IESO Annual Update to the Ontario Energy Board on Actions Taken to Address Market Surveillance Panel Recommendations (Period from January 2017 – December 2021)

IESO Licence Obligation under Section 6.2 Part (e)

Provide the Board, on or before the end of each calendar year, with the status of actions taken by the Licensee further to all recommendations addressed to the Licensee in any report issued by the Market Surveillance Panel in that year and the preceding four calendar years to the extent that they remain outstanding and, where no action has been taken in relation to a recommendation, the rationale for not taking action. The Licensee's response to recommendations in any report issued by the Market Surveillance Panel within 30 days of the end of the calendar year will be included in the succeeding report.

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May 8, 2017	3-1	The IESO should take steps to ensure that dispatchable loads are only compensated for the amount of Operating Reserve (OR) they were capable of providing in real-time. More fundamentally, the IESO should explore options for ensuring unavailable OR is not scheduled in the first instance.	The IESO launched a formal project in January 2021 to implement the changes proposed in the Improving Accessibility of Operating Reserve (OR) stakeholder engagement, including a proposed OR settlement claw-back for inaccessible OR. In June, stakeholders submitted feedback to the IESO on the proposed changes. The IESO responded to stakeholder feedback on Aug 24, 2021 and has moved the Market Rules through

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			the Technical Panel process. The next step is to seek a vote at the Technical Panel to recommend that the IESO Board approve the Market Rules. The IESO expects to implement the proposed OR settlement claw-back for inaccessible OR in 2022. For further details on this initiative, please refer to the IESO's Improving Accessibility of Operating Reserve stakeholder engagement webpage.
May 8, 2017	3-2	The IESO should revise the methodology used to set the intertie failure charge to include the congestion rents that an intertie trader avoids when it fails a scheduled transaction for reasons within its control.	The Market Surveillance Panel's recommendation to revise the intertie failure charge seeks to mitigate the impact that failed intertie transactions have on Financial Transmission Rights (FTR) funding. As part of the Market Renewal Program (MRP), the IESO will modify the treatment of Financial Transmission Rights (FTR) such that they will be settled against the Day-Ahead Market (DAM) results instead of the current practice of settling against the results of the real-time market. This solution should address the MSP's concern as it will decouple the settlement of FTR (in the DAM) from the costs for failed transactions (in the real-time market) thereby removing the incentive to fail real-time export transactions in order to capture transmission rights payments.

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May 8, 2017	4-1(A)	The IESO should revise the manner in which it allocates disbursements from the Transmission Rights Clearing Account such that disbursements are proportionate to transmission service charges paid over the relevant accrual period.	The IESO has implemented Market Rule changes to address this recommendation. The Market Rule amendment changing the Transmission Rights Clearing Account disbursement methodology to be based on the proportion of transmission service charges paid, as recommended by the Market Surveillance Panel, became effective on May 1, 2021 for the May 2021 disbursement.
May 8, 2017	4-1(B)	The IESO should not disburse any further funds from the Transmission Rights Clearing Account until such time that Recommendation 4-1(A) has been addressed.	The IESO has implemented Market Rule changes to address this recommendation. The Market Rule amendment changing the Transmission Rights Clearing Account disbursement methodology to be based on the proportion of transmission service charges paid, as recommended by the Market Surveillance Panel, became effective on May 1, 2021 for the May 2021 disbursement. For clarity, the IESO kept making disbursements until the rule changes came into effect in order to avoid unduly harming market participants.
May 8, 2017	4-2	The IESO should reassess the value provided by the capacity procured through its Demand Response auction in light of Ontario's surplus capacity	The Demand Response Auction has evolved into the Capacity Auction to support technology-neutral procurements of capacity resources by including participation of other resources.

