

| Work Stream   | Design Element  | Options  | Options Overview   | Common Practice   | Considerations | Interdependent Elements                   | Preliminary Decision   | Rationale  | Slide Reference  | Overview of Options not selected  |
|---------------|---|--|--|---|----------------|---|--|--|--|---|
| Energy - ERUC | Functional Passes   | Design Element ID: ERUC 1<br>1) Functional passes will perform optimization to minimize total production costs based on latest system conditions, jointly optimizing energy and all classes of operating reserves<br>-no alternatives identified   | This is a foundational choice which sets the stage for other decisions   | N/A   | N/A            | N/A                                       | 1) Functional passes will perform optimization to minimize total production costs<br>• All resource bids and offers will be evaluated<br>• Non-dispatchable load quantity will be consistent with current practice<br>• DAM operational constraints for resources will be respected<br>• Market power mitigation will be applied   | • Minimization of total production costs will improve efficiency of commitments  | January 31, 2018: 17-19  | N/A   |
| Energy - ERUC | Look Ahead Period   | Design Element ID: ERUC 2<br>1) Based on the run occurring in hour T, the LAP will start at hour T+1 and will include hours for the rest of the operating day, extended to include hours of next day.<br>-no alternatives identified   | Longer LAP allows:<br>• Full consideration of the majority of NGS units given their start-up and minimum run times<br>• consideration of two peaks in the same optimization<br>• consideration of daily energy limits for ELRs   | N/A   | N/A            | • Timing and Frequency                    | 1) Based on the run occurring in hour T, the LAP will start at hour T+1 and will include hours for the rest of the operating day, extended to include hours of next day:<br>• The first run that includes all hours of the next day will be the 20:00 run with a LAP from HE22 current day to HE24 next day, resulting in a 27 hour LAP<br>• Each run will be reduced by one hour as we move through the day. The shortest LAP will be the 19:00 run with a 4 hour LAP for HE21-HE24 | Allows: consideration of most NGS units; scheduling of ELRs while respecting daily energy limits; early assessment of both peaks in one optimization.<br>• DAM clears by 13:30 pm, providing a complete assessment of the next next and financially binding schedules.<br>• Shorter LAP later in the day is acceptable because units are generally not being started up at this time of day, just extended.<br>• LAP bridging to next day at 20:00 allows consideration of units for morning peak, and convergence between current day and DAM commitment decisions around unit operating parameters i.e. MGBRT and MGBOT.   | January 31, 2018: 20-26<br>March 29, 2018: 10-18   | N/A   |
| Energy - ERUC | Timing & Frequency of Run   | Design Element ID: ERUC 3<br>Timing:<br>1) Based on the run occurring in hour T, hours T+1 and T+2 results will be published no later than 15 minutes past the hour and the remaining hours will be published no later than 30 minutes past the hour.<br>Frequency:<br>1) Runs will occur hourly<br>• no alternatives identified   | Timing:<br>• will provide adequate notice of commitment and advisory information<br>Frequency:<br>• efficiency and reliability benefits to re-optimizing hourly that would be lost if run frequency was reduced<br>• informational benefits for the IESO and participants of having advisory schedules and prices updated hourly   | N/A   | N/A            | • Look-ahead period                       | Timing:<br>1) Based on the run occurring in hour T, the results for hours T+1 and T+2 will be published by 15 minutes past hour T, and hours T+3 to the end of the LAP will be published by 30 minutes past hour T.<br>Frequency:<br>1) Runs will occur hourly.  | Timing:<br>For hours T+1 and T+2, this timing facilitates check out process for interchange scheduling, which must be completed by 40 minutes past the hour, as well as PD-2 checkout processes e.g. NY-90.<br>For hours T+3 and beyond, this timing allows participants to review their advisory schedules and commitments, and make offer changes before the mandatory window.<br>Frequency:<br>Hourly runs allow commitment of the lowest cost resource in a timely manner, improve reliability if system conditions change, is consistent with current pre-dispatch including interchange scheduling, and provides informational benefits (advisory prices and schedules updated hourly for all LAP hours)                     | January 31, 2018: 27-32<br>March 29, 2018: 19-24   | N/A   |
