and all other elements whose removal from service would affect transfer limits except in respect of local services only, or whose removal from service would impose limits on the real or reactive power or other Ancillary Services that can be provided by a particular Generating Facility.
- c) Minor or class D elements are all other elements, those that can be removed from service without impact to the NSPI – NBSO interface or to the 345 kV system, or to transfer limits except in respect of local services only.

3.1.1.2 Transmission elements include all transmission voltage equipment as well as the associated protection, control and communication equipment.

3.1.1.3 The transmitter shall establish and maintain its database of transmission element classifications for Outage planning purposes. If in doubt as to the classification of any element or group of elements, the transmitter shall consult with the NSPSO which shall determine classification in accordance with the above criteria and its needs for maintaining Reliability.

3.1.1.4 The NSPSO may at any time review the transmitter's classification of elements and may require the transmitter to make changes needed in order for the NSPSO to maintain Reliability.

3.1.2 Generating Facility and element classification (MR 3.5.3.3)

3.1.2.1 A major Generating Facility is any Generating Facility other than an Export Generating Facility that:

- a) provides Automatic Generation Control service; or
- b) provides black start capability (as confirmed with NSPSO) ;
and
- c) includes a generation unit that is rated at 75 MVA or higher; or
- d) comprises generation units the ratings of which in aggregate equals or exceeds 75 MVA.

3.1.2.2 An intermediate Generating Facility is any Generating Facility other than a major Generating facility or a Minor Generating Facility.

3.1.2.3 A Minor Generating Facility is any Generating Facility other than an Export Generating Facility that is less than 10 MW total output (per MR 2.2.4.5.)

3.1.2.3 The elements of a Generating Facility whose removal from service constitute an Outage for the purposes of this Market Procedure are all those elements whose removal from service, individually or collectively, would:

- a) reduce the capability of the Generating Facility to provide energy, real power or reactive power to the system;
- b) reduce the capability of the Generating Facility to provide any Ancillary Service to the system;
- c) impair the operation of protection and control, including, Automatic Voltage Regulator, Power System Stabilizer, Automatic Generation Control etc;
- d) reduce the capability of the Generating Facility to respond to schedule changes, ramping requirements or re-Dispatch by the NSPSO; or
- e) increase the size of a first contingency event, for example by removal of redundancy from station service equipment providing common service to multiple units.

3.1.2.4 Each Generation Market Participant shall establish and maintain its database of Generating Facility element classifications for Outage planning purposes. If in doubt as to the classification of any element or group of elements, the Generation Market Participant shall consult with the NSPSO which shall

determine classification in accordance with the above criteria and its needs for maintaining Reliability.

3.1.2.5 The NSPSO may at any time review a Generation Market Participant's classification of elements and may require the Generation Market Participant to make changes needed in order for the NSPSO to maintain Reliability.

3.2 Classification of Outages

3.2.1 Transmission Outage classification

3.2.1.1 Transmission Outages are classified according to the most impactful element, independent of Outage duration. (MR 3.5.3.4) Thus:

- a) a transmission Outage is a major Outage if it requires that any Class A, Class B or Class C element be removed from service or be subject to restrictions other than normal operating limits;
- b) any other transmission Outage is a minor Outage.

3.2.2 Grouping of transmission Outages

3.2.2.1 One project or program of work may often require a sequence of individual Outages. The timing of second and subsequent Outages may depend on the progress of work between the actual Outages. Any such plan for a sequence or group of Outages should be presented as a coordinated group plan, classified according to the most impactful element. Second and subsequent Outages within the plan will however require individual approvals.

3.2.3 Generating Facility Outage classification

3.2.3.1 Generating Facility Outages are classified as major, intermediate, and other:

- a) Major Outages are Outages of more than four days planned duration in respect of major Generating Facilities.
- b) Intermediate Outages are all other Outages of major Generating Facilities and all Outages that will include any on-peak hour, of intermediate Generating Facilities.
- c) Minor Outages are Outages of intermediate Generating Facilities that are restricted to off-peak hours, and all Outages of Minor Generating Facilities. (MR 3.5.3.4)

3.2.3.2 In planning for Generating Facility Outages, Market Participants should indicate a planned Outage duration that starts when output is expected to be reduced below minimum load for purposes of de-synchronization for the Outage, and ends when the Facility is planned to be ready for synchronization (or continued operation in accordance with energy production schedule) following completion of all testing and any commissioning activity.