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		conditions, as well as the stated preference of the government and the IESO (through its Market Renewal initiative) for technology-neutral procurement at least cost.	
March 22, 2018	3-1	The Independent Electricity System Operator should implement rules that allow it to recover Congestion Management Settlement Credit (CMSC) payments made to dispatchable loads when those payments are the result of an operational constraint arising from conditions at the dispatchable load's facility. The IESO should also examine whether the scope of the current provisions that allow it to recover CMSC payments from generators in relation to SEAL (safety, equipment and applicable law) related constraints should be expanded to cover any other operational constraints arising from conditions at the generator's facility.	The IESO has implemented Market Rule changes to allow for the claw back of Congestion Management Settlement Credit (CMSC) payments made to dispatchable loads due to SEAL (safety, equipment, applicable law) reasons. This is in alignment with the CMSC claw back rules for dispatchable generators. The changes (MR-00447-R00) became effective on April 6, 2021. Additionally, under the renewed market post Market Renewal, facilities will not be eligible for make-whole payments due to an operational constraint arising from conditions at the facility.
March 22, 2018	4-1	The Independent Electricity System Operator should set the replacement bid price to $0/MWh, or slightly negative, when it calculates constrained-on Congestion Management Settlement	The IESO is concerned that a higher replacement bid price floor for calculating Congestion Management Settlement Credit (CMSC), as suggested by this recommendation, may deter traders from submitting export bids below $0/MWh on any intertie due to the risk of being

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		Credit payments for exports bid at negative prices.	constrained-on which would impose unnecessary losses on traders and deter trading. This could result in both a reduction in the effectiveness of a valuable system tool during surplus conditions and possibly higher costs to ratepayers. The IESO continues to monitor the materiality of the issue raised by the Market Surveillance Panel. The amount of uplift charges related to the recommendation remains low at less than $70,000 in total from 2016 to September 2021. The IESO does not intend to pursue this recommendation any further.
March 22, 2018	4-2(A)	The Independent Electricity System Operator's Board of Directors should revise the materiality threshold value such that operating reserve payments are clawed back when a market participant fails to fully respond to its operating reserve activation.	The settlement claw-back proposed in the Improving Accessibility of Operating Reserve stakeholder engagement (refer to IESO's response to Recommendation 3-1 of May 2017 MSP report) is expected to help address the availability of operating reserve (OR) prior to activation. By contrast, this MSP recommendation relates to concerns after OR is activated. The materiality of these concerns will be impacted by the success of the IESO's efforts to address the upstream OR accessibility concerns. The proposed change in the aforementioned stakeholder engagement is expected to not only

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			improve the OR accessibility but also incent OR providers to offer their actual OR capability which in turn may reduce the materiality of non-compliance with OR activations. This is why the IESO is proposing to address the MSP's recommendations on the materiality threshold (4-2(A)) and Operating Reserve Energy Shortfall Fraction (ORESF) claw-back calculation (4-2(B)) one year after the proposed change to improve OR accessibility take effect. The IESO expects that one year will be a sufficient period to evaluate the effectiveness of proposed change on OR accessibility and OR activation performance.
March 22, 2018	4-2(B)	When a market participant fails to fully respond to an operating reserve activation, the Independent Electricity System Operator should calculate the claw back based on the ratio of the energy not provided in response to the activation relative to the energy required by the activation.	The settlement claw-back proposed in the Improving Accessibility of Operating Reserve stakeholder engagement (refer to IESO's response to Recommendation 3-1 of May 2017 MSP report) is expected to help address the availability of operating reserve (OR) prior to activation. By contrast, this MSP recommendation relates to concerns after OR is activated. The materiality of these concerns will be impacted by the success of the IESO's efforts to address the upstream OR accessibility concerns.

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			The proposed change in the aforementioned stakeholder engagement is expected to not only improve the OR accessibility but also incent OR providers to offer their actual OR capability which in turn may reduce the materiality of non-compliance with OR activations. This is why the IESO is proposing to address the MSP's recommendations on the materiality threshold (4-2(A)) and Operating Reserve Energy Shortfall Fraction (ORESF) claw-back calculation (4-2(B)) one year after the proposed change to improve OR accessibility take effect. The IESO expects that one year will be a sufficient period to evaluate the effectiveness of proposed change on OR accessibility and OR activation performance.
April 29, 2019	3-1(A)	The IESO should formalize the process by which it determines when to disable and re-enable the variable forecasting tool, and should communicate that process to market participants to increase transparency.	In December 2019, the IESO amended Market Manuals to include that the IESO will issue an advisory notice when the tool is disabled/re-enabled and the circumstances under which the IESO may disable the forecast.
April 29, 2019	3-1(B)	When a variable generator is on mandatory dispatch and the forecasting tool is disabled, the IESO should set the generator's unconstrained schedule at its	The IESO implemented a tool change in October 2020. Variable generators receiving mandatory dispatch will have their market schedules set to their 5-minute forecast even when the 5-minute

