

SE-109: Outage Management Process Redesign Interim Process Training

Mark Gojmerac, IESO
December 11, 2013



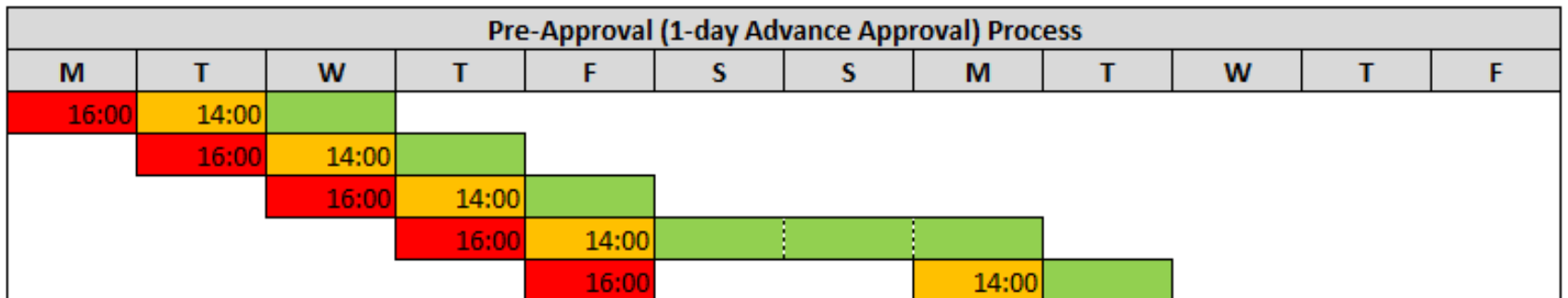
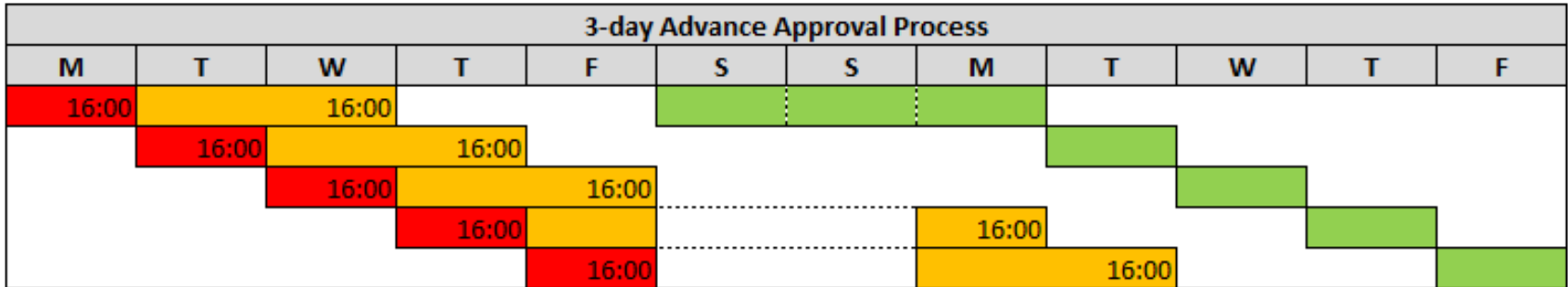
- **Interim Process Review:**
 - Market Rule Changes
 - Market Manual Changes:
 - Request for Pre-Approval
 - Mechanisms for Scheduling Flexibility
 - Impact to IESO Tools and Online Outage Form (ONLORF)
- **Interim Process Implementation**
- **Next Steps**

- **Request for 2 day advance approval becomes a request for 3 day advance approval**
 - Submission deadline of 16:00 EST, 5 business days out
 - IESO Advance approval by 16:00 EST, 3 business days out
- **“Short Notice” replaced with “Request for Pre-Approval”**
 - 1-day advance approval for lower impact outages:
 - Submission criteria applies (more on this later)
 - Submission deadline of 16:00 EST 2 business days in advance
 - IESO advance approval by 14:00 EST 1 business day in advance
- Late requests for 3 day advance approval or pre-approval (1-day advance approval) will not be assessed (rejected by the IESO) unless certain allowances for scheduling flexibility apply (more on this later)