3.3 Outage Planning Timetable

3.3.1 Information for 10 year assessments

3.3.1.1 Participants shall provide advance Outage planning information to the NSPSO for use in 10-year assessments in accordance with sub-section 3.3.2 of the Market Rules. Information already filed with the NSPSO for annual Outage planning does not require separate submission for use in 10-year assessments. The information required for 10-year assessments will generally be restricted to major work programs beyond the normal annual maintenance cycle; these major work programs will typically reflect major capital projects and / or unusual major system impacts. Advanced Outage planning information for use in 10-year assessments will not be carried over to the annual Outage planning process.

3.3.2 Annual Outage planning framework

3.3.2.1 The NSPSO is required to publish an Outage planning calendar for each annual Outage planning cycle in accordance with paragraph 3.5.3.2 of the Market Rules. The NSPSO shall publish this calendar by the end of July each year in respect of planning for the following calendar year. The calendar will set out precise dates, generally expected to correspond to the indicative dates included below.

3.3.2.2 The Outage planning calendar shall identify the following key dates:

- a) Transmitter publishes on OASIS its preliminary annual Transmission System Outage Plan (MR 3.5.3.6 (a)) approx 15th October.
- b) Generation Market Participant submission of preferred Outage Plans (MR 3.5.3.6 (b)) approx 30th October.
- c) Transmitter submits customer impact review (MR 3.5.3.6 (c)) approx 30th, October.
- d) NSPSO initial review and feedback (MR 3.5.3.6 (d) & (e)) approx 25th November.
- e) Transmitter and Generation Market Participants submit any revisions to annual Outage Plans (MR 3.5.3.6 (f) & (g)) approx 10th December.

- f) NSPSO approval / rejection of annual Outage Plans (MR 3.5.3.6 (h) to (l)) approx 30th December
- 3.3.2.3 The transmitter shall use its best efforts to complete and Publish its preliminary annual Transmission System Outage plan by the date specified in the calendar (date (a) above), recognizing that any material omissions from the plan at this time may require such Outages to be subordinate to generation Outage planning. This plan shall include all major Outages and any intermediate Outages that are known as of the annual Outage planning deadlines.
- 3.3.2.4 Generation Market Participants shall use their best efforts to advise the NSPSO of any major Planned Outage of their Generating Facilities for the relevant year no later than the date specified in the calendar (date (b) above) and may also include any intermediate Planned Outages by that same date.
- 3.3.2.5 The transmitter shall review its annual Outage Plan with potentially impacted transmission customers (including generators) and other large customers of NSPI in order to identify any conflicts, and shall advise the NSPSO of any consequential changes and unresolved issues by the date specified in the calendar (date (c) above). The transmitter shall at the same time Publish its revised Transmission System annual Outage Plan.
- 3.3.2.6 The NSPSO will make its initial assessment of Outages planned for the relevant year by the date specified in the calendar (date (d) above) by which time it will seek to have resolved conflicts that are identified as preventing the approval of Outages.
- 3.3.2.7 The detail of the annual Outage planning cycle is set out in section 3.4 of this Market Procedure

3.3.3 Monthly Outage planning framework

- 3.3.3.1 Market Participants shall use their best efforts to advise the NSPSO of any intermediate Planned Outages to Generating Facilities at least one month before the start of the month in which the Planned Outage is intended to commence.
- 3.3.3.2 The transmitter shall use its best efforts to advise the NSPSO of any intermediate Planned Outages at least one month before the start of the month in which the Planned Outage is intended to commence.
- 3.3.3.3 Participants shall provide any outstanding details of Outage Plans included in their annual Outage Plans at least one month before the start of the month in which the Planned Outage is intended to commence.

3.3.3.4 The NSPSO shall make monthly assessments in respect of Outages planned to commence in each month at least one week before the start of the month.

