

2 Supply Participation

This section address the requirements and processes for prequalification, self-supply designations and delisting

2.1 Prequalification applications

Prequalification of existing versus new capacity assets

- 2.1.1 A new capacity asset must be prequalified by the AESO in order for such asset to be eligible to participate in a capacity auction. A new capacity asset includes brand new assets, as well as incremental and refurbished capacity assets that meet the qualification thresholds stated in subsections 2.1.12 and 2.1.14 below.
- 2.1.2 All existing generation assets located in Alberta that currently participate in the energy market and have an estimated UCAP equal to or greater than 1 MW will automatically prequalify to participate in the first transitional capacity auction. As described in subsection 10.2.2 of Section 10, *Roadmap for Changes in the Energy and Ancillary Services Markets*, capacity assets with a maximum capability less than 5 MW but greater than or equal to 1 MW will have the option to offer in the energy market.
- 2.1.3 A potential external capacity asset (import) that currently participates in the energy market must submit a prequalification application to the AESO in order to participate in capacity auctions for the first time.

Ineligible assets

- 2.1.4 An asset that is the subject of a renewable electricity support agreement in connection with Renewable Energy Program (REP) Rounds 1, 2 or 3 is not eligible to participate in a capacity auction. There is no requirement for such asset to be prequalified by the AESO.
- 2.1.5 An energy efficiency resource is not eligible to participate in the initial capacity auctions.

General prequalification requirements

- 2.1.6 Parties seeking to have a new capacity asset prequalified by the AESO to participate in a capacity auction must submit a prequalification application to the AESO before a prescribed deadline. The prequalification application must contain:
 - (a) contact information (e.g., the names of the authorized contact person(s) responsible for liaising with the AESO, telephone numbers, registered address and email address of the contact person(s) with respect to the prequalification application);
 - (b) a description of the new capacity asset;
 - (c) a detailed project development and implementation plan that includes:
 - i. an overall project plan for delivery of the new asset, including the commissioning period and target in-service date;
 - ii. a project timeline (e.g., Gantt chart, or similar schedule diagram) with an in-service date that is no later than the start of the obligation period for a capacity auction that the party is seeking prequalification for;
 - iii. a concise supporting narrative describing the basis for expectations and rationale for such timeline;
 - iv. the current status of the project's progression along the timeline, and key activities and major milestones that have been completed to date;

- v. the critical path(s) in the timeline and the major milestones that form each critical path (such as environmental studies, construction permits, procurement lead times for critical equipment) and the key elements to be completed, addressed or achieved within the critical path;
 - vi. start/end dates and durations of key activities and dates of major milestones that have not been completed; and
 - vii. if applicable, any required distribution system connection approvals or agreements, including any which have already been attained and identification of the connecting authority and distribution facility owner involved with such activities.
- (d) evidence that the new capacity asset has an estimated UCAP equal to or greater than 1 MW;
 - (e) evidence that the new capacity asset meets the asset-specific requirements set out in subsections 2.1.7 to 2.1.14, as required;
 - (f) evidence that the legal owner of the new capacity asset can satisfy security requirements set out in subsection 2.1.15; and
 - (g) such other information and evidence that the AESO deems necessary.

Asset-specific prequalification requirements

- 2.1.7 If a capacity asset or aggregated capacity asset falls into more than one of the following asset-specific categories, the prequalification requirements in each asset-specific category will apply to the asset.
- 2.1.8 ***Demand response assets.*** A demand response asset is eligible to participate on the supply side of the Alberta capacity market. However, export is not considered a valid demand response asset. A prequalification application for a demand response asset must include:
- (a) evidence that the demand response asset is or will be a retail or self-retail asset belonging to a valid pool participant;
 - (b) a description of:
 - i. the type of demand response (i.e., guaranteed load reduction or firm consumption level);
 - ii. how the demand response asset will reduce demand during a delivery period and by how much;
 - iii. who the likely contributors (sites) are and how and when they will be procured¹; and
 - iv. the data acquisition procedure.
 - (c) evidence of the contributors volume for up to at least 75% of the assets obligation, to be provided to the AESO prior to the second rebalancing auction for the obligation period.
 - (d) if the asset provides firm consumption level demand response, an estimate of the qualified baseline:

¹ Demand response aggregators will be required to maintain records for all contributors as well as activation notices sent to their contributors specifying the start time, stop times, and dates of demand response activations, in addition to a record of contributors demonstrating the eligible portion of the demand response asset that the contributor is providing to the demand response aggregator.