| Energy - ERUC | Timing & Frequency of Run   | Design Element ID: ERUC 3.1<br>Secondary design decision<br>1) In the event of a significant change in system conditions between DAM publishing and the first PD run that extends to the next day, the IESO may evaluate whether additional operational commitments are needed; operational commitments will be issued, if required, subject to a resource's submitted lead time.<br>• no alternatives identified  | • Actions may be required by the IESO in the case of significant changes in system conditions during the timeframe between publishing of DAM results at 13:30 EPT and the first run extending into next day at 20:00<br>• The IESO may evaluate whether additional operational commitments are needed<br>• Operational commitments will be issued, if required, subject to a resource's submitted lead time  | N/A   | N/A            | • Look-ahead period                       | 1) In the event of a significant change in system conditions between DAM publishing and the first PD run that extends to the next day, the IESO may evaluate whether additional operational commitments are needed; operational commitments will be issued, if required, subject to a resource's submitted lead time.  | • Reliability: Need to ensure sufficient resources are available/committed for next day in the event of significant system condition changes between when DAM clears and when PD starts looking at next day's schedules (20:00 of current day)   | July 19, 2018: 17-20,63  | N/A   |
| Energy - ERUC | Time Step   | Design Element ID: ERUC 4<br>1) Time step is one hour<br>-no alternatives identified   | • hourly time step is suitable for evaluating the types of NGS units that pre-dispatch optimization would commit<br>• hourly time step is adequate, and the technical feasibility of a shorter time step will be explored to accommodate future enhancements such as more frequent interchange scheduling  | • time step of 60 minutes or less   | N/A            | • Look-ahead period, Timing and Frequency | 1) Time step is one hour   | • Hourly time steps will result in faster processing time and enable a longer look-ahead period for unit commitment<br>• Hourly time steps are consistent with current practice, recognizing that shorter time steps may result in more timely and efficient scheduling for near term hours  | January 31, 2018: 33-37  | N/A   |
| Energy - ERUC | Intertie Transactions   | Design Element ID: ERUC 5<br>1) For hour T+1, evaluate all intertie offers/bids (i.e. DAM scheduled quantity and non-DAM scheduled quantity). For rest of LAP, evaluate intertie offers/bids up to their DAM scheduled quantity only.<br>2) For all LAP hours, evaluate all intertie offers/bids (i.e. DAM scheduled quantity and non-DAM scheduled quantity) but with restrictions on price/quantity changes and penalties for failure for non-DAM scheduled quantities.<br>3) For hours T+1 and T+2, evaluate all intertie offers/bids (i.e. DAM scheduled quantity and non-DAM scheduled quantity). For rest of LAP, evaluate intertie offers/bids up to their DAM scheduled quantity only. | 1) supports reliability, efficiency and is easier to implement, but could also result in efficiency losses or worsen over-supply conditions<br>2) may improve efficiency and reliability, but will add complexity, and may not add value if transactions don't appear due to restrictions/penalties<br>3) aligns with timeliness in other markets and with the existing IESO mandatory window; supports reliability and efficiency   | • approach varies among ISOs  | N/A            | N/A                                       | 3) for hours T+1 and T+2, evaluate all intertie offers/bids i.e. DAM scheduled quantity and non-DAM scheduled quantity. For rest of LAP, evaluate intertie offers/bids up to their DAM scheduled quantity only.  | For hours T+1 and T+2, there is increased certainty that non-DAM scheduled transactions will flow in real-time due to alignment with intertie scheduling timeliness in other markets and with existing mandatory window. This also supports reliability and efficiency by allowing greater participation in the RT market for non-DAM scheduled intertie transactions.<br>For hours T+3 and beyond, commitment decisions should primarily be used to satisfy Ontario demand and reserve requirements and should not be adversely impacted by non-DAM scheduled intertie transactions that have less certainty of flowing in real-time.   | January 31, 2018: 38-49<br>March 29, 2018: 25-34<br>January 31, 2018: 44<br>March 29, 2018: 32 | 1) This option was not selected because it does not fully support reliability and efficiency; further it does not align with timeliness in other markets, as option 3 does<br>2) This option was not selected because the restrictions/penalties add complexity with uncertain benefits, the non-DAM intertie transactions may still negatively impact reliability and efficiency and could result in unit commitments for non-Ontario requirements, as option 3 will not |