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		forecasted output rather than its maximum offered capacity.	variable generation forecast tool has been disabled.
December 19, 2019	2-1	The IESO should consider ways and means of deterring the Operating Reserve nodal price chasing behaviour.	The IESO shares the Market Surveillance Panel's (MSP) concern that a market participant is being compensated more than internal resources for the same Operating Reserve (OR) service. IESO analysis has determined the "root cause" of the issue to be the different timeframes for scheduling OR from imports (hour-ahead) vs internal supply (every five minutes in real-time). This market design can lead to instances where OR from imports are scheduled in pre-dispatch even if lower cost supply offers were available in real-time. Aligning the scheduling timeframe for OR imports with internally supplied OR on a 5-minute basis would level the playing field and address the root cause. The IESO has identified a market improvement project to schedule OR imports on a 5-minute basis. Due to existing priorities to address other MSP recommendations (OR Accessibility) and the focus on the Market Renewal Program (MRP), this recommendation is on hold. The IESO will revisit this recommendation once the changes proposed as part of the Improving Accessibility

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			of Operating Reserve stakeholder engagement have been implemented.
December 19, 2019	2-2	The IESO should ensure its procedure for determining an outage when administering Transmission Rights aligns with the Market Rules.	The IESO agrees with the MSP's recommendation and acknowledged the Transmission Rights (TR) payments made during outages may not be aligned with existing Market Rules. The IESO held a public webinar in March 2020 to identify this issue to stakeholders and discuss next steps. An interim, manual solution was implemented in April 2020 to stop the improper payments to TR holders. An enduring, automated solution was implemented in October 2020.
December 19, 2019	3-1(A)	A) The Panel recommends that - when implementing changes to the market - the IESO audit the pre-deployment testing process to ensure that sufficient controls are in place to identify errors and unintended consequences.	Internal Audit has completed its review of the IESO's pre-implementation testing. The results of this review were presented to the Audit Committee of the IESO Board on March 8, 2021. Overall, the audit noted that an enhanced quality assurance program is well positioned to provide independent quality assurance for current approved projects. Internal Audit made 4 medium and 1 low risk observations in the review. IESO Management and Internal Audit have agreed on actions plans to address all

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			observations, which are expected to be implemented by the end of 2021.
December 19, 2019	3-1(B)	B) The Panel recommends that, as soon as possible after the IESO detects an error or unintended consequence that significantly impacts the wholesale electricity market, it publicly discloses details of the error or unintended consequence, the impact on the market and the actions taken or to be taken to address the matter.	The IESO has completed the enhancement and formalization of its process for reporting significant anomalous market events, including materiality thresholds, to the public. The enhanced process includes provisions for publicly disclosing the details of the error, an assessment of the error from a market impact perspective, and actions taken to address the error, when materiality thresholds have been met and when approval to disclose has been given by the IESO Board of Directors. This process was finalized in Q2 2021.
July 16, 2020	3-2	In order to provide more consistent market outcomes, the IESO should give further consideration to improving how the need for additional system flexibility is addressed, such as specifying the conditions that require intervention and scheduling the required amount of spinning reserve explicitly in the normal OR market. Although it is acknowledged that no industry standard exists to address flexibility, alternative solutions	The IESO continues to track industry best practices to address flexibility and monitor the effectiveness of the existing solution. Since May 24, 2018, the IESO has been explicitly increasing operating reserve (OR) requirements in the current OR market when the need for flexibility arises. OR is scheduled in the market on an economic basis and is co-optimized with energy. In comparison to the previous IESO practice of manually committing resources for flexibility, scheduling additional OR provides a transparent signal to the market when there is a flexibility need anticipated and ensures this need is