- i. for new loads with no consumption history in Alberta, the qualified baseline will be declared by the applicant; or
 - ii. for existing sites with consumption history in Alberta, the qualified baseline will be determined based on historical consumption data of the component site(s).
- (e) one of the following:
- i. a firm consumption level that the capacity asset will reduce to when dispatched; or
 - ii. a proposed UCAP representing the guaranteed load reduction.
- (f) the proposed date for a physical commissioning test that demonstrates the control systems and processes for dispatch, and also checks that a relationship exists between the provider and the contributing resource(s) that results in reduced load; and
- (g) site IDs, if the demand response asset is existing load.

2.1.9 **External capacity assets.** An external capacity asset will be an import asset and may prequalify to participate in the Alberta capacity market. A prequalification application for an external capacity asset must include:

- (a) evidence of firm transmission service from the external capacity asset to the border of Alberta;
- (b) evidence that the external capacity asset, or portions thereof which are seeking to participate in the capacity market, will not be used as non-recallable assets in another resource adequacy program in any other jurisdiction; and
- (c) evidence from the balancing authority in which the asset is located that capacity deliveries from the external asset will only be curtailed on a pro-rata basis when firm load is curtailed in the balancing authority.

2.1.10 **Storage assets.** A storage asset may prequalify to participate in the Alberta capacity market. A prequalification application for a storage asset must include evidence that the asset can maintain its energy production at its estimated UCAP level for at least 4 hours.

2.1.11 **Aggregated capacity assets.** Separate resources in multiple locations may aggregate and participate in the Alberta capacity market as a single asset, including assets which have a UCAP less than 1 MW. A single capacity market participant will act on behalf of the resource components of the aggregate. If the aggregated capacity asset is comprised of individual component resources in multiple load settlement zones, a retail asset must be created for each settlement zone and the aggregated capacity asset is then the aggregation of the retail assets. All sites within the retail asset will be considered individual component resources for the aggregated capacity asset. The capacity of individual component resources within the aggregation cannot be offered separately into a capacity auction.

A prequalification package for an aggregated capacity asset must include:

- (a) an itemized list of all the confirmed or possible individual component resources of the aggregated asset;
- (b) evidence that the estimated sum of the UCAP ratings for individual component resources is equal to or greater than the minimum UCAP size of 1 MW and less than the maximum UCAP size equal to the largest existing generating asset UCAP;
- (c) evidence that individual component resources of the aggregated capacity asset meet the necessary asset-specific requirements based on its fuel type; and
- (d) evidence that each individual component resource of the aggregated capacity asset has or will have appropriate interval metering.

2.1.12 **Refurbished capacity asset.** A capacity asset is a refurbished capacity asset if any of the following apply prior to the start of the obligation period for a capacity auction:

- (a) retrofits have been made to the capacity asset that will result, by the commencement of the obligation period, in an increase in maximum capability by an amount exceeding the greater of:
 - i. 15% of the capacity asset's most recent maximum capability; or
 - ii. 40 MW above the capacity asset's most recent maximum capability;

or,

- (b) the amount of capital required to retrofit the capacity asset will be equal to or greater than \$200 per kilowatt of the whole capacity asset's most recent maximum capability after refurbishment multiplied by the current capital cost escalation rate. Investment costs may include the costs associated with reactivating a capacity asset that was previously temporarily delisted and in which investment in the asset was undertaken prior to reactivation.

