

# Outage Management Redesign Consultation Process (SE-109)

October 15, 2014



- IESO Response to Stakeholder Feedback
  - **Stakeholder feedback in bold**
    - *IESO response in italics*
- Software Design Updates
- Security & Adequacy Reporting Proposal
- Next Steps

- **Clarification on the “VARIES” constraint code.**
  - *Implementing this feature requires significant customization resulting in departure from base functionality of the software.*
  - *Due to the low frequency of outage requests with multiple constraints, IESO will not be implementing the “VARIES” constraint code.*
  - *To reflect multiple constraints, multiple outage requests must be submitted.*
- **Reporting for the new processes should retain information currently provided in the SAAs and SSRs, and include zonal bottled information from the existing 18 Month outlook.**
  - *The IESO will consider the feedback provided and present a reporting proposal at the October 15 SE-109 meeting.*

- **IESO should calculate and publish 18-Month Outlook reserve margins that exclude future supply installations (in addition to the existing firm and planned scenarios under normal and extreme weather).**
  - *The 18-Month Outlook is currently proposing a revised calculation to the firm scenario that would be more closely aligned with the exclusion of future supply installations.*
  - *As a result, the IESO believes that inclusion of a completely new scenario would be redundant.*
- **SE-109 members had no comments on the proposed Stakeholder Engagement Plan for the Software Implementation Phase.**
  - *The IESO will consider the engagement plan approved and update the SE-109 webpage accordingly.*

- **Clarification on whether the “DRATE” constraint code applies to both MW and MX capability .**
  - *Yes, this constraint codes applies to both MW and MX (i.e. MVARs).*
- **Clarification on whether "outage state" will be available at the API.**
  - *Yes, outage status (i.e. Submitted, Adv. Approved etc.) will be available at the API. The list in Appendix H will be updated to reflect this.*
- **The criteria in Section 2.2.5 should be updated to include “The Outage Request contains Critical Equipment or the ‘Request Weekly AA’ flag is set.”**
  - *The criteria listed currently is sufficient as only Planned Outage Requests with Critical Equipment or with ‘Request Weekly AA’ flag set will be eligible for the weekly study.*

- **How will the IESO provide rejection rationale to participants for automated transitioning to the Rejected status?**
  - *Automatic rejections will be accompanied by an “AUTO” code and a description stating “Study not complete. Please contact IESO for details.”*
  - *Details will be available on the Web Client and API and the summary document will be updated to reflect this.*
- **Clarification on whether the "Remote System ID" will allow participants to see the outage ID from other participants.**
  - *The 'Remote System ID' will allow the IESO to see outage IDs generated by an API user organization's system.*
- **Clarification on whether the "Operating Security Limit" attribute will be available to API users.**
  - *Yes, this attribute will be available to the API user.*

- ABNO = Available But Not Operating
  - Available for generators to report they will not be participating in the market (e.g. off-peak curtailments)
  - Not a mandatory reporting requirement
  - Would not count against unavailable capacity
  - Only available using the 'Information' priority code
  - Conflict checked against the following constraint codes:
    - OOS (Out of Service)
    - IS (In Service)
    - MUSTRUN (Must Run At)
    - ABNO
  - Eligible for Auto Advance Approval
  - Added to Requirements Summary Document

- Constraint codes can vary between different pieces of equipment on the same request.



Equip.	Constraint	Value	Start	End
G1	OOS	N/A	08:00	16:00
G2	DRATE	60 MW	08:00	16:00

- Constraint codes cannot vary on the same piece of equipment on the same request.



Equip.	Constraint	Value	Start	End
G1	OOS	N/A	08:00	16:00
G1	DRATE	60 MW	08:00	16:00



- Constraint code values can vary on the same piece of equipment on the same request.



Equip.	Constraint	Value	Start	End
G1	DRATE	40 MW	08:00	16:00
G1	DRATE	60 MW	16:00	22:00

- Multiple pieces of equipment on a request must be present on all requested periods.
- Multiple pieces of equipment on a request must have identical time periods.