Interim Process Review: Market Rule Changes (con't)

- **Outage “confirmation” not required for 3-day advance approval**
 - Still required for requesting Pre-Approval (1-day advance approval) and tells the IESO:
 - The outage is not a late request for 3-day advance approval
 - The market participant has verified the outage meets the criteria for pre-approval before submitting to the IESO

Approval being Requested	Submission Deadline	Confirmation Required?	Method of Confirmation	
			Participants using ONLORF	Participants using own Software
3-day advance approval	16:00 EST, 5 business days in advance	No	Not applicable	Not applicable
Pre-approval (1-day advance approval)	16:00 EST, 2 business days in advance	Yes	Electronically using the “Request for Pre-approval” button/flag	Electronically using the “Outage Confirmed” flag



Submission Deadline

IESO Assessment Period

Outage Start Dates

- IESO obligation to assess low impact planned outages on shorter notice
- Outages must meet the following eligibility principles:
 - Low impact to reliability
 - Low IESO assessment effort
 - No impact to 3rd party market participants
- Criteria developed to meet these principles (incorporated into rewrite of Market Manual 7.3, Appendix B)
 - [Link](#) to draft version on SE-109 webpage
- Some equipment outages meet the criteria but violate the principles
 - Very few equipment meet this condition
 - Participants will be separately notified via outage reporting letters

- **All radial lines**
 - Criteria: ≤ 15 minutes for terminal switching and must not violate pre-approval criteria for other facilities (e.g. load/gen)
 - Impacted participants: Transmitters
- **Examples:**
 - B15C & B16C (Cooksville)
 - Cooksville breakers must be ≤ 15 min for switching
 - No duration or recall criteria apply (only loads are connected to the line)
 - M2W (Marathon)
 - Marathon breakers must be ≤ 15 min for switching
 - Circuit outage must start and end in the same day or have a recall of ≤ 15 min (generator connected to the line)

- **Removal of step-down transformers with a low side operating voltage ≤ 100 kV;**
- **Unloading of step-down transformers/windings; and**
- **Paralleling/separation of busses via bus-tie breaker**
 - Criteria: None (unless informed by IESO)
 - Impacted participants: Loads, LDCs, Transmitters
- **Examples:**
 - All reportable distribution transformers, breakers, disconnects etc.
 - High-side transformer disconnect (≥ 100 kV) is included

- **Load transfers between step-down transformer stations**
 - Criteria: transfers are limited to \leq 50 MW
 - Impacted Participants: Transmitters, LDCs
- **Examples:**
 - Transfers between Leaside and Manby (H1/Toronto Hydro)
 - Transfers between Martindale and Algoma (H1)
 - Transfers between Slater and King Edward/Lisgar (H1/Hydro Ottawa)
 - Transfers between St Mary's and Tarentorus (GLP/Sault PUC)

- **Distribution-connected Capacitors/Reactors**
 - Criteria: Start and end in the same day or have a recall \leq 15 minutes
 - Impacted Participants: Loads, Transmitters, LDCs

- **Examples:**
 - All “low tension” capacitors/reactors (i.e. no direct connection to a 115/230 kV step-up transformer)
 - Participant reporting letters will indicate which reactive devices are actually reportable

- **Operating Aids**
 - Criteria: None (unless informed by IESO)
 - Impacted participants: All
- **Examples:**
 - UFLS;
 - Hold-offs (blocking of line auto-reclosure); and
 - Voltage reduction facilities

- **Primary Protections:**

- Criteria: Loss of redundancy
- Impacted Participants: All
- Examples: A & B Line, Transformer or Generator protections

- **Backup Protections**

- Criteria: equipment being protected remains in-service
- Impacted Participants: Transmitters
- Examples: Breaker-fail (B/F) protections

- **Special Protection Systems (SPS)**
 - Criteria: Loss of redundancy and recall ≤ 15 min
 - Impacted Participants: Loads, Transmitters & Generators
- **Examples:**
 - Combined/Individual Generator and/or Load Rejection Schemes
 - Bruce G/R Scheme (H1/Bruce Power)
 - North East LGR Scheme (H1/OPG/Spruce Falls etc.)
 - Mackay G/R Scheme (GLP/Brookfield)

- **Communication facilities**
 - Criteria: Loss of redundancy and recall ≤ 15 min
 - Impacted Participants: All
- **Examples:**
 - SCADA,
 - RTU,
 - ICCP Links etc.

