



**COMPLAINT REGARDING SECTION 306.7 OF THE
INDEPENDENT SYSTEM OPERATOR RULES**

March 16, 2018

I. INTRODUCTION

1. This is a complaint by the Market Surveillance Administrator (the “MSA”) under Section 25(1.1) of the *Electric Utilities Act*¹ (“EUA”) concerning Section 306.7 (Mothball Outage Reporting) in Division 306 (Outages and Disturbances) in Part 300 (System Reliability and Operations) of the Independent System Operator Rules (the “ISO Rules”).²
2. Section 25(1.1) of the *EUA* authorizes the MSA to complain to the Alberta Utilities Commission (the “Commission”) about an ISO Rule on any of the grounds cited in paragraph 4 below. Section 39(3)(c) of the *Alberta Utilities Commission Act*³ (“AUCA”) requires the MSA, in carrying out its statutory mandate, to assess whether or not “the ISO rules are sufficient to discourage anti-competitive practices in the electric industry and whether or not the ISO rules support the fair, efficient and openly competitive operation of the electricity market.”
3. ISO Rule Section 306.7 was implemented on an expedited basis by the Alberta Electric System Operator (the “AESO”) on June 7, 2016 and has not been the subject of either a full consultation or a Commission proceeding to date. Section 306.7 is known as the Mothball Rule and will be referred to herein either as such or as the “MBR”.
4. The term “mothball” as defined in the AESO’s Consolidated Authoritative Document Glossary⁴ (“CADG”) means a reduction in the available capability of a source asset which is anticipated and occurs as a result of deliberate manual action and is not a planned outage.
5. The MSA is satisfied under Section 25(1.1) that in its present form the Mothball Rule:
 - (a) does not support the fair, efficient and openly competitive operation of the market;
 - (b) is not in the public interest; and
 - (c) may have an adverse effect on the structure and performance of the market.

¹ *Electric Utilities Act*, SA 2003, c E-5.1.

² Alberta Electric System Operator, ISO Rules, online: <www.aeso.ca/rules-standards-and-tariff/iso-rules/complete-set-of-iso-rules/> (the “ISO Rules”) at Section 306.7.

³ *Alberta Utilities Commission Act*, SA 2007, c A-37.1.

⁴ Alberta Electric System Operator, Consolidated Authoritative Document Glossary, online: <www.aeso.ca/rules-standards-and-tariff/consolidated-authoritative-document-glossary/> (the “CADG”).

II. WHAT IS THE MBR?

6. Prior to promulgation of the Mothball Rule, physical withholding was only permissible in the event of an Acceptable Operating Reason, or AOR, which the AESO defined in the CADG to mean any one or more of the following:
 - (a) a circumstance related to the operation of a generating source asset which if it operated could reasonably be expected to affect the safety of the source asset, the environment, personnel working at the source asset or the public;
 - (b) re-positioning a generating source asset within the energy market due to the need to meet a dispatch given to that source asset from the ISO to serve the stand-by operating reserves market;
 - (c) re-positioning a generating source asset within the energy market to manage physical or operational constraints associated with the source asset;
 - (d) re-positioning a pool asset that is an import asset or an export asset within the energy market to manage physical or operational constraints associated with an interconnection or a neighbouring balancing authority;
 - (e) a circumstance directly resulting in the generating source asset not being capable of operation, which circumstance was solely caused by an occurrence of force majeure; or
 - (f) re-positioning a generating source asset for electric energy that is:
 - (i) produced on the property of which a person is the owner or a tenant; and
 - (ii) consumed solely by that person and solely on that property.⁵
7. Following a stakeholder review process in 2004-2005, the Alberta Department of Energy (“ADOE”) had observed in a policy paper dated June 6, 2005 that there was at that time “no must offer requirement in the Alberta market, which causes uncertainty about available supply and raises reliability and market power concerns”.⁶ To address those issues and

⁵ CADG, “acceptable operational reason”.