| Energy - ERUC | Intertie Transactions   | Design Element ID: ERUC 5.1<br>Secondary design decision<br>1) Pre-dispatch will evaluate emergency and capacity-backed intertie transactions over all hours of the look-ahead period<br>• no alternatives identified  | • Emergency and capacity-backed transactions are unlikely to be scheduled in DAM because the market conditions that lead to these actions typically do not materialize until well after day-ahead. When required in pre-dispatch timeframe these transactions are highly likely to flow in real-time.<br>• Capacity-backed transactions are likely to extend beyond the near term hours; when called, the sending market is expected to take all reasonable steps to make energy available within agreed timeframes, depending on its supply situation<br>• Under the IESO emergency operating plan, emergency transactions must be accommodated to maintain the reliability of the Eastern Interconnection; there are agreements and well established procedures to manage emergency requests between jurisdictions | • approach varies among ISOs  | N/A            | N/A                                       | 1) Pre-dispatch will evaluate emergency and capacity-backed intertie transactions over all hours of the look-ahead period  | • Given the high dependability of these types of intertie transactions, including them in all hours of the pre-dispatch LAP will improve efficiency  | May 24, 2018: 13-17  | N/A   |
| Energy - ERUC | Offer Obligation (Formerly Must Offer Requirements)                       | Updated from the last DAM meeting in May 2018. Application of the Reference Quantity is now addressed under the Market Power Mitigation design element.<br>1) Retain existing DACP offer obligations for reliability purposes (All internal resources must offer day ahead in order to participate in real-time).<br>2) No offer obligations for reliability purposes.   | Options initially proposed for this element were focused on mitigating the risk of physical withholding through an offer obligation. Stakeholder feedback suggested that this would be impractical and that a test for physical withholding would better be managed after the fact. See Market Power Mitigation design element for details.<br>The IESO is currently assessing whether an offer obligation is still required for reliability purposes.   | Option 2  | N/A            | N/A                                       | 2) ADE obligation no longer required under a DAM and there are no offer obligations in the pre-dispatch timeframe. Unless a resource has an offer obligation through the ICA, DAM and pre-dispatch participation will be voluntary.  | Financially binding DAM will incentivize greater and more efficient participation from all resources through price certainty.<br>DAM reliability measures will ensure sufficient physical resources are committed to meet forecast conditions in real-time.<br>Exercise of market power through physical withholding can be effectively managed after-the-fact.  | DAM July 19, 2018: 14<br>July 19, 2018: 15   | 1) Retaining an ADE under DAM could be less efficient as participants could simply circumvent the ADE through higher offer prices or use virtual transactions to hedge their physical positions   |
| Energy - ERUC | Eligibility for Cost Guarantee (Formerly Eligibility for Unit Commitment) | Design Element ID: ERUC 7<br>1) The same resource characteristics establishing eligibility for current guarantees will be used to determine eligibility for commitment and cost guarantee for pre-dispatch<br>-no alternatives identified  | • eligible resources have longer start-up times and must stay online at a minimum level for a number of hours for equipment reasons  | • long start resources are eligible for commitment and cost guarantee   | N/A            | N/A                                       | 1) The same resource characteristics establishing eligibility for current guarantees will be used to determine eligibility for commitment and cost guarantee   | • Resources with longer start-up times and which have operational restrictions are eligible for commitment and operational constraints in order to ensure that they are available when needed to meet system requirements.   | January 31, 2018: 56-58  | N/A   |
| Energy - ERUC | Market Participant Data   | Design Element ID: ERUC 8<br>1) Generators will provide three-part offers and required operational data<br>-no alternatives identified   | • three-part offers are new; no change in operational data except for the addition of lead time which is the amount of notice a generator needs in order to reach MLP from being offline, which can vary based on how long the generator has been offline  | • all ISOs utilize this data to appropriately evaluate resources  | N/A            | N/A                                       | 1) Generators will provide:<br>- three-part offers for energy, speed-no-load and start-up costs; operational data including New lead time and Current MGBRT, MGBOT, MLP, max. # of starts per day and ramp rates.  | • Need three-part offers in order to optimize based on complete cost information<br>• Need operational data in order to optimize while respecting operational constraints, and to produce timely binding start-up instructions   | January 31, 2018: 59-66<br>March 29, 2018: 35-41   | N/A   |