3.3.3.5 The detail of the monthly Outage Plan review framework, including all new requests and changes following the annual cycle, is set out in section 3.5 of this Market Procedure.

3.3.4 Short term Outage planning and assessment

3.3.4.1 Participants are generally required to advise the NSPSO as soon as reasonably practical of all other Planned Outages, and to advise the NSPSO immediately of any changes to Outage Plans submitted.

3.3.4.2 The NSPSO shall make additional assessments as required to review and possibly approve outstanding Outage requests up to and including the Day Ahead and the Dispatch Day.

3.3.4.3 The detail of the short term Outage planning framework, including all new requests and changes following the monthly cycle, is set out in section 3.6 of this Market Procedure.

3.3.5 Approval to commence an Outage

3.3.5.1 Participants shall submit Outage commencement requests in respect of approved Outage Plans

- a) preferably no earlier than 07:00 and no later than 11:00 on the Day Ahead of planned Outage commencement (corresponding to the window for energy schedule submissions), and
- b) in any case no more than 2 Business Days and no less than 6 hours before the planned commencement of the Outage (MR 3.5.4.2 & 3)

3.3.5.2 The NSPSO shall endeavour to advise the transmitter or Generation Market Participant by 15:00 on the Day Ahead of approval to commence the Outage as requested, but may

- a) defer such approval pending resolution of Reliability uncertainties,
- b) in consultation with the transmitter or Generation Market Participant defer Outage commencement, or
- c) deny approval if it determines that the Outage would jeopardize Reliability. (MR 3.5.4.4)

3.3.5.3 The detail of the process for approvals to commence Outages is set out in section 3.8 of this Market Procedure.

3.4 Detail of annual Outage planning

3.4.1 Contents of preliminary annual transmission Outage Plan

3.4.1.1 In submitting a Planned Outage request, the Transmitter shall provide the following information in respect of each Planned Outage:

- a) Line or Facility impacted
- b) Extent of any operational limitation
- c) Purpose of Outage, including any regulatory requirements.
- d) Identification of individual transmission element(s) to be taken out of service or be subject to operational limitations
- e) Start date & time
- f) Commencement of any testing to be required as part of the Outage
- g) End date & time
- h) Interaction with other planned Transmission Outages
- i) Impacts on other Facility (generation, load and interconnection) operations and details of any consultations with Market Participants
- j) Recallability after Outage commencement (time to recall, and estimated cost to recall)
- k) Any other relevant information

3.4.1.2 The Generation Market Participant shall submit Outage Plan information and approval requests or advice using form MPF-09-02, or if agreed by the NSPSO, in electronic summary format acceptable to the NSPSO.

3.4.2 Contents of annual Outage Plans for Generating Facilities

3.4.2.1 In submitting an annual Outage Plan, a Generation Market Participant shall provide the following information in respect of each Planned Outage:

- a) Facility name & ID
- b) Extent of Outage (all or some MW)
- c) Purpose of Outage, including any regulatory requirements.
- d) Elements not available during Outage
- e) Start date & time
- f) For Major Outages, first re-synchronization for testing and re-commissioning
- g) Planned full commercial operation (end of Outage)

- h) Interaction with other Facility Outages, impacts on other Facility operations, or interaction with planned Transmission Outages
- i) Recallability after Outage commencement (time to recall, and estimated cost to recall), which may vary through the Outage period.
- j) Any other relevant information

3.4.2.2 The Generation Market Participant shall use its best endeavours to provide accurate information, promptly to update information, and to indicate any areas of particular uncertainty in information. Certain information, including recallability details and start/end times are expected to be subject to refinement as the Market Participant undertakes its detailed planning of Outage activities.

3.4.2.3 The Generation Market Participant shall submit Outage Plan information and approval requests or requests for advice using form MPF-09-02, or if agreed by the NSPSO, in electronic summary format acceptable to the NSPSO.

3.4.3 NSPSO review

3.4.3.1 The NSPSO shall undertake its review and assessment of Outage Plans in accordance with the criteria set out in Appendix A.