Period	Profile	Equip.	Constraint	Value	Start	End
1	1	G1	OOS	N/A	08:00	12:00
	2	G2	DRATE	60 MW	08:00	12:00
2	1	G1	OOS	N/A	12:00	16:00
	2	G2	DRATE	50 MW	12:00	16:00

- In addition to being mandatory for the following Equipment Classes:
  - AC/DC Station Service
  - Tone Communication Channels
  - RTU/ICCP/HUB Equipment
  - Other Communication Equipment
  - Other Miscellaneous Equipment
  - SPS
- Will also be mandatory when the following constraint codes are applied:
  - PROT OOS
  - BF PROT OOS
  - AVR/PSS OOS
  - ASP OOS
- Rationale: Reduces the likelihood of having to verbally contact the participant for details (i.e. assessment efficiency).

- An optional question will be presented on the outage request when the following equipment classes are added to the outage request:
  - Tone Communication Channels
  - RTU/ICCP/HUB Equipment
  - Other Communication Equipment
  - Other Miscellaneous Equipment
- Question = “Telemetry Scaling Impact?”
- Rationale: Data integration with Hydro One used to notify IESO when telemetry type work may affect RTU quantities that are being sent to IESO.

- Consistent methods between reporting timeframes
  - 18-Month Outlook
  - Quarterly Security & Adequacy Report
  - Weekly and Daily Security & Adequacy Report
- Automated reporting
  - Scheduled Quarterly, Weekly and Daily Reporting
- Increased Transparency
  - Outages Adv. Approved vs. Outages Not Studied
  - Zonal Forecasts and Assessments
- Proactive approach
  - Provide planning guidelines that participants can use to make scheduling decisions (scheduling outside these guidelines may require additional information from participants)

- Today`s proposal only considers SE-109 member suggestions
- Components of the proposal (e.g. daily and weekly adequacy calculations; publishing times) impact a broader stakeholder audience
- The proposal will be passed to an upcoming SSR and SAA refresh engagement for review before finalizing for SE-109.
  - SE-109 encouraged to participate in the upcoming engagement

- Market Manuals to include planning guidelines that avoid:
  1. Undesirable Outage Combinations:
    - Pre and post contingency thermal concerns
    - Pre and post contingency voltage concerns
    - Pre and post contingency stability concerns
    - Black-start restoration paths
  2. Undesirable Situations:
    - Capacity and Energy Shortfalls
    - Material impacts to the IESO Administered Market as per Chapter 5, Section 6.1.1

- Daily reports with hourly granularity
  - Supports the 1 Day and 3 Day Adv. Approval Processes
  - Coverage: Days 0 to 13
  - Publishing schedule:
    - Daily for Days 0 to 13 by 17:00 EST
  - Excess/Shortfall Capacity and Energy Calculations
  - Transmission Interface Limitations and Bottling Calculations

		DAYS						
		S	M	T	W	T	F	S
WEEKS	1		3 Day AA Study Period			1 Day AA Study Period		Cover
	2	age Period						
	3							

		DAYS						
		S	M	T	W	T	F	S
WEEKS	1		17:00 Reporting Period (Days 0 to 13)					
	2							
	3							

↑  
Report Issued

- Capacity and Energy excess/shortfall calculation:
  - Hourly Available Resources less Hourly (Outages, Demand Forecast & Reserve Requirements)
- Available Resources include:
  - Hydro-electric capacity/energy forecasts
  - 18M Thermal Unit Seasonal Ratings
  - Variable Generation Forecast to Day 7; 18 Month Outlook (18M) contribution factors thereafter
  - 18M Demand Measures\*\*
- Outages = Zonal Generator Outages + Zonal Transmission Bottling
- Demand Forecast = Actual weather forecast to Day 10; 18M Normal Weather thereafter
- Reserve Requirements = Forecast Operating Reserve Requirements (OR) + Load Forecast Uncertainty (LFU) + 18M Additional Contingency Allowance (ACA)



- Weekly reports with daily granularity
  - Supports the Weekly Adv. Approval Process
  - Coverage: Weeks 3 and 4
  - Publishing schedule:
    - Weekly by 17:00 EST on Fridays
  - Excess/Shortfall Capacity and Energy Calculations
  - Transmission Interface Limitations and Bottling Calculations

		DAYS						
		S	M	T	W	T	F	S
WEEKS	1							
	2							
	3	Study Period						
	4							
	5	Coverage Period						
	6							

