

Proposed Amended ISO rule – Section 206.1, Qualification of Capacity

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| Period of Comment: | September 7, 2018 | through | September 28, 2018 | Contact: | Sarah Griffiths |
| Comments From: | EnerNOC, an Enel Group Company | | | Phone: | 416-697-3744 |
| Date [yyyy/mm/dd]: | 2018/09/28 | | | Email: | Sarah.griffiths@enernoc.com |

Please provide comments relating to the subsection of the proposed amendments to the rule in the corresponding box. Please include any views on whether the language clearly articulates the requirement for either the AESO or a market participant, and provide any proposed alternative wording by blacklining the proposed language below.

| Section | Subsection | Proposed language | Stakeholder comments |
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| | | Declaration for New Capacity | Please Note: The comments below are part of a larger package of comments on the treatment of aggregated load assets and their participation in the capacity market. This package includes a letter to the AESO as well as additional comment matrices. |
| 3 | | A person must, within the timelines prescribed by the <i>Capacity Market Auction Guidelines</i> and in the manner the ISO specifies, submit to the ISO an attestation from a corporate officer as to whether an asset with the new capacity will: <ul style="list-style-type: none"> (a) permanently delist in accordance with Section 201.15, <i>Delisting</i>; or (b) continue to participate in the energy and capacity markets, in the event that the capacity market participant fails to receive a capacity commitment for such asset in the base auction or rebalancing auction . | |
| | | Declarations for Incremental Capacity and Refurbished Capacity | |
| 4 | (1) | A capacity market participant must, if it has applied to provide proposed incremental capacity, submit to the ISO , within the timelines prescribed by the <i>Capacity Market Auction Guidelines</i> and in the manner the ISO specifies, an attestation from a corporate officer as to whether the anticipated maximum capability of the asset with incremental capacity will be either: <ul style="list-style-type: none"> (a) the maximum capability of the asset had the capacity market participant | |

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| | | <p>not applied for proposed incremental capacity; or</p> <p>(b) remain as the anticipated maximum capability accounting for the proposed incremental capacity,</p> <p>in the event that the capacity market participant fails to receive a capacity commitment for such asset in the base auction or rebalancing auction for some or all of the proposed incremental capacity.</p> | |
| 4 | (2) | <p>A capacity market participant must, within the timelines prescribed by the <i>Capacity Market Auction Guidelines</i> and in the manner the ISO specifies, submit to the ISO an attestation from a corporate officer as to whether an asset with refurbished capacity will:</p> <p>(a) permanently delist in accordance with Section 201.15 of the ISO rules, Delisting; or</p> <p>(b) continue to participate in the energy market and capacity market,</p> <p>in the event that the capacity market participant fails to receive a capacity commitment for such asset in the base auction or rebalancing auction.</p> | |
| | | <p>Declaration for Load Asset</p> | |
| 5 | (1) | <p>A person must, within the timelines prescribed by the <i>Capacity Market Auction Guidelines</i> and in the manner the ISO specifies, declare to the ISO a firm consumption level if the person is seeking to have the ISO qualify a load asset providing a firm consumption level for the capacity market.</p> | |
| 5 | (2) | <p>A person must, within the timelines prescribed by the <i>Capacity Market Auction Guidelines</i> and in the manner the ISO specifies, declare to the ISO a guaranteed load reduction if the person is seeking to have the ISO qualify a load asset providing a guaranteed load reduction for the capacity market.</p> <p>5(3) – A person must, within the timelines prescribed by the Capacity Market Auction Guidelines and in the manner the ISO specifies, declare to the ISO that portfolio approach/aggregation of loads will be used. The declaration of FCL or GLR is based on timelines prescribed in the Capacity Market Auction Guidelines.</p> | <p>An additional section to 5 (or a new section) should be added for aggregated load assets. Based on best practices and as alluded to in the CMD and provisional market rules for Forward Milestone Period (206.5), aggregated load assets will not know their potential contributors to their portfolio during qualification and therefore be unable to declare whether an asset is a GLR or a FCL. The declaration should occur further along the forward period, such as before the second rebalancing auction, when they have to demonstrate they can meet the 75% minimum of their commitment. This timeline can be outlined in the Capacity Market Auction Guidelines.</p> |

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| | | <p>Declaration for Import Asset</p> | |
| 6 | | <p>A person must, within the timelines prescribed by the <i>Capacity Market Auction Guidelines</i> and in the manner the ISO specifies, declare to the ISO a volume in MW from an import asset, which is less than or equal to the amount of firm transmission, that the person is seeking to have the ISO qualify for the capacity market.</p> | |
| | | <p>Qualification of New Capacity, Incremental Capacity and Refurbished Capacity</p> | |
| 7 | (1) | <p>The ISO must, based on the information in the application and any supporting documents provided pursuant to subsection 2, be satisfied that the asset:</p> <ul style="list-style-type: none"> (a) will be capable of providing energy to or reducing consumption from the interconnected electric system; (b) has a uniform capacity value greater than or equal to 1 MW; (c) will be: <ul style="list-style-type: none"> (i) developed in accordance with a project plan and timeline that aligns with the critical milestones established by the ISO; and (ii) energized and commissioned prior to the obligation period. (d) is not a source asset that is the subject of a renewable electricity support agreement in connection with rounds 1, 2 or 3 of the Renewable Electricity Program; (e) is not energy efficiency; (f) in the case of a load asset and aggregated load assets: <ul style="list-style-type: none"> (i) can or will be able to reduce demand during the obligation period in a way that is measurable by the ISO; and (ii) is or will be a retail or self-retail asset; (g) in the case of an energy storage facility, is or will be capable of maintaining energy production at it uniform capacity value for a minimum of 4 hours; | |