- **Switchyard Auxiliaries**
 - Criteria: Loss of redundancy *and* recall ≤ 15 min
 - Impacted Participants: Transmitters & Generators
- **Examples:**
 - Transmitter 250 VDC A & B systems;
 - Transmitter/Generator Station Service Transformers

- **All generator, ancillary service or testing/commissioning outage requests**
 - Criteria: Start and end in the same day or have a recall \leq 15 minutes
 - Impacted Participants: Generators
- **Examples:**
 - Brush-gear maintenance;
 - Valve Testing;
 - New or replacement facility commissioning

- **IESO will/may assess outage requests received after the submission deadlines under the following situations:**
 1. Forced (urgent) outages with time-limited flexibility
 2. Segregated Mode of Operation (SMO)
 3. Extensions due to a delayed outage start
 4. Returning equipment to service
 5. Generator ramps to support start-up/shut-down
 6. Generator Testing/Commissioning
- Items 2 through 6 are on a best effort basis only
- SMO will not be discussed in detail as it only pertains to OPG

- IESO will assess these types of urgent requests up to and including real-time and ahead of all planned outages.
- Participants must declare and submit these requests as 'Forced Outages' in order to set outage priority and drive the proper IESO response
- **Scenarios:**
 - Hydro One reports a 500 kV breaker at Milton with low SF6 must be topped up within 4 days but have staff on site now
 - Portlands reports G1 has a tube leak that must be repaired within 3 days but can have staff on site as early as tomorrow
 - OPG reports Darlington G4 must be removed from service within 48 hours to repair a fueling machine

- IESO may re-assess an outage extension before revoking advance approval, up to and including real-time, if the outage starts and ends in the same day and can still be completed by the end of the day.
- **Eligible Scenarios:**
 - Brookfield reports Wells G1 outage from 08:00 to 16:00 cannot start until 10:00 but can be completed by 19:00
 - IESO delays a one day Dofasco T2 outage by 2 hours but Dofasco reports they can still complete the work by day's end
- **Ineligible Scenario:**
 - OPG reports multi-day Kipling G1 outage will be delayed by one day and cannot complete the work by the original end date/time

- The IESO may assess any new outage request, up to an including real-time, that would allow an existing in-progress outage request to be completed early.
- **Eligible Scenarios:**
 - Hydro One requests a 2 hour outage to a Trafalgar bus in order to complete an outage to circuit R19TH 3 days earlier.
 - Greenfield reports additional testing is required to return G3 back to service early from a forced outage.
 - Hydro One requests a 1 hour outage to circuit H24C in order to expedite the completion of Gerdau's outage to T1 & T2.
- **Ineligible Scenarios:**
 - Late requests for new outages that will expedite outages that have not yet started

- The IESO may assess any new or modifications to a generator ramp profile request in order to manage dispatches for shutdowns and start-ups
- Also aligns with assessment of requests to expedite the completion of in-progress generator outages
- **Eligible Scenarios:**
 - Bruce Power requests modification of a ramp request for G1 in order to drive proper dispatch of the unit for a planned or forced shutdown later in the day
 - Thorold G1 start up for a DACP commitment is delayed by 2.5 hours which also requires a supporting ramp-up request to be delayed

