

Outage Management Redesign

Process Summary

Effective Date: September 2016

Introduction

This document describes key aspects of the IESO's outage management process and provides a high-level overview of outage submission and approval timelines, reporting obligations and software support for outage related tasks. A detailed description of the outage management process and associated obligations is found in Market Manual 7.3 - Outage Management.

Outage Submission

Market participants are required to identify Priority Codes, Purpose Codes and Constraint Codes for every outage request submission to identify the need, impact and urgency of the outage request.

Priority Codes

Priority Codes indicate the level of urgency to implement the outage and determine outage priority for competing outage requests. For example, an urgent outage request gets a higher priority compared to an opportunity outage request.

- Forced and urgent outages have little to no time flexibility and the IESO will assess them as soon as possible.
- Planned outages are required to be submitted and assessed as per advance approval timelines explained later in this document.
- Opportunity outages represent late planned outages. Market participants may only submit opportunity outages when presented with an unexpected opportunity to accomplish work after the submission deadlines for planned outages have passed. The IESO may assess opportunity outages where the opportunity presents low risk to the reliability of IESO-controlled grid and a low risk to the IESO.
- Information outages may be submitted to the IESO for information purposes at any time.

Purpose Codes

Purpose Codes indicate the reason for the outage request. This information is used by the IESO to determine the impact and purpose of the outage request. For example, an outage request submitted for a safety concern informs the IESO of the market participant's urgent need

compared to an outage request to conduct maintenance/repair testing which can be planned in advance.

Constraint Codes

Constraint Codes identify the status of the equipment during the outage. The IESO uses this information to determine the impact of the outage request on the IESO-controlled grid. For example, an 'Out of Service' code indicates the equipment will be unavailable for the duration of the outage; whereas a 'Protection Out of Service' code indicates the equipment is physically available but one or more of its protective relay systems are unavailable.

Software Support

The outage management system will automatically filter the list of Purpose Codes and Constraint Codes, based on the Priority Code entered by market participants. For example, 'Equipment Concern' Purpose code is available only if the market participant is submitting a forced or urgent outage. 'INFO' and 'ABNO' Constraint codes are only available for informational outages.

Equipment Criticality

The level of equipment criticality dictates the advance approval process within which a planned outage request must be submitted. Advance approval timelines are further explained in this document.

For example, outages to critical equipment must be submitted at least 17 days prior to the start of the coverage period (under the Weekly Advance Approval process), whereas outages to low-impact equipment must be submitted at least two business days prior to the start of the coverage period (under the 1-Day Advance Approval process).

Market participants are able to see the criticality level of their equipment in Online IESO or the outage management system.

Advance Approval Timelines for Planned Outages

Market participants may request a Quarterly, Weekly, 3-Day or 1-Day Advance Approval for their planned outages. Each advance approval process is associated with a 'Study' and 'Coverage' period:

- A 'Study Period' refers to when the IESO assesses planned outage requests submitted for the associated advance approval process. The IESO will notify market participants of its assessment by the end of the study period.
- A 'Coverage period' refers to a period of time wherein an outage is planned to be implemented.

Outage requests must be submitted before the start of a study period, in order to receive advance approval for implementation during the associated coverage period. The diagrams below indicate the study and coverage periods for each advance approval process.

Quarterly Advance Approval

MONTHS																	
A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
Study		Coverage															
Study			Coverage														
Study						Coverage											
Study									Coverage								

Weekly Advance Approval

		DAYS						
		S	M	T	W	T	F	S
WEEKS	1							
	2	Study						
	3							
	4	Coverage						
	5							

3-Day Advance Approval

		DAYS						
		S	M	T	W	T	F	S
WEEKS	1							
	2	Study						
WEEKS	1							
	2	Coverage						

Note: In the figure, the timeline on the left illustrates a coverage period that falls on a weekend, and the timeline on the right illustrates a coverage period that falls on a weekday.

1-Day Advance Approval

		DAYS						
		S	M	T	W	T	F	S
WEEKS	1							
	2	Study						
WEEKS	1							
	2	Coverage						

Note: In the figure, the timeline on the left illustrates a coverage period that falls on a weekend, and the timeline on the right illustrates a coverage period that falls on a weekday.

Table-1 below summarizes the submission and assessment deadlines for planned outage requests for each advance approval process, based on equipment criticality.