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| | | <ul style="list-style-type: none"> (h) in the case of an import asset: <ul style="list-style-type: none"> (i) has firm transmission from the import asset to the Alberta border for the duration of the obligation period; (ii) is not participating as non-recallable capacity in a resource adequacy program of another jurisdiction; and (iii) will be curtailed on a pro-rata basis by the balancing authority of the jurisdiction in which the import asset is located in when load, which is firm, is curtailed. (i) in the case of an aggregation of assets: <ul style="list-style-type: none"> (i) has declared a uniform capacity value less than or equal to the maximum capability of the largest generating unit in Alberta multiplied by 0.85; (ii) has or will have the appropriate metering the ISO specifies for each asset in the aggregation; (iii) is or will be comprised of assets that are either exclusively: <ul style="list-style-type: none"> (A) generating units or aggregated generating facilities located within Alberta; (B) load assets providing a firm consumption level located within Alberta; or (C) load assets providing a guaranteed load reduction located within Alberta; and, (iv) is not comprised of any asset that will contribute capacity individually, or as part of another aggregation, to the capacity market; (j) in the case of incremental capacity, will be retrofitted in a manner that will, in the opinion of the ISO, increase the maximum capability of the asset by an amount in MW that is: <ul style="list-style-type: none"> (i) greater than or equal to 1 MW; and | |

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| | | <ul style="list-style-type: none"> (ii) less than or equal to the greater of: <ul style="list-style-type: none"> (A) 15% of the asset's maximum capability; or (B) 40 MW above the asset's maximum capability. (k) in the case of refurbished capacity, will be retrofitted in a manner that will, in the opinion of the ISO, result in either: <ul style="list-style-type: none"> (i) an increase in the asset's maximum capability by an amount exceeding the greater of: <ul style="list-style-type: none"> (A) 15% of the asset's maximum capability; or (B) 40 MW above the asset's maximum capability; or (ii) a capital investment of greater than or equal to \$200 per kW of the asset's current maximum capability multiplied by a capital cost escalation rate that is specified by the ISO. | |

Please provide your comments on the following (as set out in AUC Rule 017 s. 13(b-j)):

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| 1 | whether you agree that amended ISO rule – <i>Section 206.1, Qualification of Capacity</i> relates to the capacity market and why or why not | |
| 2 | whether you agree that amended ISO rule – <i>Section 206.1, Qualification of Capacity</i> should [or should not] be in effect for a fixed term and why or why not | |
| 3 | whether you understand and agree with the objective or purpose of amended ISO rule – <i>Section 206.1, Qualification of Capacity</i> and whether, in your view, <i>Section 206.1, Qualification of Capacity</i> meets the objective or purpose | |
| 4 | how, in your view, amended ISO rule – <i>Section 206.1, Qualification of Capacity</i> affects the performance of the capacity market and the electricity market | Yes. The proposed rule, as written will affect the performance of the capacity market and the electricity market. By having aggregated load assets (that will bid as part of a portfolio), have to declare whether they are GLR or FCL assets during qualification, and therefore have customer identified and under contract, the AESO has diverged away from best practices in the industry which follow the forward prospective/sales plan approach for aggregated demand response. As the forward period grows beyond 1 year, the base auction will lose a low cost resource, which will impact the performance of the capacity auction, and therefore the capacity market and the overall cost of electricity. The risk will be too large for aggregators to base their qualification on customers signed up 3 years in advance of the commitment period (once the forward period lengthens). Section 206.5 Forward Period Milestones recognizes the sales plan approach as only 75% of the commitment must be tested before the last rebalancing auction. |
| 5 | your views on any analysis conducted or commissioned by the AESO supporting amended ISO rule – <i>Section 206.1, Qualification of Capacity</i> | |
| 6 | whether you agree with amended ISO rule – <i>Section 206.1, Qualification of Capacity</i> taken together with all ISO rules and in light of the principle of a fair, efficient and openly competitive market | EnerNOC does not agree. By limiting the participation of aggregated demand response in the qualification process, and therefore only having aggregated loads participate in the rebalancing auction does not meet the principle of a fair, efficient and openly competitive market. |

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| 7 | whether you would suggest any alternatives to amended ISO rule – <i>Section 206.1, Qualification of Capacity</i> | |
| 8 | whether you agree that the proposed provisional rule supports ensuring a reliable supply of electricity at a reasonable cost to customers and why or why not | No. The proposed rule does not support ‘at a reasonable cost to customers’. The proposed rule will erase the benefit of a low cost resource, aggregated load, from participating in the base auction. |
| 9 | whether you agree that the proposed provisional rule supports the public interest and why or why not | No. The proposed provisional rules does not support the public interest as it will lead to the exclusion of a low cost resource to the capacity market, the aggregation of loads. |

Please provide your views on the type of content that should be included in an information document associated with amended ISO rule – Section 206.1, Qualification of Capacity.

For aggregated load assets, the Capacity Market Auction Guidelines should outline that during qualification, a declaration of MW is made. At some point during the commitment period, in advance of the 2nd Rebalancing Auction, the declaration of whether the portfolio will be GLR or FCL should be made.