3.4.4 Mediation of changes required to coordinate Outages

3.4.4.1 Where the NSPSO sees Outage Plans that would, if all approved, jeopardize Reliability, it shall communicate with the potentially impacted participants. (MR 3.5.3.6 (e))

3.4.4.2 Ideally the participants will agree to open discussion of their Outage Plans on a bilateral basis, or chaired or mediated by the NSPSO, in order to agree on changes to their Outage Plans which would permit all to proceed without jeopardy to Reliability. (MR 3.5.3.6 (f))

3.4.4.3 Participants may not come to agreement on changes to their Outage Plans. In this event the NSPSO shall arrange any necessary meetings and undertake any necessary mediation to facilitate a coordinated series of Outage Plans that can all be approved. It is at this stage that the NSPSO shall also seek to facilitate optimization with respect to Reliability and economics in accordance with the criteria set out in Appendix A.

3.4.4.4 In the event that participants wish to preserve confidentiality with respect to their Outage Plans, the NSPSO may not be able to arrange direct communications or meetings between participants, but shall seek to mediate the coordination of Outage Plans.

3.4.4.5 At the conclusion of actions under paragraphs 3.4.4.3 and 3.4.4.4, the participants shall submit their updated Outage Plans to the NSPSO for consideration. (MR 3.5.3.6 (g))

3.4.5 Approval or rejection of Outage Plans

3.4.5.1 The NSPSO shall issue notice of its approval of those Outage Plans that do not collectively jeopardize Reliability. (MR 3.5.3.6 (i))

3.4.5.2 The NSPSO may issue conditional approvals in accordance with the criteria set out in Appendix A, section A.7, but this is unlikely in the consideration of annual Outage Plans.

3.4.5.3 Where such coordination efforts fail to achieve a series of Outage Plans that can all be approved, the NSPSO shall evaluate alternatives with reference to the provisions of sub-paragraphs 3.5.3.6 (j) and (k) of the Market Rules.

3.4.5.4 In accordance with paragraph 3.5.3.7 of the Market Rules, any Outage Plan rejected in the annual Outage planning process shall, if so requested by the participant, stand for consideration in the monthly Outage Plan review process, recognizing the priority arising from its submission for annual Outage planning purposes. (See section 3.5.5: Outage Plan Prioritization)

3.5 Detail of monthly Outage Plan review process

3.5.1 Submission of transmission Outage Plans and related information

3.5.1.1 In accordance with paragraph 3.3.3.2, the transmitter shall use its best efforts to advise the NSPSO of any intermediate Planned Outages at least one month before the start of the month in which the Planned Outage is intended to commence.

3.5.1.2 It is expected that the transmitter will submit Outage Plans to the NSPSO at substantially the same time as it posts them on OASIS.

3.5.1.3 The transmitter shall use form MPF-09-01 (or an electronic equivalent acceptable to the NSPSO) for the submission of Outage Plan information.

3.5.2 Submission of Generation Facility Outage Plans and related information

3.5.2.1 In accordance with paragraph 3.3.3.1 Market Participants shall use their best efforts to advise the NSPSO of any intermediate Planned Outages to Generating Facilities at least one month before the start of the month in which the Planned Outage is intended to commence.

3.5.2.2 Generation Market Participants shall also at this time provide any outstanding or updated information relating to Outage Plans approved in the annual Outage

planning process, recognizing that any material change from an approved Outage Plan would constitute a new Outage Plan, subject to assessment prioritized according to the date NSPSO received of the changed information.

3.5.2.3 Generation Market Participants shall use form MPF-09-02 (or an electronic equivalent acceptable to the NSPSO) for the submission of Outage Plan information.

3.5.2.4 The information required is the same as shown in paragraph 3.4.2.1 in respect of annual Outage planning.

3.5.3 Scope of monthly Outage Plan review process

3.5.3.1 In the monthly Outage Plan review process, the NSPSO shall review all Outages planned to commence before the end of the relevant month, including Outages already approved as part of the annual Outage review process and taking account of Outages that are expected to have commenced but not been completed at the start of the month.