Table 1: Advance Approval Timelines

Advance Approval Process	Submission Deadline (Prior to coverage period start)	Assessment Deadline (Prior to coverage period start)	Eligible Equipment
Quarterly	3 months prior	1 month prior	<ul style="list-style-type: none"> All equipment types may be submitted
Weekly	17 days prior	10 days prior	<ul style="list-style-type: none"> Critical equipment must be submitted Non-critical and low-impact equipment may be submitted
3-Day	5 business days	3 business days prior	<ul style="list-style-type: none"> Non-critical equipment must be submitted Low-impact equipment may be submitted
1-Day	2 business days	1 business day prior	<ul style="list-style-type: none"> Low-impact equipment must be submitted Critical and non-critical equipment with low-impact attributes must be submitted

Software Support

The advance approval criteria and submission deadlines are embedded in the outage management system and market participants will be notified if the outage request does not meet the submission criteria.

For example, if an outage request is submitted for the Quarterly Advance Approval process after the submission deadline, the tool will automatically place the outage for assessment under the next Quarterly, Weekly, 3-Day or 1-Day Advance Approval process, as eligible, based on equipment criticality and planned start time.

If outages to critical equipment are not submitted within the Weekly Advance Approval process, the tool’s auto-validation feature will not allow the outage submission to be completed.

The IESO is required to complete an assessment of planned outages before the assessment deadline, outlined in Table 1. The result of an assessment will either be an advance approval or a rejection the outage.

Note: For outages submitted under the Quarterly process, the IESO will either provide advance approval or transition the outage request to an ‘At Risk’ status. ‘At Risk’ outages will be assessed during the next Quarterly, Weekly, or 3-Day Advance Approval process, as applicable, based on equipment criticality and ‘Request for Weekly AA’ flag.

Determining Outage Priority

Outage priority is used to determine the order in which planned outages are approved, rejected, revoked and recalled.

Priority Codes are the primary determinant of outage priority. The order of precedence is forced, urgent, planned and opportunity.

Within planned outages, market participants can elevate outage priority by submitting outage requests within an earlier advance approval process. For example, a planned outage submitted for Weekly Advance Approval would have higher priority over a planned outage submitted for 3-Day Advance Approval.

Outage requests with the same Priority Code or under the same advance approval timeframe are prioritised based on submission time. The earlier the submission, the higher is the priority.

Outage Planning Guideline and Conflict Checking Feature

The outage planning guideline is intended to assist market participants avoid scheduling conflicting outages, and thereby improving outage scheduling and assessment efficiency.

Table 2: Sample Outage Planning Guideline

Transmission Group	Transmission Elements	Threshold	Reason	Distribution
Group 1	Line X	1	Thermal concerns	
	Line Y			

Market participants will be able to access the guideline at the [IESO Reports](#) webpage under Participant Reports. The IESO will periodically review the outage planning guideline and publish updates as per the Baseline schedule.

Software Support

The outage planning guidelines and conflicting Constraint Codes are embedded into the outage management system. The tool will display a warning if a submitted outage request is in conflict with another outage. Market participants unable to avoid and reschedule outages in conflict will be required to provide a conflict rationale explaining why the IESO must allow the outage to proceed.

The IESO will assess conflict rationale based on the following criteria:

- Quarterly Process: Only non-discretionary rationale will be accepted;
- Weekly, 3-Day and 1-Day Process: Discretionary rationale may be considered, provided there is valid justification;
- Real-time Process: Conflicts will only be considered for forced and urgent outages.

Granting Third Party Viewership

Market participants may choose to share outage information with other market participants by granting third party viewership of their equipment via Online IESO. Third party viewership facilitates outage scheduling by enabling market participants to coordinate their outages based on this information. It also facilitates communication between impacted market participants.

A single outage request may contain both, equipment with and without third party viewership access. In such cases, third party viewers will only see the equipment to which they have access.

Software Support

To grant third party viewership, market participants will be required to log into Online IESO and select the equipment and the names of market participants they want to share the equipment information with.

Outage Requests with Multiple Equipment or Equipment Profiles

Market participants may submit outage requests with multiple equipment provided the following criteria are met:

Overlapping Start and End times

A single outage request may include multiple equipment if the outage start and end times are the same for all pieces of equipment.

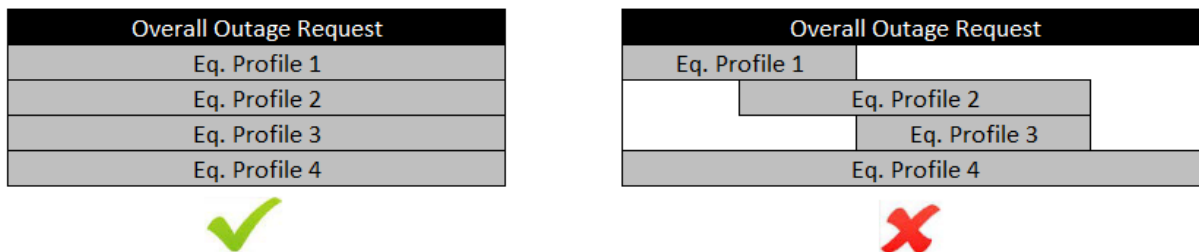


Figure 1: Example of Overlapping Start and End Times

Similar Constraint Codes and Constraint Units

A single outage request may include multiple outage profiles on the same piece of equipment if the same Constraint Code applies for every outage.