| Energy - ERUC | Market Participant Data   | Design Element ID: ERUC 8.1<br>Secondary design decision<br>1) Operational data will be provided by eligible resources as registered data through the market registration process<br>• no alternatives identified  | The registered data will be the same as currently registered data (MGBRT, MLP, MGBOT, maximum # starts per day, min/max ramp rates, elapsed time to dispatch) with the addition of registered data for lead time curve based on operating state of the generator.  | • all ISOs register this data to appropriately evaluate resources   | N/A            | N/A                                       | 1) Operational data will be provided by eligible resources as registered data through the market registration process. No change from current requirements except for the addition of lead time curve data.  | • This data is needed as standing data in the absence of offered data, and may be used for market power mitigation reference level setting.  | March 29, 2018: 35-41  | N/A   |
| Energy - ERUC | Market Participant Data   | Design Element ID: ERUC 8.2<br>Secondary design decision<br>1) Operational data will be offered into the market as non-price offer parameter data on a daily basis (daily generator data). All data may be updated daily before DAM runs, and lead time may be updated again prior to the 20:00 pre-dispatch run, which is the first run that includes all hours of the next day.<br>• no alternatives identified  | Non-price offer parameter data will be the same as the daily generator data currently offered under the DACP (MGBRT, MLP, MGBOT, maximum number of starts per day) with the addition of non-price offer parameter data for lead time curve based on operating state of the generator.  | • all ISOs allow non-price offer parameters to appropriately evaluate resources   | N/A            | N/A                                       | 1) Operational data will be offered into the market as non-price offer parameter data by eligible resources on a daily basis (daily generator data). All data may be updated daily before DAM runs, and lead time may be updated again prior to the 20:00 pre-dispatch run, which is the first run that includes all hours of the next day.  | • Operating parameters are not static; generators need to be allowed to make changes to reflect expected physical capability on a more regular basis than can be managed through the market registration process.<br>• Except for lead time, this data is not expected to change significantly over a 24 hour period, and changes may cause inconsistency and uncertainty if made post-DAM.<br>• Since lead time is not used in DAM, it can be updated again prior to the first pre-dispatch run that includes all hours of the next day without creating inconsistency in results between DAM and pre-dispatch. However, updating lead time again after 20:00 will cause inconsistency in pre-dispatch results from hour to hour. | March 29, 2018: 35-41<br>May 24, 2018: 25-27   | N/A   |
| Energy - ERUC | Commitment Cost Mitigation  | Design Element ID: ERUC 9<br>1) When, due to insufficient competition, mitigation is applied.<br>• short run marginal cost principles will be used to develop reference levels for commitment costs<br>• accepted principles will be used for establishing reference levels for non-price offer parameters<br>-no alternatives identified  | • Reference levels for incremental energy costs are generally set in other jurisdictions by one of a number of approaches: offer-based, LMP-based or cost-based. Reference levels for commitment costs and non-price offer parameters could be based on cost-based estimates and registered values   | • ISOs either mitigate commitment costs and non-price offer parameters, or require cost-based offers for commitment costs | N/A            | N/A                                       | 1) When, due to insufficient competition, mitigation is applied.<br>• short run marginal cost principles will be used to develop reference levels for commitment costs<br>• accepted principles will be used for establishing reference levels for non-price offer parameters  | • appropriate to ensure efficient commitment   | January 31, 2018: 67-69  | N/A   |

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| Energy - ERUC | Offer Changes  | Design Element ID: ERUC 10<br>1) Restrictions include:<br>• No energy and operating reserve offer price increases allowed for the hours in the advisory schedule when the resource was initially committed by pre-dispatch<br>• No changes that make non-price offer parameters more restrictive will be allowed after commitment<br>• No commitment cost offer increases and no changes that make non-price offer parameters more restrictive allowed for the hours a resource has a DAM schedule<br><br>• no alternatives identified  | • offer price means both energy and OR offer prices, which also include three-part energy offers (energy, speed-no-load and start-up costs)<br>• changes making non-price offers more restrictive means increases in MGBRT, MGBDT or lead time, and decreases in the max # of starts per day<br>• commitment cost offer means start-up, speed no-load and energy costs up to MLP | • all ISOs have offer change restrictions  | N/A            | N/A                               | 1) Restrictions include:<br>• No energy and operating reserve offer price increases allowed for the hours in the advisory schedule when the resource was initially committed by pre-dispatch<br>• No changes that make non-price offer parameters more restrictive will be allowed after commitment<br>• No commitment cost offer increases and no changes that make non-price offer parameters more restrictive allowed for the hours a resource has a DAM schedule  | • Balance the need to address potential uplift impacts, exercise of market power, and inefficient resource commitment while avoiding overly restrictive rates<br>• Need to ensure offers don't undermine reliability and increase uplifts  | January 31, 2018: 30-36<br>March 29, 2018: 42-52                         | N/A  |