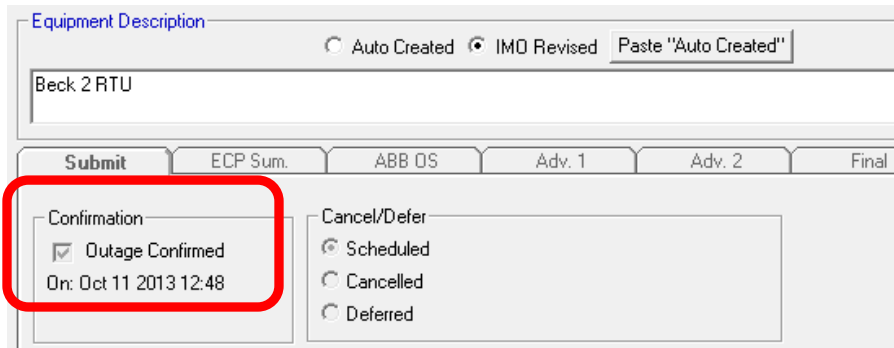
- The IESO may assess any new or modified outage requests that support in-progress generator testing or commissioning requests provided that the scope or potential scope change was identified in the original outage request that was advance approved by the IESO
- Also aligns with assessment of requests to expedite the completion of in-progress outage requests (commissioning units are considered unavailable)
- **Eligible Scenarios:**
 - Bruce Power requests a 50 MW de-rate on G8 to support an in-progress valve testing outage request that has been advanced approved by the IESO and which makes reference to a 50 MW derate would be required when ideal conditions are present

- IOMS currently looks at submission and confirmation time to distinguish planned outages (PO) from short notice planned outages (SNPO)
 - PO: submission & confirmation before 10:00 EST, 3 days ahead
 - SNPO: submission or confirmation after 10:00 EST, 3 days ahead

ID#	S	MF	Start Date/Time	End Date/Time	Code	Equipment
11727720	S1	H1	Sat. Dec. 07, 2013 16:00	Thu. Dec. 12, 2013 23:00	PO	Adelaide JCT.77S2N-40, Strathroy
11794487	S3	H1	Sat. Dec. 07, 2013 16:00	Sat. Dec. 07, 2013 17:00	PO	Merivale TS.M32S_Terminal
11728562	S1	H1	Sat. Dec. 07, 2013 16:00	Sun. Dec. 08, 2013 16:00	PO	Wanstead TS.T1, Wanstead TS.
11676939	S3	H1	Wed. Dec. 04, 2013 05:00	Wed. Dec. 04, 2013 11:00	SNPO	H11L (Hearn x Lumsden), Main T
11791030	S1	H1	Wed. Dec. 04, 2013 07:00	Wed. Dec. 18, 2013 16:00	SNPO	Hanover T3A, BY
11753665	S1	H1	Wed. Dec. 04, 2013 17:00	Wed. Dec. 04, 2013 18:00	SNPO	W44LC (Including All Terminals)

- IOMS will continue to distinguish between PO and SNPO, however only based on submission by the new deadline of 16:00 EST, 5 days ahead (confirmation ignored)
- SNPO nomenclature retained due to limited IOMS coding flexibility

- PO: outages submitted on time for 3-day advance approval
- Any outage flagged as SNPO is either:
 - Late request for 3-day advance approval;
 - Eligible for pre-approval (1-day advance approval); or
 - Had its scope changed after the 16:00, 5 business days ahead
 - Scope changes may be acceptable (IESO discretion)
- SNPO outages eligible for pre-approval (1-day advance approval) must also have the “Outage Confirmed” flag (future *Request for Pre-Approval* flag/button in ONLORF) checked off by the market participant before the deadline of 16:00 EST, 2 days ahead