3.5.3.2 If requested by the transmitter or a Generation Market Participant, the NSPSO may (subject to staff availability etc) be able to provide an indicative review of longer term Outage Plans within the same year, but such indicative review shall not constitute approval.

3.5.4 Outage Plan review and assessment

3.5.4.1 The NSPSO shall undertake its review and assessment of Outage Plans in accordance with the criteria set out in Appendix A.

3.5.4.2 The NSPSO shall perform such assessments using the latest forecast and other information available to it at the time of the assessment.

3.5.5 Outage Plan prioritization

3.5.5.1 In reviewing Outage Plans as part of the monthly Outage review process, the NSPSO shall give priority:

- a) first, to Outage Plans approved in the annual review process
- b) second to Outage Plans submitted for the annual review process, but not approved, and which were requested by the participant to be left open for later consideration
- c) thereafter, in the order in which the NSPSO receives the Outage Plans.

3.5.6 Results of Outage Plan review

3.5.6.1 The NSPSO shall advise each participant that each Outage Plan is approved, rejected, or held open pending short term review.

3.5.6.2 The NSPSO may also advise a participant of opportunities to secure approval by modification of an Outage Plan.

3.5.6.3 In the event that the NSPSO rejects a transmission Outage Plan, the transmitter shall remove the plan from OASIS.

3.6 Detail of short term Outage planning and approval

3.6.1.1 Participants may become aware, after the month-ahead deadline, of the need for additional Outages or for changes to approved Outage Plans. Participants should submit Outage Plans with such Outages or changes at the earliest opportunity, using the relevant form MPF-09-01 or 02, and providing the information set out in paragraphs 3.4.1.1 or 3.4.2.1 as applicable.

3.6.1.2 The NSPSO shall endeavour to review, assess, and approve or reject such Outage Plans or changes on a weekly basis and in any case no later than the end of the first Business Day on which the five day forecast (ref MR 4.2.1.3) includes the planned commencement of the Outage.

3.6.1.3 The process and criteria are similar to those for the monthly review as set out in section 3.5.

3.7 Changes to Outage Plans

3.7.1 Changes initiated by the participant

3.7.1.1 The processes related to changes in Outage Plans are intended to ensure that (a) the NSPSO has the information necessary to manage system reliability, (b) the NSPSO is fully aware of all Outage Plans as they may evolve and become more detailed, and (c) changes by one participant do not adversely affect reliability or another participant.

3.7.1.2 The provision of additional information that better defines an Outage Plan, but does not change it in terms of paragraph 3.7.1.3, is considered as evolution of the plan, and does not constitute a change requiring approval by the NSPSO.

3.7.1.3 A participant is required to seek the NSPSO's approval for any change arising after the approval of an Outage Plan if it proposes: (MR 3.5.3.9)

- a) to expand the scope of the Facilities or elements whose capability is impacted by the Outage,
- b) to reduce the capability of Facilities or elements beyond that indicated in the approved Outage Plan,
- c) to advance the planned start date or defer the planned end date of the Outage.

- 3.7.1.4 A participant seeking the NSPSO's approval to change an Outage Plan may propose a mitigation plan to facilitate the change. This is most likely to arise where for example a Generation Market Participant may propose to mitigate the impact of extending its Facility A Outage Plan by cancelling its Facility B Outage Plan. It may include an agreed change by another participant.
- 3.7.1.5 Any request for approval of a change to an approved Outage Plan shall be made using form MPF-09-03 or in equivalent electronic format acceptable to the NSPSO.
- 3.7.1.6 The NSPSO shall review each such request for approval to change an Outage Plan within the context of its monthly Outage Plan review process as described in section 3.5.
- 3.7.1.7 The NSPSO shall approve any such change request if it can be accommodated in accordance with the criteria set out in Appendix A without adverse impact on any other participant's Outage Plan approved by the NSPSO or received by the NSPSO in advance of the change request. (MR 3.5.3.9)
- 3.7.1.8 In the event that the NSPSO does not approve such change request, the participant shall notify the NSPSO, within 5 business days, of its decision:
- a) either to revert to its previously approved Outage Plan (and control the work scope etc to comply with that plan)
 - b) or to cancel the previously approved Outage Plan.
- 3.7.1.9 In either case the participant may request that the request for approval of the changed Outage Plan stay open for later consideration.