| Energy - ERUC | Offer Changes  | Design Element ID: ERUC 10.1<br>Secondary design decision<br><br>The quantity that applies to the offer price increase restriction for the hours in the advisory schedule when the resource was initially committed by pre-dispatch is:<br>1) the advisory schedule quantity at the time of the notification of commitment<br>2) the full capacity of the resource  | 1) The decision to commit is based on evaluation of the entire advisory schedule provided at the time of commitment.<br>2) Once committed, generators that are marginal will often be the low cost resource up to full capacity compared to a new NGS resource commitment, providing information that allows it to influence price.  | • other ISOs restrict up to full capacity  | N/A            | N/A                               | 2) The quantity that applies to the offer price increase restriction for the hours in the advisory schedule when the resource was initially committed by pre-dispatch is the full capacity of the resource<br><br>• Offer price increases will be fully restricted and automatically prevented up to the advisory schedule quantity provided at the time the resource was initially committed above this advisory schedule quantity, increases will be allowed only when the IESO identifies conditions that are resulting in intra-day volatility<br>• Pre-defined criteria to identify volatile conditions will be established and documented by the IESO, working with market participants during detailed design<br>• The IESO will provide notification to generators that they may revise prices if required<br>• The generator must provide evidence for the increase to facilitate ex-post IESO audits and compliance | • This option mitigates the exercise of market power by committed resources, and addresses the need for generator to raise offer prices on rare occasions  | March 29, 2018: 42-52<br>May 24, 2018: 31-34<br>July 19, 2018: 32-42, 63 | 1) This option was not selected because the advisory schedule will vary in subsequent runs, and the resource can be dispatched up to the full offered quantity<br>• Once committed, generators that are marginal will often be the low cost resource up to full offered quantity, with a cost guarantee based on real time production<br>• Restriction up to the advisory schedule would not fully mitigate the exercise of market power, however the decision recognizes unusual circumstances where price increases are necessary for quantities above the advisory schedule<br>July 19, 2018: 35-36 |
| Energy - ERUC | Offer Changes  | Design Element ID: ERUC 10.2<br>Secondary design decision<br><br>To enforce offer change restrictions:<br>1) attempts to change offers inappropriately will be automatically prevented;<br>2) contraventions of the offer change restrictions will be dealt with through settlement calculations after the fact;<br>3) contraventions of the offer change restrictions will be dealt with under a compliance regime after the fact  | N/A  | • other ISOs automatically prevent changes that are in contravention of market rules | N/A            | N/A                               | 1) Enforcement of offer change restrictions will be automated to the extent possible, as further determined in detailed design; Attempts to change offers in contravention of market rules will be automatically prevented in our systems   | • Automation will reduce the need for after the fact settlement adjustments and compliance actions   | March 29, 2018: 42-52  | 2) and 3) These options were not selected because they are administratively burdensome and unnecessary presuming successful automation of the offer change restrictions<br>March 29, 2018: 51  |
| Energy - ERUC | Binding Start-up Instruction & Operational Schedule                        | Design Element ID: ERUC 11<br>1) initial constraint for MGBRT period at MLP, with operational constraints beyond this period determined by regular pre-dispatch runs<br>2) initial operational constraint at MLP for the longer of MGBRT and the period the resource is evaluated as economic   | 1) and 2) binding start-up instruction and operational constraint is provided in the last run that allows for lead time; advisory schedules are provided up to the economic operating point  | • ISO constraints address minimum requirements to stay online                        | N/A            | N/A                               | 1) The initial operational constraint will be for the MGBRT period; operational constraint beyond MGBRT will occur as determined by regular pre-dispatch runs   | • MGBRT operational constraint is adequate to bring the lowest cost resource online<br>• Extended operational constraints can occur on an hourly or bi-hourly basis, as required<br>• Need to limit over-commitment due to changes in system needs over the day  | January 31, 2018: 97-104   | 2) This option was not selected because over-commitment will occur if system needs decrease over the day; further, a longer initial operational constraint is unnecessary to bring the resource online, and regular pre-dispatch updates can extend the commitment<br>January 31, 2018: 103  |