The supporting documents required by the ISO could include a project plan and milestones that will have to be met if the AESO requires more information in advance of the 75% minimum MW requirement before the second rebalancing auction.

Proposed New ISO rule – Section 206.3, *Uniform Capacity Value Determination*

Period of Comment: September 7, 2018 through September 28, 2018 **Contact:** Sarah Griffiths
Comments From: EnerNOC **Phone:** 416-697-3744
Date [yyyy/mm/dd]: Draft 2 **Email:**

Please provide comments relating to the subsection of the proposed rule in the corresponding box. Please include any views on whether the language clearly articulates the requirement for either the AESO or a market participant, and provide any proposed alternative wording by blacklining the proposed language below.

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| | | Applicability | Please Note: The comments below are part of a larger package of comments on the treatment of aggregated load assets and their participation in the capacity market. This package includes a letter to the AESO as well as additional comment matrices. |
| 1 | | Section 206.3 applies to: (a) a capacity market participant ; and (b) the ISO . | |
| | | Requirements 1250 Tightest Supply Cushion Hours | |
| 2 | | The ISO must select 250 hours from each 12 month consecutive period in the historical 60 month evaluation period as follows: (a) calculate the supply cushion for every hour; (b) rank all hours based on supply cushion in ascending order; (c) within the order referred to in subsection 2(b), rank hours with equivalent supply cushion in ascending order from the most recent to the most distant of time; and (d) select the first 250 hours after ranking in accordance with subsection 2(b) and | |

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| | | 2(c). | |
| | | Asset Specific Hours for Uniform Capacity Value Calculation | |
| 3 | (1) | <p>The ISO must remove the following hours from the 1250 hours identified in subsection 2 on an asset-specific basis, in order to create an historical data set for each asset listed for a capacity market participant on the list:</p> <ul style="list-style-type: none"> (a) hours in which there was a state of markets suspension; (b) hours that the ISO determines that the asset was affected by: <ul style="list-style-type: none"> (i) an event of limited markets operations, war, invasion, armed conflict, blockade, act of public enemy, riot, revolution, insurrection, act of terrorism, sabotage, act of vandalism, fire that does not originate at the asset, lightning, explosion, earthquake or flooding; and (ii) a mothball outage or temporary economic delist outage; (c) hours in which the asset had no production or consumption history; (d) hours in which the asset was commissioning; and (e) in the case of an import asset, hours in which the relevant transfer path was unavailable as a result of an issue on the Alberta transmission system. | |
| 3 | (2) | <p>The ISO may, in the case of a long lead time asset that was synchronized but had varying start-up times for distinct portions of its MW and which required more than 1 hour to deliver such additional portions of its MW, remove the hours where the ISO determines that:</p> <ul style="list-style-type: none"> (a) the pool participant reason in the Energy Trading System indicates that the asset was offline for a long lead time configuration; or (b) the cost assessment for the asset exceeds the pool price; <p>in order to create an historical data set for each long lead time asset listed for a capacity market participant on the list.</p> | |

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| 3 | (3) | The ISO must, if it determines that the asset was impacted by a transmission market constraint during an hour in the asset’s historical data set, add the volume that was curtailed to the metered volume in that hour for the purposes of calculating the uniform capacity value for the asset in accordance with subsection 5(2). | |
| | | Selection of Methodologies for Uniform Capacity Value Calculation | |
| 4 | | <p>The ISO must, when calculating a uniform capacity value for an asset, apply the methodologies as follows:</p> <ul style="list-style-type: none"> (a) if the number of hours in the historical data set determined in accordance with subsection 3 is greater than or equal to 300 hours and less than or equal to 1250 hours then the methodologies in subsection 5 will be applied to the hours in the historical data set; (b) if the number of hours in the historical data set determined in accordance with subsection 3 is greater than or equal 1 hour and less than 300 hours then: <ul style="list-style-type: none"> (i) the methodologies in subsection 5 will be applied to the hours in the historical data set, as applicable; and (ii) the methodology in subsection 6 will be applied to the number of hours that is 300 hours minus the hours in the historical data set, determined in accordance with subsection 3; <p>or</p> <ul style="list-style-type: none"> (c) if the number of hours in the historical data set determined in accordance with subsection 3 is 0 hours then the methodology in subsection 6 will be applied to 300 hours. | |
| | | Methodologies for Hours in the Historical Data Set | |
| 5 | (1) | <p>The ISO must, subject to subsections 5(2) through 5(8) calculate a uniform capacity value for an asset as follows:</p> <ul style="list-style-type: none"> (a) calculate the hourly availability factor using the time weighted available capability as observed in the Energy Trading System, divided by maximum capability | |