A prequalification package for a refurbished capacity asset must include the cost data associated with the project in sufficient detail to allow the AESO to determine whether the relevant cost threshold is met. A corporate officer must attest that the submitted costs for refurbishment are accurate.

2.1.13 If a capacity market participant that is subject to capacity market power mitigation submits a prequalification application to refurbish one or more of its assets, it must indicate as part of the prequalification application for each asset from the options below what it intends to do if the asset fails to clear the capacity auction:

- (a) permanently physically delist the refurbished capacity asset; or
- (b) not permanently delist the refurbished capacity asset (i.e., continue to operate) and submit in the auction an unmitigated, inflexible single block offer and, an additional offer to be used in the capacity auction at or below the mitigated offer price in the event the unmitigated offer does not clear.

In other words, if a capacity market participant that is subject to capacity market mitigation chooses option (b) it must submit two independent offers into the capacity auction: one inflexible single block offer based on the desired price needed to refurbish (i.e., the unmitigated offer), the other based on the price the capacity market participant would have submitted had they not submitted a refurbishment plan (i.e., the mitigated offer). As described in subsection 5.8.4 of Section 5, *Base Auction*, the auction will use a multi-stage clearing mechanism taking into account the unmitigated offer first. If the unmitigated offer does not clear, then the mitigated offer is used.

A capacity market participant will only be able to offer in this manner a maximum of one time before the end of the asset life. That is, a capacity asset which elects option (b) and then does not clear will not be able to select that option again for future auctions. In any future auctions, should the capacity market participant re-file a prequalification application to refurbish, the capacity market participant must choose option (a) and permanently delist the asset if it fails to clear in the auction.

2.1.14 **Incremental capacity asset.** The capacity market participant may elect to add an increase in UCAP in association with an increase in maximum capability above that used to calculate the asset's most recent UCAP. Such incremental volume will not be subject to market power mitigation in accordance with Section 7, *Capacity Market Mitigation and Monitoring*, if the increase in the capacity asset's most recent maximum capability is 1 MW or greater.

A prequalification application for an incremental capacity asset must include:

- (a) the new maximum capability in whole number MW that is at least 1 MW greater than the current maximum capability registered with the AESO; and
- (b) an indication should the asset fail to receive an obligation in the auction as to whether the asset's maximum capability reverts back to the previous registered value or will remain as declared in the prequalification application.

In the event that the incremental capacity asset fails to clear the auction and receive an obligation, and the capacity market participant chooses to use the maximum capability declared in the prequalification application for future capacity auctions, the incremental capacity will:

- (a) be subject to the must offer requirement for future capacity auctions; and
- (b) remain unmitigated until it clears a future auction and receives an obligation.

Security requirement for a new capacity asset

2.1.15 A capacity market participant must post security for a new asset before the asset can participate in its first capacity auction. As described above in subsection 2.1.1, a new capacity asset includes brand new assets, as well as incremental and refurbished capacity assets that meet the qualification thresholds stated in subsections 2.1.12 and 2.1.14. Given the cost and increase in UCAP thresholds required to qualify as a new asset, refurbishments projects are deemed new assets and will be required to provide security in order to mitigate the delivery risk.

The amount of security will be calculated in accordance with the following formula:

- (a) Security requirement for brand new assets = $(\text{CONE} * 1/\text{CRF}_{\text{new}}) * 5\%$ where CONE equals the gross CONE value used for the reference unit in the demand curve determination; and $\text{CRF} = \frac{i(1+i)^n}{[(1+i)^n]-1}$, where i = discount rate used in the gross CONE determination and n = 20 year plant life.
- (b) Security requirement for refurbished assets = $\$200/\text{kW} * \text{escalation rate} * 5\%$.
- (c) Security requirement for incremental assets = $\$100/\text{kW} * \text{escalation rate} * 5\%$.

As the asset demonstrates achievement of project milestones progressing toward commercial operation for the obligation period, the security requirement will decline. The declining security requirement will be calculated as follows:

- (a) Security requirement rate = security requirement divided by maximum number of auctions before the obligation period.
- (b) Declining security requirement = security requirement rate * obligation * number of remaining auctions before the obligation period.