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		should also be considered to ensure the most suitable approach is used.	addressed on an economic basis through a market-based solution. The IESO agrees with the MSP that it is important to consider improvements to the existing solution and to assess alternative solutions. The IESO has completed a preliminary review of the existing solution which included reassessing the criteria utilized for increasing OR for flexibility. As a result of this review, the IESO found areas in its internal procedure where more clarity around the conditions that necessitate additional flexibility services can be specified. The internal procedure has been updated and implemented by the IESO. The IESO also agrees with the MSP on the need to do a more fulsome review of the existing solution and is planning on conducting that review after the implementation of the Market Renewal Program (MRP). The IESO has decided to conduct this more fulsome review after the implementation of MRP due to the significant improvements being made to the OR market through MRP that will further increase the transparency and efficiency of the existing OR flexibility solution; including better optimization in the pre-dispatch timeframe should resources need to be economically committed for flexibility.

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			The IESO will perform the more fulsome review one year after the implementation of MRP in order to fully assess the impacts of these improvements on the existing OR flexibility solution.
December 10, 2020	2-1	The IESO should eliminate the payment for start-up costs for second and subsequent RT-GCG runs in a day. Alternatively, when a generation unit has participated in the RT-GCG program once during a day, the IESO should consider ways to have the generation unit compensated on the basis of the lesser of the second and subsequent submitted start-up costs or the estimated cost of keeping the generation unit online between RT-GCG runs.	The IESO agrees that two-shifting generation facilities could be inefficient in certain circumstances. However, eliminating all second start guarantees could deter efficient starts from coming to market. Multi-hour optimization of three-part offers is necessary to verify the efficiency of second starts. As part of the Market Renewal Program (MRP), the IESO will be introducing multi-hour optimization of three-part offers (energy, start up, and speed-no-load) across the day-ahead, pre-dispatch, and real-time timeframes. Multi-hour optimization of three-part offers will only schedule generation facilities for two starts in the same day when it is economically efficient to do so. The IESO does not intend to take any additional actions to change the current Real-Time Generation Cost Guarantee (RT-GCG) program design in advance of MRP. The IESO will continue to conduct audits associated with the RT-GCG program.

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December 10, 2020	2-2	The IESO should conduct an audit of RT-GCG cost submissions in situations when a generation unit has a second RT-GCG run within three hours of its first RT-GCG run and the submitted costs of the second run are equal to or higher than the submitted costs of the first run.	The IESO routinely audits the Real-Time Generation Cost Guarantee (RT-GCG) program and has been carrying out such audits since 2011. Consistent with the MSP's recommendation, the IESO's audits consider submitted costs and the circumstances of each RT-GCG start, including when a generation facility has a second start within three hours of its first start.
December 10, 2020	2-3	The IESO should treat SAR activations in much the same way as it treats emergency imports; namely, by adding demand back in to the unconstrained schedule.	The current approach to pricing Simultaneous Activation Reserve (SAR) imports has been included in the Market Renewal Program (MRP) detailed design (see section 3.8.9.2 of the Grid and Market Operations Integration Detailed Design for further information) and stakeholders were given the opportunity to provide input on this approach. In addition, the IESO has assessed the materiality of SAR imports to be low both in terms of frequency of activation and impact on the Hourly Ontario Energy Price (HOEP). With SAR event pricing recently addressed through MRP and the materiality assessed as low, the IESO does not intend to pursue this recommendation any further at this time.
December 10, 2020	3-1	The IESO should produce a report that probabilistically assesses the level of	Through the Reliability Standards Review stakeholder engagement, the IESO reviewed