3.7.2 Changes initiated by the NSPSO

- 3.7.2.1 Changed circumstances (such as load forecast changes, supply availability changes, or transmission problems) may cause the NSPSO to identify threats to reliability within the planning timeframe. The NSPSO shall advise any affected participant if it becomes aware of material probability that it will not be in a position to grant approval to commence an Outage for which the Outage Plan is approved.
- 3.7.2.2 The NSPSO may request a participant to change an approved Outage Plan in order to minimize such threat, and to minimize the chance that the NSPSO would have to retract its approval.

3.8 Approval to commence an Outage

3.8.1.1 Each participant with an approved Outage Plan shall submit an Outage commencement request to the NSPSO no more than 2 Business Days and no less than 6 hours before the planned commencement of the Outage. (MR 3.5.4.2 & 3)

3.8.1.2 The NSPSO shall assess the commencement request using the criteria in Appendix A.

3.8.1.3 No less than 3 hours ahead of the planned commencement of the Outage, the NSPSO shall approve Outage commencement in accordance with the Outage Plan unless this would infringe the criteria set out in Appendix A. (MR 3.5.4.4)

3.8.1.4 In the event that the commencement of the Outage is considered by the NSPSO to infringe the criteria set out in Appendix A, the NSPSO may either

- a) reject the Outage, and thus implicitly retract approval of the Outage Plan, or
- b) in consultation with the participant, defer the commencement or approve partial commencement (e.g. not beyond a point of recall), and thus implicitly approve changes to the Outage Plan. (MR 3.5.4.4)

3.9 Changes after Outage commencement

3.9.1.1 A participant may become aware after commencement of an Outage of circumstances causing a change in the Outage Plan. Examples would include discovery of unforeseen equipment damage, environmental or safety hazards delaying the work, etc. (MR 3.5.4.8)

3.9.1.2 In the event of circumstances expected to cause delay in return to service or to reduce the capability of Facilities or elements beyond that indicated in the approved Outage Plan, the participant shall promptly notify the NSPSO and request approval of a change to the Outage Plan using form MPF-09-03 Change request for approved Outage Plan. To the extent that the participant has control of other Facilities that enable it to offer measures to mitigate the impact, it shall propose such measures (similar to those discussed in paragraph 3.7.1.4).

3.9.1.3 The NSPSO shall evaluate the requested change against the criteria set out in Appendix A, and may approve it unconditionally, approve it subject to mitigation measures, or may reject it.

3.9.1.4 If the NSPSO has rejected a change, the participant shall use all reasonable efforts to complete the Outage according to the approved Outage Plan, including as appropriate by reduction in scope, by additional shift or overtime work, or by other means that may be available. (MR 3.5.4.7)

3.10 Retraction of approvals and recall of Outages

3.10.1 Retraction of approval of an Outage Plan

3.10.1.1 If the NSPSO becomes aware of circumstances whereby the implementation of an approved Outage Plan would jeopardize Reliability it shall, unless the commencement is imminent, notify the relevant participants of the risk of retraction of approval, and shall consult with the participant to seek changes to the Outage Plan that would preserve Reliability and minimize impact on the participant or other participants. To the extent possible, these circumstances shall be addressed under section 3.7.2 above.

3.10.1.2 To the extent that the implementation of an approved Outage Plan would infringe the criteria set out in Appendix A, the NSPSO may retract such approval by giving notice to the participant.

3.10.2 Recall of an Outage

3.10.2.1 If the NSPSO identifies an actual or expected emergency condition or inadequacy to supply firm load (system wide or in a Zone) it has the right to recall any Facility or element on Outage in order to avoid or mitigate such circumstance.

3.10.2.2 The participant for any Outage subject to recall shall use all reasonable efforts to comply with the recall, and shall keep the NSPSO advised of progress and expected results. (MR 3.5.4.5)

APPENDIX A

Criteria for assessment of Outage Plans

A.1 Introduction

The criteria set out below are intended to provide guidance to the NSPSO in its assessment of Outage Plans. The criteria supplement the firm requirements of the Market Rules. Given a degree of unpredictability, the NSPSO should exercise prudent judgment in the application of these criteria, and depart from these criteria only after careful consideration.