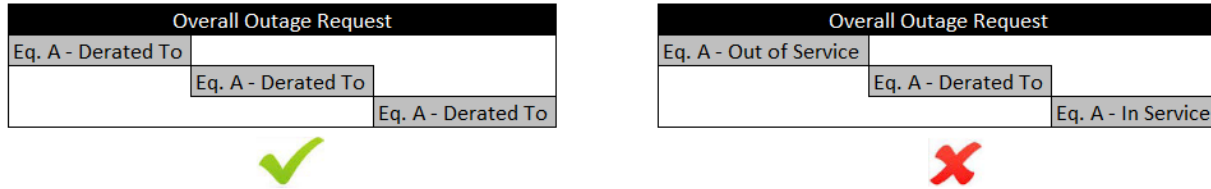


Figure 2: Example of Similar Constraint Code on Same Piece of Equipment

A single outage request may include multiple outage profiles on the same piece of equipment if the same Constraint Code applies to the same constraint units.

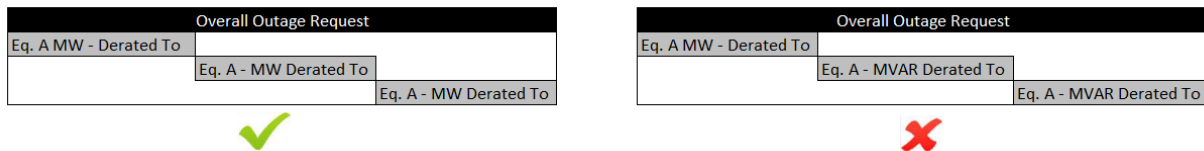


Figure 3: Example of Similar Constraint Code on Same Constraint Units

Software Support

Outage requests that do not meet the criteria outlined above will be prevented from being submitted successfully.

Auto Advance Approval (Auto AA)

Outage requests for low-impact equipment or equipment containing low-impact attributes may be eligible for Auto Advance Approval (Auto AA) when submitted via the IESO’s outage management system. Market participants are required to answer certain questions to determine their eligibility for Auto AA. Refer to Market Manual 7.3 for eligibility criteria.

Software Support

Upon determination of eligibility for Auto Advance Approval, the outage management system will automatically transition the outage request to ‘Auto AA’ status.

The priority of the outage will be based on the time of submission and advance approval process it would have been manually studied in by the IESO. For example, if an outage request

with non-critical equipment was submitted and auto-approved within the Quarterly process it would have a Quarterly Advance Approval priority. However, if the same outage request was submitted and auto-approved after the Quarterly submission deadline, it would have a 3-Day Advance Approval priority, based on equipment criticality and submission timeframe.

Final Approval in Advance (FAA)

A subset of outages for low-impact equipment or equipment containing low-impact attributes that are deemed eligible for Auto AA may receive Final Approval in Advance (FAA). Market participants who have received FAA for their outages are not required to request final approval verbally in order to implement the outage.

The IESO determines eligibility for FAA based on the impact to the IESO-controlled grid, on a case by case basis. Refer to Market Manual 7.3 for eligibility criteria.

Software Support

Upon determination of eligibility for Final Approval in Advance, the outage management system will transition the outage request to 'Auto AA' status and display a flag for market participants to confirm that the outage request is eligible for FAA. On the day of the outage, the tool will automatically transition the outage to 'Final Approved' status.

Providing Actual Start and End Times

Upon receipt of final approval from the IESO, market participants are required to implement the outage and provide the actual start time in the outage management system.

Similarly, upon receiving IESO approval to complete the outage, market participants are required to return the equipment to service and enter the actual end time in the outage management system.

In the event of an outage recall, the recall time will be set as the actual end time.

Software Support

Market participants are required to enter actual start and end times for outages in the outage management system. In cases where market participants inadvertently enter an incorrect date or time or change the status of an outage request to 'Completed' or 'Implemented', a request can be made to the IESO to allow changes to actual start and end dates for outage requests with the following statuses:

- Final Approved
- Implemented
- Completed