| Energy - ERUC | Binding Start-up Instruction & Operational Schedule                        | Design Element ID: ERUC 11.1<br>Secondary design decisions<br><br>Pre-dispatch will not change the operational constraint set by DAM for MGBRT/MLP. Pre-dispatch will be able to add to the operational constraint set by DAM.<br><br>• no alternatives identified  | N/A  | • approach varies among ISOs   | N/A            | N/A                               | 1) Pre-dispatch will not change the operational constraint set by DAM for MGBRT/MLP. Pre-dispatch will be able to add to the operational constraint set by DAM.   | • This is required to provide operational certainty for the IESO and generators, and to allow response to real-time conditions   | May 24, 2018: 40-45  | N/A  |
| Energy - ERUC | Calculation of Cost Guarantee (Formerly Calculation of Make Whole Payment) | Design Element ID: ERUC 12<br>1) Cost guarantee payment includes all energy and OR revenues, net of all as-offered commitment costs, incremental energy costs and OR costs over the commitment period<br>2) Cost guarantee payment includes all energy and OR revenues, net of all as-offered commitment costs, incremental energy costs and OR costs over the operating period of the resource   | 1) extended period of operational constraint beyond MGBRT is included in cost guarantee calculation; no risk of revenue shortfall; profit opportunity exists<br>2) same as 1) with the addition of the RT dispatch period where generator continues operating without pre-dispatch commitment or an operational constraint   | • approach varies among ISOs   | N/A            | Failure Charge                    | 1) All costs and revenues that were evaluated and optimized over the commitment period will be included in cost guarantee calculation (includes all energy and OR revenues, net of all as-offered commitment costs, incremental energy costs and OR costs)  | • Provides incentive/sufficient revenue for generators to come online and operate when they are the lowest cost resource that can meet system requirements.<br><br>• Provides incentive/profit opportunity for generators to respond to RT changes.  | January 31, 2018: 105-112<br>March 29, 2018: 53-61                       | 2) This option was not selected because it does not provide the incentive for generators to respond to real-time changes as option 1 does<br>March 29, 2018: 59  |
| Energy - ERUC | Calculation of Cost Guarantee (Formerly Calculation of Make Whole Payment) | Design Element ID: ERUC 12.1<br>Secondary design decisions - Ineligible Starts<br><br>1) Eligibility for assessment for a cost guarantee payment will be determined as follows:<br>A - Synchronize Late: A resource will not be assessed for a cost guarantee payment if it fails to synchronize before the start of its commitment period.<br>B - Incomplete MGBRT: A resource will not be assessed for a cost guarantee payment if it fails to complete its MGBRT.<br>C - Early or Late Start: A resource that reaches MLP earlier or later than committed will be assessed for a cost guarantee payment in the normal manner, subject to IA. A failure charge will be assessed for the period that it was late in meeting its commitment, and compliance with dispatch may also be reviewed.<br><br>• no alternatives identified | N/A  | • approach varies among ISOs   | N/A            | N/A                               | 1) Eligibility for assessment for a cost guarantee payment will be determined as follows:<br>A - Synchronize Late: A resource will not be assessed for a cost guarantee payment if it fails to synchronize before the start of its commitment period.<br>B - Incomplete MGBRT: A resource will not be assessed for a cost guarantee payment if it fails to complete its MGBRT.<br>C - Early or Late Start: A resource that reaches MLP earlier or later than committed will be assessed for a cost guarantee payment in the normal manner, subject to IA. A failure charge will be assessed for the period that it was late in meeting its commitment, and compliance with dispatch may also be reviewed.   | 1) A&B - An additional resource may need to be committed to replace a resource that either fails to synchronize in a timely fashion or that fails to complete its MGBRT.<br>This may increase uplifts and impact reliability.<br>1) C - Generators may have minor operational issues that alter the expected ramp to MLP, and this should not impact eligibility of the start,                     | May 24, 2018: 52-56  | N/A  |