A.2 Market Rule requirements

The Market Rule requirements are set out in MR 3.5.2.1 as follows:

- a) The NSPSO shall not approve any Outage Plan that would jeopardize the Reliability of the Bulk Electricity Supply System or any Zone thereof except to the extent that this is unavoidable.
- b) The NSPSO shall seek to facilitate coordination of Outage Plans among the NSPI Customer Operations in respect of the Transmission System, and Generation Market Participants, subject to confidentiality constraints and the willingness of the NSPI Customer Operations in respect of the Transmission System and of Generation Market Participants.
- c) In facilitating coordination among NSPI Customer Operations in respect of the Transmission System and Generation Market Participants, the NSPSO shall support efforts to optimize economic as well as Reliability impacts.
- d) The NSPSO shall not discriminate amongst Facility Outage Plans on the basis of Facility ownership or Generating Market Participant.

A.3 Jeopardy to Reliability

Reliability would be jeopardized if, at the time of assessment, the implementation of the Outage plan would be forecast to result in inadequate supply to serve the firm load on the Bulk Electricity Supply System and the Ancillary Service requirements to maintain system security, taking account of:

- a) the firm load forecast and prudent allowance for variability of demand
- b) Ancillary Service requirements
- c) (query) firm exports other than from Export Generating Facilities
- d) the capabilities of the Transmission System
- e) the expected availability of intermittent resources

- f) the commitment of firm imports
- g) Generating Facility capability other than Export Generating Facilities
- h) other Outage Plans previously approved or otherwise having scheduling priority
- i) prudent allowance for forced Outages (which may be combined with variability of demand and / or Ancillary Services into a common reserve requirement).

A.4 Unavoidable jeopardy

The NSPSO may identify circumstances where there is no solution that excludes all jeopardy to Reliability. Such circumstances may arise from the priority of safety, over-riding considerations of asset protection or environmental protection and unavoidable regulatory requirements, over Reliability. In those circumstances the NSPSO may recognize that those priorities cannot be fulfilled without jeopardy to Reliability.

Note that if jeopardy may be avoided by the retraction of an Outage Plan approval or by the recall of an Outage, such jeopardy is not unavoidable. The prior approval of an Outage Plan may be retracted by the NSPSO in order to avoid jeopardy to Reliability. An Outage that has already commenced may also be recalled in order to avoid jeopardy to Reliability. In any such retraction of approval, or recall of an Outage, the NSPSO would need to give consideration to the consequential Reliability impacts of such retraction or recall.

A.5 Optimizing Reliability impacts

In facilitating coordination the NSPSO shall support efforts to optimize Reliability impacts. This has three aspects: minimizing unavoidable jeopardy to Reliability in respect of firm supply; maximizing the assurance of non-firm supply; and maximizing the cushions (e.g. in residual reserve margins or in allowances for delays) in the overall Outage plan. The NSPSO is responsible only for facilitating such optimization among willing participants, not for enforcing it.

A.6 Optimizing economic impacts

In facilitating coordination the NSPSO shall support efforts to optimize economic impacts. The Market Rule refers to economic impacts in a generic sense. It thus refers to overall impact on the economy of Nova Scotia, and not to profit maximization or loss minimization of particular persons or classes of persons. Once again, the NSPSO is responsible only for facilitating such optimization among willing participants, not for enforcing it.

A.7 Contingent approvals

In accordance with MR 3.5.3.6 (l) NSPSO may make its approval of an Outage Plan contingent on the recallability of equipment from Outage on certain terms. This provision is intended to allow an Outage to proceed in circumstances where it is only its ability to be recalled at relatively short notice that would prevent jeopardy to Reliability. This is unlikely to be the case for major Outages or annual planning, but may facilitate Outages at shorter notice and of less impact.

Forms

MPF-09-01	Transmission Outage Request
MPF-09-02	Generation Facility Outage Request
MPF-09-03	Change request for approved Outage Plan