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		economic (i.e. non-firm) imports that would be appropriate to assume in their various resource adequacy studies for each year in the planning timeframe, with stakeholder input, using the Northeast Power Coordinating Council Review of Interconnection Assistance Reliability Benefits study as a reference.	assumptions related to compliance with Northeast Power Coordinating Council (NPCC) resource adequacy standards (NPCC "Directory 1"), including assumptions for non-firm imports. Through this engagement, the IESO proposed a methodology to determine an appropriate assumption for non-firm imports which takes into account the NPCC Review of Interconnection Assistance Reliability Benefits study. The Reliability Standards Review concluded on April 9, 2021. The stakeholdered methodology to determine an appropriate assumption for non-firm imports will be included in the assessments for the 2021 Annual Planning Outlook (APO).
December 10, 2020	3-2	The IESO should better align the assumptions used in planning documents on an ongoing basis or explain in detail the reason for remaining differences, with quantities. This should address, at a minimum, differences in economic import assumptions and different weather scenarios that lead to different capacity need outcomes.	The IESO agrees with the MSP on the need to align assumptions used in planning documents. Assumptions and methodologies used for weather forecasts, embedded generation, and non-firm imports will be included in the 2021 Annual Planning Outlook (APO) and the 2022 Reliability Outlook (RO). Differences in assumptions across these reports will be quantified in the associated methodology documents. The 2021 APO is expected to be published in Q4 2021 and the 2022 RO is expected to be published in Q2 2022.

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December 10, 2020	3-3	The IESO should examine and report on potential improvements to its communications with stakeholders regarding the process(es) used to assess the need for and procure resources to meet future capacity needs. The IESO should also provide greater clarity regarding the documents used to inform those procurements and how any auction or procurement targets are set. In particular: • the IESO should publish the analysis and methodology for the Reliability Assurance concept, which appears to be the basis for procuring capacity for the Capacity Auction scheduled for the winter of 2020/21; and • the IESO should explain the purpose of the Reliability Outlook, including a clear indication of which sections of that report may be used for outage planning, which sections (if any) may be used to inform procurements, and which sections have been included for informational purposes only.	The IESO agrees with the MSP on the need for transparent and clear communications for planning and procurement processes. Through the Resource Adequacy engagement, the IESO is working with stakeholders to develop a resource adequacy framework that will enable competitive solutions to meet system needs. The IESO will specify which processes and documents will be used to identify system needs, the methods used to translate those needs into procurement targets, and which processes will be used to procure resources. The IESO can confirm that: • The Annual Planning Outlook (APO) assesses system needs and includes a description of the methodologies used to assess system needs. The 2021 APO is expected to be published in Q4 2021. • The Annual Acquisition Report (AAR) translates those needs into procurement targets, and serves as the primary source for procurement decisions. The 2022 AAR is expected to be published in Q2 2022. The Reliability Outlook is not used to inform procurements targets. While the Reliability Outlook can assist market participants in assessing outage plans, Market Manual 7.3 is the document that governs the outage assessment process. The purpose of the Reliability Outlook is

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			specified within the Reliability Outlook itself and includes: • Advising market participants of the resource and transmission reliability of the Ontario electricity system • Assessing potentially adverse conditions that might be avoided by adjusting or coordinating maintenance plans for generation and transmission equipment Reporting on initiatives being implemented to improve reliability within this time frame
December 10, 2020	3-4	The IESO should periodically make available clear descriptions of the range of potential resources that may need to be procured, including the volume (MW), timelines, any required characteristics other than capacity (e.g. energy, ramp, etc.) and expected procurement mechanism (e.g. through capacity auctions, and/or alternative mechanisms) as part of its communication of future capacity needs in reports such as the Annual Planning Outlook.	The IESO agrees with the MSP on the need for transparent and clear communications for planning and procurement processes. The Annual Planning Outlook (APO) assesses system needs and includes a description of the methodologies used to assess system needs. The 2021 APO is expected to be published in Q4 2021. The Annual Acquisition Report (AAR) translates those needs into procurement targets, and serves as the primary source for procurement decisions. The AAR will include descriptions of resources to be procured, including the volume (MW), timelines, any required characteristics