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| | | <p>observed in each hour in the historical data set;</p> <p>(b) calculate the availability factor by averaging the hourly availability factors as calculated in subsection 5(1)(a) over the number of hours in the historical data set; and</p> <p>(c) multiply the availability factor calculated in subsection 5(1)(b) by the asset's maximum capability.</p> | |
| 5 | (2) | <p>The ISO must calculate a uniform capacity value for a wind or solar aggregated generating facility or a run of river hydroelectric generating unit or aggregated generating facility, or an aggregated asset containing a wind or solar aggregated generating facility or a run of river hydroelectric generating unit or aggregated generating facility, or assets that do not receive a dispatch as follows:</p> <p>(a) calculate the hourly capacity factor by adding metered energy and applicable ancillary services volumes observed in each hour in the historical data set, and dividing by maximum capability;</p> <p>(b) calculate the capacity factor by averaging each hourly capacity factor in subsection 5(2)(a) over the number of hours in the historical data set; and</p> <p>(c) multiply the capacity factor calculated in subsection 5(2)(b) by the asset's maximum capability.</p> | |
| 5 | (3) | <p>The ISO must calculate a uniform capacity value for an import asset as follows:</p> <p>(a) calculate the lesser of an asset's available capability or an asset's firm transmission over a transfer path observed in each hour in the historical data set, and dividing by an asset's firm transmission capacity over a transfer path;</p> <p>(b) calculate the availability factor by averaging each hourly availability factor in subsection 5(3)(a) over the number of hours in the historical data set; and</p> <p>(c) multiply the availability factor calculated in subsection 5(3)(b) by an asset's firm transmission capacity over a transfer path.</p> | |

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| 5 | (4) | <p>The ISO must calculate a uniform capacity value for a site with one or more onsite generating units or aggregated generating facilities that self-supplies capacity and is dispatched gross-to-grid as follows:</p> <ul style="list-style-type: none"> (a) calculate a gross uniform capacity value using the availability factor of the asset on the self-supply site as observed in each of the hours in the historical data set; and (b) translate the gross uniform capacity value calculated in subsection 5(4)(a) to a net uniform capacity value using a linear regression of net-to-grid energy relative to the energy market dispatches issued to the asset on the self-supply site. | |
| 5 | (5) | <p>The ISO must, subject to subsection 7, calculate a uniform capacity value for a load asset providing firm consumption level as follows:</p> <ul style="list-style-type: none"> (a) identify the metered energy for the settlement intervals with the same hour ending as the hour the historical data set in the following days: <ul style="list-style-type: none"> (i) the 15 most recent business days prior to the day with the hour in the historical data set if the hour falls on a business day; (ii) the 10 most recent weekend days or holidays prior to the day with the hour in the historical data set if the hour falls on a weekend day or a holiday; or (iii) the days the ISO specifies if, in the 45 day period prior to the day with the hour in the historical data set, there are fewer than 15 business days and 10 weekend days when days containing settlement intervals identified in subsection 5(5)(b) are excluded; (b) determine if any settlement intervals referred to in subsection 5(a) contain any of hours in the historical data set in accordance with subsection 2; (c) calculate the qualified baseline as the average of the metered energy for the settlement intervals referred to in subsection 5(5)(a) excluding the metered energy for the settlement intervals identified in subsection 5(5)(b); and (d) minus an asset's declared firm consumption level from the qualified baseline | |

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| | | calculated in subsection 5(5)(b). | |
| 5 | (6) | <p>The ISO must calculate a uniform capacity value for a load asset providing guaranteed load reduction as the guaranteed load reduction declared in accordance with Section 206.1, <i>Qualification of Capacity</i>.</p> <p>5 (7) – The ISO must calculate a uniform capacity value for an aggregated load portfolio as declared in accordance with Section 206.1, <i>Qualification of Capacity</i>.</p> | <p>For GLR, the uniform capacity value should be calculated similar to an FCL – calculate a baseline and confirm that the ‘drop by’ amounts the resource bids in supports it. If not, then the resource is de-rated based on an availability factor.</p> <p>The uniform capacity value for an aggregated portfolio should be calculated similar to FLC as well – calculate a baseline and confirm that the commitment is made. If not, the resource is de-rated based on an availability factor.</p> |
| 5 | (7) | <p>The ISO must calculate a uniform capacity value for an asset with incremental capacity by</p> <p style="padding-left: 40px;">multiplying the performance factor calculated in accordance with subsections 5(1) through 5(6), as applicable, by the sum of the assets maximum capability and the amount of incremental capacity.</p> | |
| 5 | (8) | <p>The ISO must calculate a uniform capacity value for an asset that undergoes a derate in its maximum capability in accordance with subsection 5, as applicable, substituting the maximum capability of the asset for its derated maximum capability.</p> | |
| 5 | (9) | <p>Where the uniform capacity value for at least 1 asset in an aggregated asset would otherwise be calculated in accordance with subsection 5(2), the ISO must calculate the uniform capacity value of all assets in the aggregated asset in accordance with subsection 5(2).</p> | |
| | | Methodologies for Hours not in the Historical Data Set | |
| 6 | (1) | <p>The ISO must calculate a uniform capacity value for an asset in accordance with subsection 4, as follows:</p> <p>(a) using a class average performance factor multiplied by maximum capability, where the class average performance factor is:</p> | |