⁶ Alberta Department of Energy, “Alberta’s Electricity Policy Framework: Competitive – Reliable – Sustainable, June 6, 2005, online: < www.assembly.ab.ca/lao/library/egovdocs/2005/aleo/152057.pdf> (the “DOE Policy Framework”) at page 25.

concerns the ADOE recommended that “all available volume must be offered and the total volume must not be restated except for physical operational reasons”.⁷

8. After implementation of that recommendation, all available capacity was thereafter required to be offered into the market.⁸ This requirement is generally referred to as the “must offer, must comply” rule, or “MOMC”. The AESO has previously described this rule as “obligating generators to offer all their available electricity supply into the wholesale market and to comply when supply is dispatched. These rules prevent the physical withholding of supply.”⁹
9. The MOMC requirement does not require uneconomic units to generate electricity. In addition to the option of permanently retiring a unit and cancelling the transmission system access service, the market structure allows asset owners to price high in the merit order as a means of mitigating or avoiding unprofitable operations. Reliability and other market concerns, however, require owners to be ready and able to operate, other than in the event of an AOR, and to offer into the market between \$0.00 and \$999.99.
10. Section 2(f) of the *Fair, Efficient and Open Competition Regulation*¹⁰ (“*FEOC Regulation*”) ensures that market participants offer all electric energy from units that are capable of operating to the power pool, except when it is being used for self-supply or ancillary services:

2 Conduct by a market participant that does not support the fair, efficient and openly competitive operation of the market includes the following:

[...] (f) not offering to the power pool all electric energy from a generating unit that is capable of operating, except where

⁷ DOE Policy Framework, at pages 25 – 26.

⁸ ISO Rules, at Section 203.1.

⁹ Capital Power Corporation, Letter to Mr. William Chow, Alberta Electric System Operator re: AESO Correspondence to Stakeholders Regarding Amended Process Schedule to Address Mothball Outages and Related Issues – Cancellation of October 17, 2016 Working Session, October 28, 2016, online: <www.aeso.ca/assets/Uploads/Capital-Power-Final-Written-Comment-Mothball-Phase-2.pdf> at page 2, footnote to AESO website <https://www.aeso.ca/aeso/glossary-of-terms/> “Must offer, must comply”.

¹⁰ *Fair, Efficient and Open Competition Regulation*, Alta Reg 159/2009.

- (i) the electric energy is used on property for the market participant's own use,
 - (ii) the electric energy has been accepted by the ISO for the provision of ancillary services, or
 - (iii) the Electric Utilities Act, its regulations or the ISO does not require the electric energy to be offered. [*Emphasis added*]
- 11. The Mothball Rule has effectively become an exemption under 2(f)(iii) of the *FEOC Regulation*, since the AESO has determined or implied that it does not require the electric energy to be offered, simply by virtue of permitting units to be mothballed upon the owner complying with the notice requirements in the MBR.
- 12. The Mothball Rule enables market participants to physically withhold capacity by taking their generating units offline for a period of up to 24 months (which the AESO can agree to extend under Section 4(2) of the MBR) for non-operational (or in fact any) reasons simply by complying with the 3-month advance notice (lead time) requirement in Section 3(3) of the MBR. Moreover, the MBR gives an option to cancel the mothball outage and return their unit to service by providing three months' notice under Section 4(1) of the MBR.
- 13. Under the MBR, the AESO may cancel a mothball outage for supply adequacy reasons; however, under Sections 5 and 6 of the MBR, the AESO is not permitted to do so unless it completes a detailed process to demonstrate an immediate need for the source asset for purposes of system reliability or adequacy.
- 14. Unlike in other markets as discussed below, the MBR requires the generator to provide mothball dates and duration only. It does not include or require, for example:
 - (a) a mandatory reliability test prior to the outage;
 - (b) an economic test whereby the generator must show that the unit is not profitable or that it will not be profitable over the term of the mothball outage; nor
 - (c) a requirement to cancel a mothball outage pursuant to any economic test (such as prolonged power pool prices above the variable cost of a unit).