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			other than capacity, and expected procurement mechanism. The 2022 AAR is expected to be published in Q2 2022.
December 10, 2020	3-5	The IESO should signal its confidence in different planning assumptions by publishing the uncertainty values associated with relevant assumptions and elements used to calculate the capacity need, including at a minimum a range of economic imports and a range of possible demand forecasts based on underlying economic drivers.	Through the Reliability Standards Review engagement, the IESO developed a stakeholdered methodology to determine an appropriate assumption for non-firm imports which will be included in the 2021 Annual Planning Outlook (APO). The 2021 APO is expected to be published in Q4 2021. In order to address uncertainties impacting electricity demand, the IESO builds consideration for load forecast uncertainty into the APO. Assumptions are explained in the APO, and are supported through accompanying methodology documents and data tables. The IESO expects to continue this practice. Further, through the Resource Adequacy Engagement, stakeholders and the IESO have recognized a need for an acquisition report that clearly states the IESO's procurement need in the form of the Annual Acquisition Report (AAR). The AAR supplements the IESO's efforts to publicly acknowledge uncertainty in planning assumptions by considering the inherent uncertainties within those assumptions as it

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			translates needs into procurement targets. The 2022 AAR is expected to be published in Q2 2022.
December 10, 2020	3-6	The IESO should examine and report on potential improvements to its stakeholder engagements regarding the methods and assumptions used to develop capacity needs. Specific consideration should be given to a periodic streamlined process to review the case for procuring existing or new resources that involves stakeholders and is overseen by an objective third party.	The IESO continues to review the MSP's recommendation. The IESO's review is not expected to conclude in advance of the Ministry of Energy's review of the long-term energy planning framework. The Ministry's review may result in changes that inform the governance and decision-making related to the IESO's planning and resource acquisition activities.
September 2, 2021	3-1	The IESO should develop structural solutions for Capacity Auction resource performance failures, with an emphasis on stronger penalties. In general terms, penalties should work together with a Qualified Capacity process to ensure that capacity payments net of penalties reflect each resource's ability to deliver capacity when dispatched.	The IESO agrees with the MSP's recommendation and has proposed and a stakeholdered a design for a capacity qualification process and an enhanced performance assessment framework for all Capacity Auction resources (including Hourly Demand Response) where past performance will directly impact future qualified capacity and participant revenues. The proposed enhancements will provide a financial incentive for resources to improve performance, much stronger financial consequences for poor performance, and ensure capacity payments net of penalties reflect a

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			resource's ability to deliver capacity when dispatched. The capacity qualification process will have two components (1) availability de-rates, and (2) performance adjustment factors. Based on internal assessments and stakeholder feedback, the IESO is proposing that performance adjustment factors should be based on 'go forward' performance from the 2022 Auction (rather than the 2021 Auction). This will ensure that performance baselines are being assessed with the new enhancements to the performance assessment framework in effect (e.g. tighter deadbands and higher availability charges). The draft design document, which outlines the capacity qualification methodology and enhanced performance assessment framework, can be found in the October 21, 2021 session of the Resource Adequacy Engagement: IESO Resource Adequacy Engagement. Design, development and implementation of these changes are targeted for the December 2022 Capacity Auction.
September 2, 2021	3-2	For all Capacity Auction resources, the IESO should adjust penalties and payments such that there are no financial incentives to submit Capacity	The IESO agrees with the MSP's recommendation and has proposed and a stakeholdered a design for a capacity qualification process and an enhanced performance assessment framework for all Capacity Auction resources (including Hourly

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		Auction offers that exceed expected capabilities.	Demand Response) where past performance will directly impact future qualified capacity and participant revenues. Enhancements to the performance assessment framework include: performance testing to capability (rather than bids), tightening performance deadbands for hourly demand response resources, introducing higher penalties for failure to perform at times of system need and determining performance adjustment factors to the future capacity qualification of an individual resource based on performance during a capacity test activation starting with the 2022 Auction. These enhancements are expected to work together with the capacity qualification process (as described in response to recommendation September 2021 (3-1)) to improve performance from resources acquired through the auction and to ensure resources only offer their expected capability into the Capacity Auction. The draft design document, which outlines the capacity qualification methodology and enhanced performance assessment framework, can be found in the October 21, 2021 session of the Resource Adequacy Engagement: IESO Resource Adequacy Engagement. Design, development and implementation of these changes are