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| | | <ul style="list-style-type: none"> (i) for a load asset, 91% unless the ISO specifies a class average performance factor based on Alberta load data; or (ii) for all other assets, as specified by the ISO; (b) if a class average performance factor is not available, using a performance factor based on engineering studies or equivalent engineering documents, or production or load estimates of the asset multiplied by maximum capability; or (c) if a class average performance factor and production or load estimates are not available, using a performance factor based on a review of similar assets in other jurisdictions multiplied by maximum capability. | |
| 6 | (2) | <p>The ISO must calculate a uniform capacity value for an import asset where the hours in the historical data set are less than 250 as follows:</p> <ul style="list-style-type: none"> (a) using the value declared, in accordance with Section 206.1, <i>Qualification of Capacity</i>, for the import asset; and (b) derating the value declared, in accordance with Section 206.1, <i>Qualification of Capacity</i>, to reflect the hours in the 1250 hours determined in accordance with subsection 2 where the British Columbia transfer path, Montana transfer path or Saskatchewan transfer path, as applicable, was out of service with an available transfer capability of 0 MW. | |
| | | <p>Test Requirement for Load Asset Providing a Firm Load Consumption</p> | |
| 7 | (1) | <p>A capacity market participant must, if there were no delivery hours in the obligation period prior to obligation period that the ISO is calculating a uniform capacity value for in accordance with subsection 6(5), demonstrate to the ISO the ability of a load asset providing a firm consumption level to reduce down to the firm consumption level declared by the capacity market participant and maintain the reduction for 1 hour.</p> | |
| 7 | (2) | <p>The ISO must, in the event that the load asset providing a firm consumption level fails the demonstration in subsection 7(1), adjust the uniform capacity value calculated in accordance with subsection 6(5) to reflect the observed load reduction.</p> | |

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| | | <p>Calculation of Ranges for a Uniform Capacity Value</p> | |
| <p>8</p> | <p>(1)</p> | <p>The ISO must, subject to subsection 8(2), calculate 3 ranges for a uniform capacity value on an asset-specific basis as follows:</p> <p>(a) the 5% range, as follows:</p> <ul style="list-style-type: none"> (i) calculate the upper limit, as follows: <ul style="list-style-type: none"> (A) remove 5% of the hours identified in the historical data set, in which the asset’s availability factor or capacity factor, as applicable, was the lowest; (B) average the asset’s remaining availability factor or capacity factor, as applicable; and (C) multiply the average remaining availability factor or capacity factor, as applicable, by the asset’s maximum capability; and (ii) calculate the lower limit, as follows: <ul style="list-style-type: none"> (A) remove 5% of the hours identified in the historical data set, in which the asset’s availability factor or capacity factor, as applicable, was the highest; (B) average the asset’s remaining availability factor or capacity factor, as applicable; and (C) multiply the average remaining availability factor or capacity factor, as applicable, by the asset’s maximum capability; <p>(b) the +/- 2% range, as follows:</p> <ul style="list-style-type: none"> (i) calculate the upper limit, as follows: <ul style="list-style-type: none"> (A) 2% multiplied by the maximum capability; (B) added to the uniform capacity value; and (ii) calculate the lower limit, as follows: | |

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| | | <p>(A) 2% multiplied by the maximum capability;</p> <p>(B) subtracted from the uniform capacity value; and</p> <p>(c) the +/- 1 MW range, as follows:</p> <ul style="list-style-type: none"> (i) calculate the upper limit by adding 1 MW to the uniform capacity value; and (ii) calculate the lower limit by subtracting 1 MW to the uniform capacity value. | |
| 8 | (2) | <p>The ISO must not calculate the uniform capacity value ranges in subsection 7(1) for:</p> <ul style="list-style-type: none"> (a) assets with new capacity or refurbished capacity; (b) incremental capacity; (c) a load asset; and (d) an import asset. | |
| | | <p>Notification of Tightest Supply Cushion Hours and Preliminary Uniform Capacity Values</p> | |
| 9 | (1) | <p>The ISO must publish on the AESO website:</p> <ul style="list-style-type: none"> (a) the 1250 tightest supply cushion hours identified in accordance with subsection 2; and (b) the class averages referred to in subsection 6(a). | |
| 9 | (2) | <p>The ISO must provide the following information to a capacity market participant on an asset-specific basis:</p> <ul style="list-style-type: none"> (a) the hours in the historical data set, referred to in subsection 3; (b) the uniform capacity value calculated in accordance with subsections 4, 5 and 6, as applicable; (c) the methodology used to calculate the uniform capacity value; | |

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| | | <p>(d) the greatest of the upper limits calculated in accordance with subsections 8(1)(a)(i), 8(1)(b)(i) and 8(1)(c)(i) to a maximum of the asset's maximum capability; and</p> <p>the lowest of the lower limits calculated in accordance with subsection 8(1)(a)(ii), 8(1)(b)(ii) and 8(1)(c)(ii) to a minimum of 1 MW.</p> | |
| | | <p>Uniform Capacity Value Variances</p> | |
| <p>10</p> | <p>(1)</p> | <p>A capacity market participant may, within the timelines prescribed by the <i>Capacity Market Auction</i> Guidelines and in the manner specified by the ISO, submit to the ISO:</p> <ul style="list-style-type: none"> (a) a request to vary the uniform capacity value of an asset for a reason set out in subsection 10(2); and (b) detailed information in support of the request, including, as applicable: <ul style="list-style-type: none"> (i) metering or Energy Trading System data; (ii) information regarding a planned or completed physical change to the asset demonstrating that the maximum capability will increase or decrease by at least 1 MW; (iii) the characteristics, selection criteria and rationale for comparable assets, for class average and jurisdictional assessment requests, including: <ul style="list-style-type: none"> (A) maximum capability; and (B) available production and load data, and (iv) engineering studies or equivalent engineering documents, or production or load estimates which are specific to the asset at its location, completed by a qualified professional engineer. | |
| <p>10</p> | <p>(2)</p> | <p>The ISO may accept a request made in accordance with subsection 10(1) on the following:</p> <ul style="list-style-type: none"> (a) the metering or Energy Trading System data during the historical data set evaluated by the ISO did not accurately reflect the available capability of the asset; | |