| Energy - ERUC | Calculation of Cost Guarantee (Formerly Calculation of Make Whole Payment) | Design Element ID: ERUC 12.2<br>Secondary design decision - Multiple PD Commitments<br><br>1) Where a resource has multiple pre-dispatch commitment periods in a calendar day, having followed dispatch come offline between commitments, each commitment period will be assessed for the cost guarantee separately<br><br>• no alternatives identified   | N/A  | • approach varies among ISOs   | N/A            | N/A                               | 1) Separate cost guarantee assessed for each commitment period where there are multiple in a day and resource is offline between commitments.   | If combined for settlement, potential profits from one commitment could reduce cost guarantee payments for another commitment, which could discourage a generator from operating when needed by the system.  | May 24, 2018: 57-58  | N/A  |
| Energy - ERUC | Calculation of Cost Guarantee (Formerly Calculation of Make Whole Payment) | Design Element ID: ERUC 12.3<br>Secondary design decision - Reliability Commitment<br><br>1) A resource that is not committed by pre-dispatch but is manually committed by the IESO for reliability reasons will be assessed a separate cost guarantee payment for the reliability commitment, even if it is already online under a pre-dispatch commitment.<br><br>• no alternatives identified  | N/A  | • approach varies among ISOs   | N/A            | N/A                               | 1) Separate cost guarantee assessed for reliability commitments, where a resource is manually committed, and not committed by pre-dispatch.   | If combined for settlement, potential profits from one commitment could reduce cost guarantee payments for another commitment, which could discourage a generator from operating when needed by the system.  | May 24, 2018: 59-60  | N/A  |
| Energy - ERUC | Calculation of Cost Guarantee (Formerly Calculation of Make Whole Payment) | Design Element ID: ERUC 12.4<br>Secondary design decision - Offer Changes<br><br>1) Cost guarantee will be assessed using the last updated offer price, which determines RT dispatch and make-whole, subject to offer price restrictions.<br><br>• no alternatives identified   | N/A  | • approach varies among ISOs   | N/A            | N/A                               | 1) Cost guarantee assessed using the last updated offer price, subject to offer price restrictions.   | This is status quo. A resource should not be made whole to the higher offer price upon which it was committed if it lowered its offer price after commitment in order to achieve a different schedule in real-time.  | May 24, 2018: 61   | N/A  |
| Energy - ERUC | Failure Charge   | Design Element ID: ERUC 13<br>1) Failure Charge<br>2) No failure charge<br>3) Compliance investigation triggered by failure to meet commitment  | 1) applied under certain circumstances defined in advance<br>2) status quo<br>3) administration and timeliness considerations  | • approach varies among ISOs   | N/A            | Calculation of Make Whole Payment | 1) A failure charge will be applied under certain circumstances depending on notice provided, reason for failure and/or financial implications  | • addresses impacts on reliability, efficiency and cost if a resource is offered in pre-dispatch but is not available to operate in RT   | January 31, 2018: 113-118<br>March 29, 2018: 62-68                       | 2) This option was not selected because generators may have reduced incentive to perform in certain circumstances, and this may impact reliability, efficiency, RT prices and uplifts; some type of incentive is required<br><br>3) This option was not selected because it is administratively burdensome and will not provide timely incentive to perform<br>January 31, 2018: 117   |
| Energy - ERUC | Failure Charge   | Design Element ID: ERUC 13.1<br>Secondary design decision<br><br>1) A failure charge will be applied when:<br>• generator does not give adequate notice of its inability to meet its commitment; and/or<br>• the reasons the generator did not meet its commitment are unacceptable; and/or<br>• there are financial implications of the failure to meet the commitment<br><br>• no alternatives identified   | N/A  | • approach varies among ISOs   | N/A            | Calculation of Make Whole Payment | • There is no minimum advance notice that is adequate; however, the charge will depend on when notice was provided<br><br>• A failure charge will not be applied if resource is grid incapable due to an outage on the electrical system<br><br>• Financial impact of failure will be assessed for the advisory schedule quantity based on the difference between the generator offer and their LMP (cap SO), plus incremental uplift cost to replace the resource if applicable.   | • Advance notice doesn't change the impact on efficiency, and replacement generation may result in extra system costs<br><br>• an outage on the electrical system is the fault of another party's equipment<br><br>• this approach is similar to the existing Day-Ahead Generator Withdrawal Charge; the intent is to capture reliability and price impacts, and recognize additional uplift costs | March 29, 2018: 62-68  | N/A  |