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			targeted for the December 2022 Capacity Auction.
September 2, 2021	3-3	The IESO should immediately cease reimbursements to gas generators of carbon cost payments.	The Real-Time Generation Cost Guarantee (RT-GCG) program ensures that non-quick start generators are available to meet reliability in real-time. The RT-GCG Program is not a full cost-recovery program. The objective of the program is to provide eligible generators recovery of certain incremental fuel, operating, and maintenance costs incurred as a result of starting up and ramping to minimum loading point, to the extent those costs are not recovered through market revenues. Carbon costs are an additional operating cost incurred by generators during the start-up period and the IESO considers recovery of these costs to be consistent with the program's methodology, and appropriately reimbursed. In the short term, the RT-GCG program will continue to reimburse carbon costs to ensure reliability consistent with the current program design as set out in 2017. In the future, the Market Renewal Program (MRP) will introduce the enhanced real-time unit commitment process which will facilitate enhanced competition between generators based on their all-in costs,

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			including carbon costs. MRP is expected to be in service by November 2023.
September 2, 2021	3-4	If the IESO insists on reimbursement of carbon cost payments, they should develop a methodology that preserves the incentives of the carbon price. Any reimbursement should amount to a small percentage of the carbon cost payments imposed by the carbon pricing system. Only facilities that have paid an annual carbon cost charge should qualify for the carbon cost reimbursement.	The Real-Time Generation Cost-Guarantee (RT-GCG) program's current carbon cost recovery methodology is designed to accurately reflect the eligible carbon costs incurred by generators. This methodology takes into account the heat rate of thermal generators by assessing the fuel consumed and energy produced specific to startup operations. With further carbon costs potentially incurred during the full run of a facility, an incentive to reduce emissions intensity and resulting carbon costs remains. The IESO also notes that based on the current emissions intensity benchmark and the dispatch patterns and efficiency of Ontario's gas fleet, all eligible RT-GCG participants are expected to incur an annual carbon charge. As noted in response to recommendation 3-3 from the Market Surveillance Panel's September 2021 report, in the short term, the RT-GCG program will continue to reimburse carbon costs to ensure reliability consistent with the current program design as set out in 2017. In the future, the Market Renewal Program (MRP) will introduce the enhanced real-time unit commitment process which will facilitate

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			enhanced competition between generators based on their all-in costs, including carbon costs. MRP is expected to be in service by November 2023.
September 2, 2021	3-5	If the IESO does reimburse gas generators for carbon cost payments, the total annual reimbursement from the IESO should be made public to improve transparency, beginning with the total reimbursement to gas generators for 2019 that was made in 2021.	The IESO agrees with the MSP's recommendation and will publish the total annual reimbursement for carbon costs under the Real-Time Generation Cost Guarantee (RT-GCG) on the IESO's Market Assessment web page.
September 2, 2021	3-6	The IESO should issue a Request for Proposals in all possible cases where it intends to secure a resource to meet an identified system need that cannot be addressed by existing competitive mechanisms (e.g. Capacity Auction).	The IESO agrees with the MSP's recommendation. Competitive mechanisms are preferred, in cases where it is possible to design and execute a competitive mechanism with a reasonable likelihood for a successful outcome. In accordance with the IESO's Resource Adequacy Framework, the IESO intends to use competitive mechanisms to meet identified system needs whenever possible. A competitive process may not be possible where addressing an urgent need to maintain reliability and: • Only one capable supplier exists; • There is insufficient time or benefit to administer an effective competitive mechanism; and/or