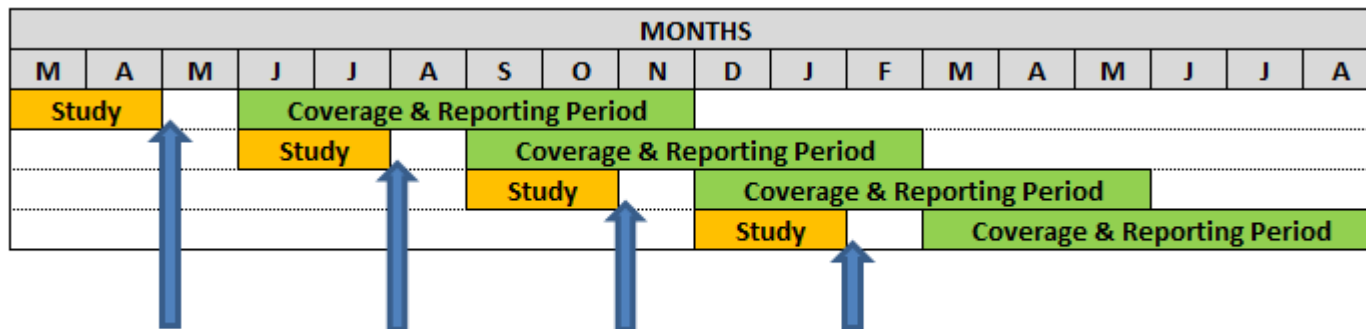
		DAYS						
		S	M	T	W	T	F	S
WEEKS	1						17:00	
	2							
	3	Study Period						
	4	Reporting Period (Weeks 3 & 4)						
	5	Reporting Period (Weeks 3 & 4)						
	6							

Report Issued

- Capacity and Energy excess/shortfall calculation:
  - Capacity = Peak Hour Available Resources less Peak Hour (Outages, Demand Forecast & Reserve Requirements)
  - Daily Energy = 24 Hour Sum of Available Resources less 24 Hour sum of (Hourly Outages, Hourly Demand Forecast and Hourly Reserve Requirements)
- Available Resources include:
  - Hydro-electric installed capacity / energy forecasts from participants
  - 18M Thermal Unit Seasonal Ratings
  - 18M Variable Generation contribution factors
  - 18M Outlook Demand Measures\*\*
- Outages = Zonal Generator Outages + Zonal Transmission Bottling
- Demand Forecast = 18M Normal Weather
- Reserve Requirements = OR + LFU + 18M ACA

\*\*Requires further analysis with respect to DR3 and Peak-saver variables

- Quarterly reports with weekly granularity
  - Supports the Quarterly Adv. Approval Process
  - Coverage: Months 1 to 7
  - Publishing schedule:
    - Quarterly by 17:00 EST on the first business day after the Quarterly Study Period
  - Excess/Shortfall Capacity Calculations
  - Transmission Interface Limitations and Bottling Calculations



Reports Issued at 17:00 on the business day after the Study Period

- Capacity excess/shortfall calculation:
  - Capacity = Available Resources less Max Weekday Outages, Weekly Peak Demand Forecast & Reserve Requirements
- Available Resources include:
  - 18M Monthly Median Hydro-electric Production and Operating Reserve Capability over the Peak Hour
  - 18M Thermal Unit Seasonal Ratings
  - 18M Variable Generation contribution factors
  - 18M Demand Measures
- Outages = 18M methodology (Highest hourly generator outage and transmission bottling combination for the week)
- Demand Forecast = 18M Weekly Median Normal Weather Peak Hour Demand
- Reserve Requirements = Higher of Deterministic vs. Probabilistic from 18M

- Reporting frequency, schedule and granularity consistent with Resource Adequacy reporting
- Outages reported on a zonal basis
- Reporting Details:
  - Equipment Out of Service
  - Planned Start/End Date and Time
  - Recurrence (e.g. Continuous, Return Weekends etc.)
  - Recall Time
  - Interface Impacted
  - Interface Limit
- Zonal bottled generation to be published within the Resource Adequacy reporting component

- Oct 24 – Feedback on today’s meeting materials due
- Nov 7 – IESO response to feedback due
- Nov 21 – Materials for Next Meeting Due
- Nov 26 – Next SE-109 Meeting

Questions/Comments?