The full financial security will not be returned to the capacity market participant until the asset attains commercial operation to the obligation volume.

Guidelines governing payment for the security requirement for new capacity assets is described in subsection 9.6 of Section 9, *Settlement and Financial Security Requirements*.

Prequalification of a new capacity asset

2.1.16 The AESO will review all complete prequalification applications submitted within the timelines prescribed in the auction guidelines. The AESO has the right to verify any information in a prequalification application, including technical, financial, and operational data, through audits, requests for additional information, site visits and any other means that it deems necessary.

2.1.17 The AESO will prequalify a new capacity asset that meets:

- (a) the minimum size requirement of 1 MW;
- (b) the evidentiary requirements set out in subsections 2.1.6 to 2.1.14, as applicable; and

- (c) the security requirements for a new capacity asset set out in subsection 2.1.15.
- 2.1.18 The AESO must notify all applicants of the prequalification results. Prequalified capacity assets will proceed to the qualification period. Please refer to Section 3, *Calculation of Unforced Capacity (UCAP) Ratings* for more information.

Prequalification for subsequent auctions

- 2.1.19 A prequalified capacity asset will remain prequalified for each subsequent capacity auction unless:
- (a) the capacity market participant loses capacity market participant status; or
 - (b) the capacity market participant:
 - i. fails to submit sufficient evidence to the AESO that certain project milestones have been achieved during the forward period;
 - ii. performs retrofits to the asset that meet or exceed the thresholds for a refurbished capacity asset in subsection 2.1.12 or the thresholds for an incremental capacity assets in subsection 2.1.14;
 - iii. changes its self-supply designation;
 - iv. delists the asset; or
 - v. for an external capacity asset, no longer holds firm transmission for the obligation period for the UCAP of the asset.

2.2 Self-supply designations

- 2.2.1 The following are required to self-supply capacity:
- (a) the City of Medicine Hat;
 - (b) a site with onsite generation² that is only net-metered;³ and
 - (c) a site with onsite generation that is net-metered and cannot physically flow its gross volumes due to system connection limitations.
- 2.2.2 A site where load is served by on-site generation that can physically flow its gross volumes to the interconnected electric system has the option to self-supply capacity if it has a bi-directional net-interval meter at the connection point to the interconnected electric system. Legal owners seeking a self-supplier designation must submit a request to the AESO within the timelines prescribed in the auction guidelines.
- 2.2.3 The AESO will review self-supply designation requests and approve those that meet the criteria in subsection 2.2.2. Self-supply designations will remain in effect for at least 4 years. Self-suppliers may submit a change in self-supply status inside of 4 years provided the participant can demonstrate a physical change to the operation of the site. Sites who intend to self-supply or no longer self-supply must declare its intention to the AESO within the timelines prescribed in the auction guidelines.
- 2.2.4 The AESO will determine the volume of self-supply capacity by subtracting the sites' net load from its gross load in the 250 tightest supply cushion hours per year for the past 5 years. If the net load equals zero the entire site load is self-supplied.

² Sites with onsite generation include Industrial System Designation sites and sites under the Duplication Avoidance Tariff.

³ Net meters measure electricity at the connection to the grid. Gross meters measure electricity at the electric terminus of the generator.

- 2.2.5 The excess load (i.e., net load) in a self-supply arrangement may apply to the AESO to prequalify as a demand response asset, in accordance with subsection 2.1.8. However, a self-supply site cannot participate as both a demand response asset and a generating capacity asset in the same obligation period.

2.3 Delisting

- 2.3.1 A capacity market participant with an asset that is unable to participate in the Alberta capacity, energy and ancillary services markets for physical or economic reasons must submit a temporary delist request or a permanent delist notification, as applicable, to the AESO within the timelines prescribed in the auction guidelines.
- 2.3.2 A capacity market participant with an asset that is currently on an extended mothball outage pursuant to Section 306.7 of the ISO rules, *Mothball Outage Reporting* must submit a temporary delist request or permanent delist notification if they want to remain mothballed for the first applicable capacity obligation period.