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			• Ratepayers would incur additional costs with no benefit, and potentially incur higher costs, compared to a non-competitive mechanism. There may be instances where a competitive process is not possible, as the IESO has outlined in the 2021 Annual Acquisition Report, and the IESO would expect to secure a better outcome for ratepayers in these cases by entering into bilateral negotiations. The IESO expects to share additional information with stakeholders on the use of competitive procurement mechanisms designed to meet identified system needs in the 2022 Annual Acquisition Report (AAR). The 2022 AAR is expected to be published in Q2 2022.
September 2, 2021	3-7	In advance of full implementation of the IESO's Resource Adequacy Framework, when non-competitive procurements may be required, information should be published that clearly states why a non-competitive procurement was necessary, what effort was made to encourage competition, specific details for both the need and the proposed solution (e.g. amount of annual Unforced Capacity and location), and whether additional actions	The IESO agrees with the MSP's recommendation. For planned non-competitive procurements designed to meet system needs, the Annual Acquisition Report (AAR) sets out the need being addressed and the proposed solution, the negotiating party, and the justification for a non-competitive procurement. The IESO expects to share additional information with stakeholders on the use of non-competitive procurement mechanisms designed to meet system needs in the 2022 AAR. The 2022 AAR is expected to be

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		are necessary if the proposed solution provides more, or less, than what is required.	published in Q2 2022. With regard to efforts made to encourage competition, the IESO is taking a holistic approach across a series of reports and activities. By publishing reliability needs in the Annual Planning Outlook (APO), bulk and regional plans, and the AAR, the IESO aims to transparently identify what system needs exist now and in the future and the steps being taken to address them. This information should inform existing and potential market participants who are interested in opportunities to compete to address system needs. Further, the IESO is also aligning the contract terms of non-competitive procurements with the timing of future competitive mechanisms in order to allow for greater competition going forward. The IESO also publishes details on system needs and whether additional actions are necessary if proposed solutions provide more or less than what is required within the applicable bulk and regional plans, and in the APO. For example, details on the system needs met by the Lennox GS were captured in the 2020 APO, and details on the system need to be met by Brighton Beach GS were included in the Need for Bulk System Reinforcements West of London planning report.

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			This report describes specific details of the need and solution required to maintain reliability in that area over the near-term, considering all technically feasible options within the timelines required. The report also describes additional actions (i.e. transmission reinforcements) that are necessary to ensure reliability over the mid- to long-term, which can enable greater competition in the future. In addition, in carrying out planning for the bulk system, the IESO intends to provide stakeholders with early indication of system issues, and clarify the rationale for decisions regarding the choice of solution approaches – whether competitive, non-competitive, or requiring further integrated planning by way of a bulk study. This information will be captured in the APO, which will in turn inform the AAR.
September 2, 2021	3-8	To facilitate the inclusion of projects with broader public benefits in competitive procurement processes, the IESO should separate non-electricity system costs and benefits from the electricity system cost-benefit analysis and publish the results.	The IESO is aware that some facilities or projects may provide public benefits beyond those related to the electricity system. Through the operationalization of the Resource Adequacy Framework via the Annual Acquisition Report and subsequent procurement activities, the IESO is shifting the procurement focus from a resource-centric to a system-centric approach, where eligible facilities compete to provide the

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			electricity services needed to maintain a reliable electricity system. The identified needs, ensuing procurements, and ultimately procurement outcomes will help to transparently identify the benefits and costs to provide these electricity services. However, accounting for any other non-electricity benefits that may materialize from a procurement, outside of the IESO's objects, is not part of the IESO's mandate. Other public benefits are best assessed and published by the appropriate branch of Government, who can assign a value to the public benefit, and determine how much of the cost of that benefit should be attributed to electricity ratepayers. In these instances, the Government is best positioned to provide policy direction to the IESO in cases where these non-electricity benefits are to be factored into electricity system decisions. With regard to bilateral arrangements, including those that are part of the Ministry of Energy's Unsolicited Proposal assessment process specifically, the IESO would be unable to publish the results of its assessments as these contain third-party confidential information. Furthermore, as part of the Unsolicited Proposal process, this information is provided as confidential advice to

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			government. Information on the project valuation framework used by the IESO to assess a broad range of projects, including Unsolicited Proposals, is available on the IESO's website.