Equipment Description

Auto Created IMO Revised

Beck 2 RTU

Submit ECP Sum. ABB OS Adv. 1 Adv. 2 Final

Confirmation

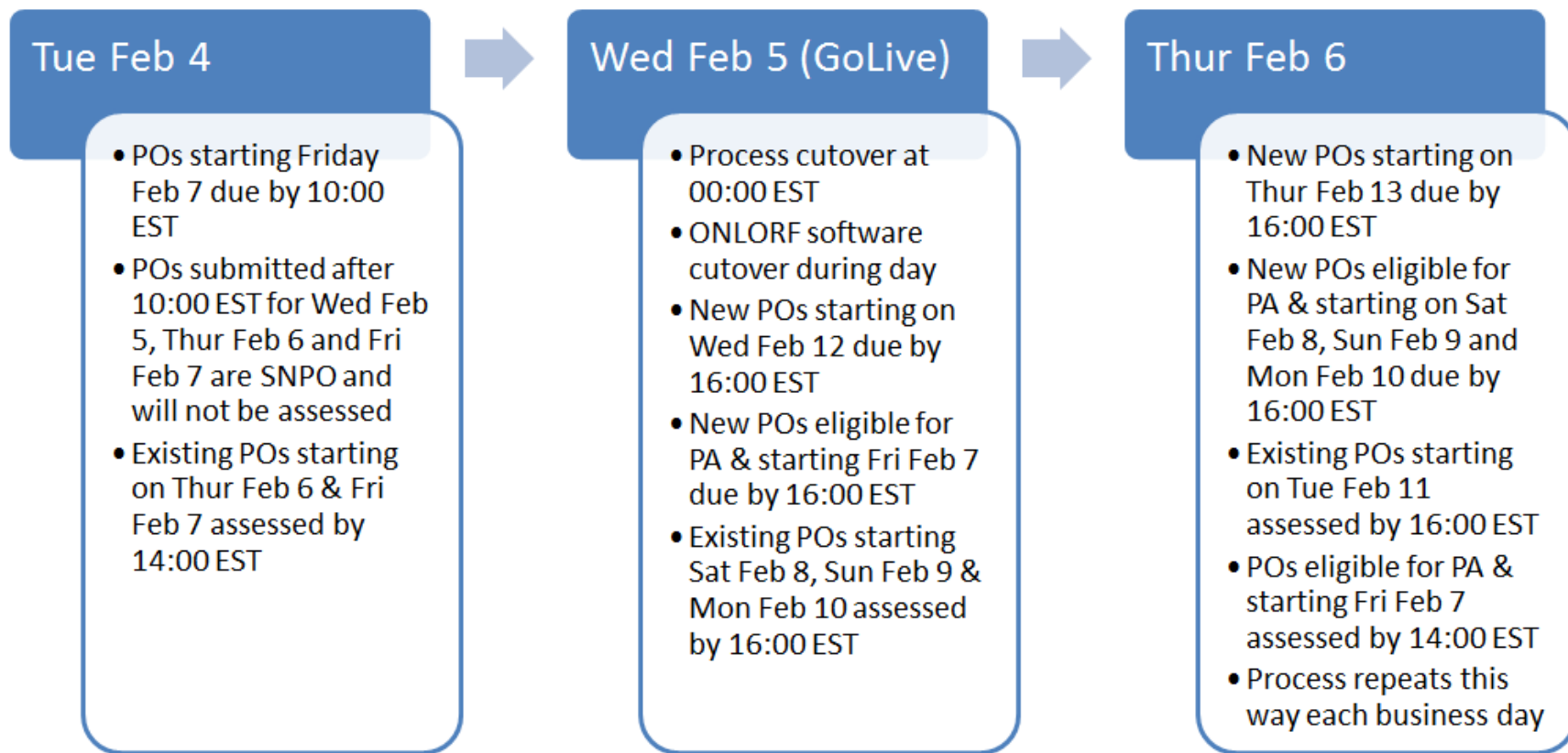
Outage Confirmed
On: Oct 11 2013 12:48

Cancel/Defer

Scheduled
 Cancelled
 Deferred

- Limited coding ability means ONLORF users will still see *Short Notice* nomenclature
- Participants can use the following methodology to understand the IESO's treatment of planned outage requests:
 - All outages without a *Short Notice* status are considered requests for 3-day advance approval (on-time)
 - All outages with a *Short Notice* and *Request For Pre-Approval* status are considered valid requests for pre-approval (1-day advance approval) if received and confirmed as such by 16:00 EST, 2 business days out
 - All outages with a *Short Notice* status but missing a *Request for Pre-approval* status are considered late and will be rejected by the IESO

- “Go Live” date of Wed, Feb 5 with a transition plan as follows:



Legend: PO = Planned Outage

SNPO = Short Notice Planned Outage

PA = Pre-Approval

- **December 11 - 18, 2013**
 - Post an Interim Process “Quick Take” (quick reference card for market participants)
- **January 3, 2014**
 - ONLORF Guide published
- **January 10, 2014**
 - Outage Reporting Letters re-issued
- **Wednesday, January 15, 2014**
 - SE109 meeting for Final review of Interim Process changes
 - Intro to IOMS and Online Outage Form Sandbox Testing
- **January 15 – 29, 2014**
 - Market Participant Sandbox testing period

Questions/Comments?