AESO review of impacts to the reliability of the interconnected electric system

- 2.3.3 The AESO may conduct a reliability review for a temporary delist requests or a permanent delist notification to determine whether the capacity associated with such delist is needed to maintain the reliability of the interconnected electric system during the obligation period (e.g., thermal overloads, voltage, etc.).
- 2.3.4 The AESO will only review impacts on supply adequacy to assess whether there is sufficient amount of capacity available to ensure the minimum target on the demand curve is met. If the results of the reliability review identify reliability concerns, the AESO may consult with the capacity market participant who submitted the request prior to finalizing its assessment of the temporary delist request or permanent delist notification.

Temporary delist request for economic reasons

- 2.3.5 A capacity market participant may submit a temporary economic delist request to the AESO during the prequalification period for the second rebalancing auction for the corresponding obligation period. The capacity market participant must specify the capacity proposed to be economically delisted and provide net avoidable cost information for further assessment, as outlined in subsection 7.1.10 of Section 7, *Capacity Market Monitoring and Mitigation*. A corporate officer must attest that the submitted costs for the economic delist or the outage durations for physical delists are accurate.
- 2.3.6 In addition to completing the reliability review described in subsection 2.3.3, the AESO will, for each request as per subsection 2.3.5 above, review and approve the net avoidable cost information based on whether such costs are economically justifiable. The temporary economic delisting request must include the avoidable cost data that the economic delisting decision was based upon and a corporate officer's attestation to the accuracy of the avoidable cost data.
- 2.3.7 A capacity asset may temporarily economically delist from the capacity market but choose to participate in the energy and ancillary services markets for no more than 5 continuous months in the same obligation period. The temporary economic delist request must specify which continuous months during the obligation period the capacity asset would be participating in the energy and ancillary services markets. The avoidable cost data associated with the temporary economic delist request must account for the fact that the capacity asset will be online for the specified period in the obligation period.
- 2.3.8 The AESO will allow temporarily economically delisted capacity assets to delay the start of the outage or return to the energy market before the end of its outage term if: the AESO determines an immediate need, on a short term basis, for services provided by certain assets to maintain the necessary level of reliability or adequacy and there is a high probability that the situation cannot be alleviated through the ordinary course operation of the energy market.

- 2.3.9 The AESO will determine a UCAP for a capacity asset that temporarily economically delists and has an outage duration that is adjusted due to the circumstances listed in subsection 2.3.8. The UCAP will be for use in asset substitution for the period of time the capacity asset is available to produce energy during the obligation period resulting from a return to service related to the circumstances listed in subsection 2.3.8.
- 2.3.10 If the AESO approves the avoidable costs, the capacity market participant must offer at the net avoidable costs of the capacity asset into the capacity auction. If the capacity asset does not clear the auction, the capacity market participant will be required to temporarily delist the capacity asset for the obligation period for which the capacity auction is conducted. That is, the capacity asset must be removed from the energy and ancillary service markets for the obligation period, except for the period specified in the temporary delisting request when the capacity asset will be made available to provide energy and ancillary services in accordance with subsection 2.3.7.
- 2.3.11 A capacity asset may not economically delist for more than two consecutive obligation periods. A capacity market participant must submit a temporary delist request for each capacity auction.
- 2.3.12 Any capacity obligations attributed to a capacity asset that temporarily economically delists will continue to be attributable to the capacity asset. Unless the obligations are offset through the repricing bids in a rebalancing auction as described in Section 6, *Rebalancing Auctions*, the capacity asset will be subject to the supply obligations noted in Section 8, *Supply Obligations and Performance Assessments*.