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| | | <p>(b) the asset has or will undergo a physical change before the start of the obligation period that will increase or decrease the maximum capability of the asset by at least 1 MW; or</p> <p>(c) where the class average data, production or load estimates, or jurisdictional assessment used in calculating the uniform capacity value, in accordance with subsections 6(1)(a)(ii), 6(1)(b) or 6(1)(c), does not create a comparable representation of the asset's future performance.</p> | |
| 10 | (3) | The ISO must notify the capacity market participant of its decision. | |
| | | Declaration and Assignment of Final Uniform Capacity Value | |
| 11 | (1) | A capacity market participant must, in accordance with the timelines specified in the <i>Capacity Market Auction Guidelines</i> declare to the ISO , as applicable, the uniform capacity value within the range identified in subsection 8(1) that it will use for the auction. | |
| 11 | (2) | The ISO must, in accordance with the timelines specified in the <i>Capacity Market Auction Guidelines</i> , notify the capacity market participant of its assigned uniform capacity value . | |

Please provide your comments on the following (as set out in AUC Rule 017 s. 13(b-j)):

| Item # | | Stakeholder comments |
|--------|---|----------------------|
| 1 | whether you agree that the proposed new ISO Rule – Section 206.3, <i>Uniform Capacity Value Determination</i> relates to the capacity market and why or why not | |
| 2 | whether you agree that the proposed new ISO Rule – Section 206.3, <i>Uniform Capacity Value Determination</i> should [or should not] be in effect for a fixed term and why or why not | |
| 3 | whether you understand and agree with the objective or purpose of the proposed new ISO Rule – Section 206.3, <i>Uniform Capacity Value Determination</i> and whether, in your view, the proposed new ISO Rule – Section 206.3, <i>Uniform Capacity Value Determination</i> meets the objective or purpose | |
| 4 | how, in your view, the proposed new ISO Rule – Section 206.3, <i>Uniform Capacity Value Determination</i> affects the performance of the capacity market and the electricity market | |
| 5 | your views on any analysis conducted or commissioned by the AESO supporting the proposed new ISO Rule – Section 206.3, <i>Uniform Capacity Value Determination</i> | |
| 6 | whether you agree with the proposed new ISO Rule – Section 206.3, <i>Uniform Capacity Value Determination</i> taken together with all ISO rules and in light of the principle of a fair, efficient and openly competitive market | |

| Item # | | Stakeholder comments |
|--------|--|----------------------|
| 7 | whether you would suggest any alternatives to the proposed new ISO Rule – Section 206.3, <i>Uniform Capacity Value Determination</i> | |
| 8 | whether you agree that the proposed provisional rule supports ensuring a reliable supply of electricity at a reasonable cost to customers and why or why not | |
| 9 | whether you agree that the proposed provisional rule supports the public interest and why or why not | |

Please provide your views on the type of content that should be included in an information document associated with the proposed new ISO Rule – Section 206.3, Uniform Capacity Value Determination.

Proposed New ISO rule – Section 206.5, *Forward Period Milestone Assessment*

| | | | | | |
|---------------------------|--------------------------------|---------|--------------------|-----------------|-----------------------------|
| Period of Comment: | September 7, 2018 | through | September 28, 2018 | Contact: | Sarah Griffiths |
| Comments From: | EnerNOC, an Enel Group Company | | | Phone: | 416-697-3744 |
| Date [yyyy/mm/dd]: | 2018/09/28 | | | Email: | sarah.griffiths@enernoc.com |

Please provide comments relating to the subsection of the proposed rule in the corresponding box. Please include any views on whether the language clearly articulates the requirement for either the AESO or a market participant, and provide any proposed alternative wording by blacklining the proposed language below.

| Section | Subsection | Proposed language | Stakeholder comments |
|---------|------------|--|---|
| | | Applicability | <ul style="list-style-type: none"> Please Note: The comments below are part of a larger package of comments on the treatment of aggregated load assets and their participation in the capacity market. This package includes a letter to the AESO as well as additional comment matrices. |
| 1 | | Section 206.5 applies to: <ul style="list-style-type: none"> (a) a capacity market participant; and (b) the ISO. | |
| | | Requirements Milestone Assessment | |
| 2 | (1) | The ISO must develop and publish on the AESO website, the critical milestones and associated target completion dates applicable to respective asset classes identified by the ISO . | |
| 2 | (2) | The ISO must prior to each rebalancing auction and in accordance with the timelines prescribed in the <i>Capacity Market Auction Guidelines</i> , determine if an asset with new capacity , incremental capacity, or refurbished capacity that is subject to a capacity commitment has achieved the critical milestones prior to the target completion date in | |

| Section | Subsection | Proposed language | Stakeholder comments |
|---------|------------|--|----------------------|
| | | advance of the rebalancing auction , as applicable. | |
| 2 | (3) | <p>The ISO must, where it has determined under subsection 2(2) that an asset with new capacity has not achieved one or more critical milestones that have target completion dates prior to the date of the applicable rebalancing auction, reasonably determine whether or not such asset will be able to achieve such critical milestone(s):</p> <p>(a) in the case of the first rebalancing auction, within 8 months after the applicable target completion date(s); and</p> <p>(b) in the case of the second rebalancing auction, and in the case of the singular rebalancing auction within the transitional period, within 5 months after the applicable target completion date(s).</p> | |
| | | Unique Asset Classes | |
| 3 | (1) | The ISO may, if it received a project plan for an asset with new capacity pursuant to Section 206.1 of the ISO rules , <i>Qualification of Capacity</i> that is not included in the asset classes set out in subsection 2(1), develop a set of proposed critical milestones and associated target completion dates for such asset. | |
| 3 | (2) | The ISO must notify capacity market participants of its proposed critical milestones and associated target completion dates under subsection 3(1). | |
| 3 | (3) | The ISO may add an asset class with the critical milestones and target completion dates as determined in subsection 3(1) to the list published in accordance with subsection 2(1). | |
| 3 | (4) | The ISO must determine if an asset with new capacity has not achieved one or more critical milestones that have target completion dates prior to the date of the applicable rebalancing auction . | |
| | | Outcome of Milestone Assessment | |
| 4 | | A capacity market participant must, where the ISO has determined under subsection 2 that an asset will not achieve one or more critical milestones, submit a bid in respect of the new capacity , incremental capacity, or refurbished capacity of such asset in accordance with Section 206.4 of the ISO rules , <i>Offers and Bids for the Capacity Market</i> . | |

| Section | Subsection | Proposed language | Stakeholder comments |
|---------|------------|--|--|
| | | Milestone Assessment for Load Assets | |
| 5 | (1) | The ISO must, prior to the last rebalancing auction for each load asset and each aggregated load asset portfolio with new capacity that is subject to a capacity commitment , make a determination of whether the asset will be able to provide a minimum 75% of the capacity commitment based on the supporting evidence submitted pursuant to subsection 5(2). | A benefit of aggregation is to build a portfolio of assets to meet the MW commitment. As outlined in materials provided to the ISO during the SAM Working Groups and the Comprehensive Market Design sessions, the benefit of aggregation occurs when a portfolio is measured as a whole, versus each individual contributor in that portfolio. Therefore, the aggregator needs to ensure that it is able to meet a minimum of 75% of its MW commitment from the contributors it has signed up and tested prior to the last rebalancing auction, but measured at the portfolio level not the contribution level. |
| 5 | (2) | A capacity market participant must submit evidence of sufficient contracted loads to meet the milestone in subsection 5(1) and any other information that the ISO requires. | |
| 5 | (3) | The ISO must notify the capacity market participant of its determination under subsection 5(1). | |
| 5 | (4) | A capacity market participant must, where the ISO has determined under subsection 5(1) that the asset will not be able to achieve the milestone by the last rebalancing auction , submit a bid in respect of the new capacity of such asset in accordance with Section 206.4 of the ISO rules , <i>Offers and Bids for the Capacity Market</i> . | |

Please provide your comments on the following (as set out in AUC Rule 017 s. 13(b-j)):

| Item # | | Stakeholder comments |
|--------|---|----------------------|
| 1 | whether you agree that the proposed new ISO Rule – Section 206.5, <i>Forward Period Milestone Assessment</i> relates to the capacity market and why or why not | |
| 2 | whether you agree that the proposed new ISO Rule – Section 206.5, <i>Forward Period Milestone Assessment</i> should [or should not] be in effect for a fixed term and why or why not | |
| 3 | whether you understand and agree with the objective or purpose of the proposed new ISO Rule – Section 206.5, <i>Forward Period Milestone Assessment</i> and whether, in your view, the proposed new ISO Rule – Section 206.5, <i>Forward Period Milestone Assessment</i> meets the objective or purpose | |
| 4 | how, in your view, the proposed new ISO Rule – Section 206.5, <i>Forward Period Milestone Assessment</i> affects the performance of the capacity market and the electricity market | |
| 5 | your views on any analysis conducted or commissioned by the AESO supporting the proposed new ISO Rule – Section 206.5, <i>Forward Period Milestone Assessment</i> | |
| 6 | whether you agree with the proposed new ISO Rule – Section 206.5, <i>Forward Period Milestone Assessment</i> taken together with all ISO rules and in light of the principle of a fair, efficient and openly competitive market | |
| 7 | whether you would suggest any alternatives to the proposed new ISO Rule – Section 206.5, <i>Forward Period Milestone Assessment</i> | |

| Item # | | Stakeholder comments |
|--------|--|----------------------|
| 8 | whether you agree that the proposed provisional rule supports ensuring a reliable supply of electricity at a reasonable cost to customers and why or why not | |
| 9 | whether you agree that the proposed provisional rule supports the public interest and why or why not | |

Please provide your views on the type of content that should be included in an information document associated with the proposed new ISO Rule – Section 206.5, Forward Period Milestone Assessment.

September 28, 2018

Alberta Electricity System Operator
Calgary Place
2500, 330 - 5th Ave SW
Calgary, AB T2P 0L4

Submitted via email: rules_comments@aeso.ca

Dear AESO:

RE: Clarification – The Participation of Load Aggregation in the Capacity Market

EnerNOC, an Enel Group Company, would like to take this opportunity to provide clarity on the draft provisional market rules and the relationship between the qualification of resources for Qualification of Capacity (206.1), the determination of Uniformed Capacity value (206.3) and Forward Project Milestone (206.5). Currently as the draft provisional rules are written and based off the interpretation by AESO staff at the stakeholder session, an uneven playing field has been created between aggregated loads and other assets.