Temporary delist request for physical reasons

- 2.3.13 A capacity market participant must submit a temporary physical delist request during the prequalification period of a capacity auction if it is expected that the capacity asset will be physically unavailable to meet its obligation for a period equal to or greater than 5 continuous months in any one obligation period. A temporary physical delist request must include:
- (a) an explanation of the physical limitation accompanied by supporting documentation as evidence of one or more of the following:
 - i. a significant physical operational restriction;
 - ii. major repair(s) that will extend into the applicable obligation period for more than 5 continuous months. Temporary delisting for physical reasons will not be allowed if the capacity asset is physically unavailable to meet its obligation for a period less than 5 continuous months in any one obligation period;
 - iii. an order, decision, final rule, opinion or final directive from a regulatory authority specifically mandating the retirement or derating of the capacity asset; or
 - iv. asset retirement beginning part-way through an obligation period;
- or,
- (b) a written, sworn and notarized statement of a corporate officer certifying that a new capacity asset, which did not clear in the capacity auction for the obligation period prior to the obligation period of the relevant capacity auction, will not be in full commercial operation prior to the upcoming obligation period.
- 2.3.14 The AESO will approve a temporary physical delist request if the AESO is satisfied that the capacity asset is physically unable to function for a period equal to or greater than 5 continuous months in any one obligation period. An approved temporary physical delist request for physical reasons for a portion of an obligation period will delist the capacity asset from the capacity market for the entire obligation period. The capacity asset will be required to participate in the energy and ancillary services market for the remainder of the obligation period not included in the temporary physical delist request.
- 2.3.15 The AESO will allow temporarily physically delisted capacity assets to delay the start of the outage or return to the energy market before the end of its outage term if the AESO determines

an immediate need on a short term basis for services provided by certain source assets to maintain the necessary level of reliability or adequacy, and there is a high probability that the situation will not be alleviated through the ordinary course operation of the energy market.

- 2.3.16 The AESO will determine a UCAP for a capacity asset that temporarily physically delists and has an outage duration that is adjusted due to the circumstances listed in subsection 2.3.15. The UCAP will be for use in asset substitution for the period of time the capacity asset is available to produce energy during the obligation period resulting from a return to service related to the circumstances listed in subsection 2.3.15.
- 2.3.17 A capacity market participant will not be allowed to temporarily delist a capacity asset for physical reasons for more than two consecutive obligation periods.
- 2.3.18 Any capacity obligations attributed to a capacity asset that temporarily physical delists will continue to be attributable to the capacity asset. Unless the obligations are offset through the repricing bids in a rebalancing auction as described in Section 6, *Rebalancing Auctions*, the capacity asset will be subject to the supply obligations noted in Section 8, *Supply Obligations and Performance Assessments*.

Permanent delist notifications

- 2.3.19 A capacity market participant may submit a permanent delist notification to the AESO during the prequalification period of a capacity auction, excluding however, during the last rebalancing auction for the corresponding obligation period. Once the permanent delist notification is received by the AESO it cannot be withdrawn.
- 2.3.20 A capacity market participant that is currently participating in the energy market and is intending to permanently delist, if the asset has a must offer requirement in the energy or ancillary services markets, must participate in the energy market until the physical retirement of the asset.
- 2.3.21 An external capacity and demand response assets which permanently delist may re-enter the capacity market by submitting a prequalification application for a new asset.
- 2.3.22 The AESO will review each permanent delist notification for reliability concerns as outlined in subsection 2.3.3. If there are no reliability concerns, the capacity asset (or portion of such asset) will be required to fully and permanently retire and will not be eligible to participate in any capacity auctions.

Reporting of delisted MW

- 2.3.23 Ahead of a capacity auction, the AESO will publish on its website the total delisted MW differentiating between permanent and temporary delists.

2.4 Physical bilateral transactions

- 2.4.1 A physical bilateral transaction is a contractual arrangement between a load market participant and a capacity asset which leverages the transmission or distribution system to physically delivery of all or a portion of the load's capacity needs, removing both the supply and demand volumes from the AESO administered capacity market. Physical bilateral transactions will not be permitted; however, a site may choose to self-supply capacity provided the site is eligible to self-supply as described in subsection 2.2 above.