Prospective Participation – The Sales Plan Approach

Forward capacity markets must make provision for participation for as-yet unbuilt resources, or else they cannot benefit from the competitive pressure brought by new entrants. However, the ISO also needs to be sufficiently sure that the capacity that clears in the auction will be delivered, as otherwise they could be left with a shortage of capacity.

For proposed new-build power plants, almost all markets use three tools:

1. They require a financial guarantee from the project proponent, which will be forfeited if the plant is not commissioned. This is set at a level which should not add too much to total project costs, but will deter unwarranted optimism about construction timelines.
2. They require some evidence of the competence of the proponent to develop the project. This typically consists of paperwork showing that the companies or people involved have successfully delivered broadly similar projects, and details of how the project will be financed.
3. They require a plan, showing how the plant will be constructed in time for the start of the commitment period. Typically there is some sort of monitoring regime during the construction phase, such as quarterly reporting. This allows the market operator to detect if a project is at risk of delay or failure, so that they can investigate more closely, and perhaps require an increased level of financial guarantee, if the proponent insists that the project is still deliverable. If they determine that the project will not be delivered in time, they can procure any necessary replacement capacity in an incremental or rebalancing auction.

These are similar to the steps that the AESO has outlined in the Comprehensive Market Design, and translated into the provisional market rules for new generation. However, this similar approach has not been translated to aggregated loads which use a portfolio approach to meet capacity market commitments.

Capacity markets strive to be technology neutral. Therefore, similar arrangements should be made for aggregated load assets. Aggregators can take on forward capacity commitments and then, once they know the volume required and the price to be paid, recruit a portfolio of customer that can reliably fulfil that obligation.

Included in information provided to the ISO in June 2018, and as outlined below, PJM and ISO-NE both use a 'sales plan' approach for the qualification of aggregated load assets. Great Britain, Ireland and Ontario's Demand Response Auction also follow similar paths as the Northeast US markets.

Examples – Other Jurisdictions

ISO-NE

ISO-NE has the most detailed and thoroughly-documented approach. Before the capacity auction, the ISO requires proponents to submit a New Demand Response Qualification Package. The package includes:

- Details of the source of funding for the business
- A Customer Acquisition Plan which is described as “a description of its plan to acquire customers that includes, but is not limited to, the following information:
 - A description of proposed customer market
 - The estimated size of the target market and supporting documentation
 - A marketing plan with supporting documentation describing the manner in which customers will be recruited
 - Evidence supporting the viability of the marketing plan”
- A Critical Path Schedule which sets out how much of the capacity is expected to be recruited by certain dates, in much the same way as new-build generators submit their proposed construction schedule

If a proponent clears in the auction, they must provide financial assurance, similar to other new entrants.

Participants then submit quarterly progressive reports, showing what customers they have signed up and the cumulative capacity demonstrated in initial tests. As each MW is proven in this way, the financial assurance is progressively released. However the level of financial assurance required per outstanding MW increases shortly before each rebalancing auction, so as to provide an incentive for proponents to prove their capacity ahead of when the ISO has an opportunity to replace it.

Based on draft provisional rule 206.5, Forward Project Milestones, the AESO has recognized the importance of ensuring that MW are committed and tested in advance of the final rebalancing auction for a load asset as outlined in section 5(1), that that asset is able to provide a minimum 75% of the capacity commitment based on supporting evidence.

PJM

Whereas ISO-NE has a very elaborate approach, using every possible mechanism to incentivize and monitor progress, PJM uses a simpler approach, even though over 11,000 MW of demand response were procured in the latest PJM action, including contributors in aggregated portfolios. PJM requires:

- A Sell Offer Plan, giving details of any known customers, and discussion of the methods, equipment and customer acquisition strategies to be used, along with calculations to show that the market is large enough to support the planned level of customer recruitment
- Certification by an officer of the proponent company, confirming that they consider the plan to be accurate and reasonable

There is no monitoring regime – resources simply need to be tested during the delivery year. Although this is quite simple, it works well; PJM has no material problem with demand response not being delivered.

Amendments to Draft Provisional Capacity Market Rules

As outlined in the Matrices, EnerNOC has provided the inclusion of additional sections to the draft provisional market rules to ensure that aggregated load resources are treated in a similar manner to traditional new generation. Overall the edits recommend:

- New aggregated load assets be treated similar to new build generation for qualification. When the portfolio is built to meet the MW commitment from the capacity auction, the portfolio declares whether it is GLR or FCL.
- The proponent should declare the size of their portfolio, similar to a new generator declaring the size of plant they will build. New aggregated load assets declare a uniform capacity value and a financial assurance and a monitoring regime by the ISO ensures that the MW commitment is met by the first day of the obligation period.
- New aggregated load assets follow a similar Forward Project Milestones as new generation, and have to meet the 75% minimum commitment for their portfolio by the 2nd Rebalancing Auction, similar to a load asset.

Further information is available on the prospective approach for aggregated load assets and EnerNOC is able to meet to review the identified issues which will lead to an uneven playing field among assets and the exclusion of a cost-effective resource in the capacity auction, which already exists in the province.

Yours truly,



Sarah Griffiths
EnerNOC, an Enel Group Company