15. Further, the MBR does not require the AESO to post the notification of the proposed mothball event and any relevant economic and reliability studies and data for comment either by market participants or the MSA prior to approval of the mothball outage. Other market participants, the MSA, consumer groups, and the Commission are not provided any opportunity to comment on the reliability impact of the proposed mothball or the potential anti-FEOC outcomes of a particular mothball request prior to the mothball outage going into effect.
16. Nor does the MBR require the AESO or the owner to notify or otherwise inform the market of how long it would take for an asset to return to the market nor is it clear how the market will be notified upon a direction by the AESO to cancel a mothball outage under Section 6(5) of the MBR.
17. The MBR's detailed process to bring a mothballed unit back and to issue a cancellation directive stands in stark contrast to the non-rigorous process in the MBR by which a mothball outage is implemented in the first place. The Commission should assess the MBR to ensure that the MBR has checks and balances provided therein to ensure reliability, adequate market transparency, power pool price fidelity, and precautions to prevent anti-competitive conduct.

III. HISTORY OF THE MBR

18. On March 23, 2016, Maxim Power suspended electricity generation at the H.R. Milner Generating Facility ("Milner") due to low Alberta power prices and resulting unprofitability of operations. The Milner plant offered 144 MW, which was a level of capacity not material to system reliability, pool prices, forward markets or investments in, or entry into, the market. This outage was announced before the Mothball Rule was developed and provided the impetus for the development of the rule.
19. The MSA received drafts of the Mothball Rule from the AESO on May 5 and May 26, 2016, and provided comments to the AESO in writing on May 9, 2016 (suggesting a temporary MBR) and May 30, 2016 (asking for clarification regarding the timing to cancel an outage and about issues relating to the AESO directing that a unit be returned to service).

20. The MSA met with the AESO on April 20, 2016 to discuss a draft Mothball Rule, at which time the MSA expressed concerns with the AESO's proposal to use the long lead time framework as an interim measure for mothballing. The MSA met with the AESO again on May 6, 2016 to provide comments and suggestions on the May 5, 2016 draft rule.
21. On June 1, 2016, the AESO submitted a filing to the Commission related to the implementation of the Mothball Rule on an expedited basis, pursuant to the expedited rules provision of the *EUA* (Section 20.6) and AUC Rule 017.¹¹ The Mothball Rule was stated to take effect June 7, 2016. In the AESO's June 1, 2016 filing, the AESO stated that:

The AESO is filing the Expedited Mothball Outage Changes as an interim measure. Upon implementation of the Expedited Mothball Outage Changes, the AESO will initiate a comprehensive review of the requirements relating to outages, including mothball outages, which will include market participant engagement and a full consultation process under AUC Rule 017.¹²
22. Section 20.6(4) of the *EUA* states that the Commission must publish notice of an expedited rule as soon as possible and not later than 5 days from the day of filing. The Commission issued a disposition letter in the proceeding on June 7, 2016 confirming that the AESO's filing was complete but affirming that the expedited rule was an interim measure to be followed by a full consultation.¹³
23. The Commission also noted that one market participant had expressed concerns about the necessity and appropriateness of the rule and stated that if the MSA or any market participant had concerns or issues with the rule, they could make a complaint to the Commission under Section 25 of the *EUA*.¹⁴ Section 25 permits both the MSA and market participants to complain about ISO Rules.
24. Stakeholder consultation about the MBR subsequently ensued. There were two phases of consultation announced with respect to the rule: whether a Mothball Rule should be a

¹¹ Alberta Utilities Commission Proceeding No. 21672 ("Proceeding 21672"), Exhibit 21672-X0001, AESO Expedited Notice of Filing – Mothball Outage Changes, June 1, 2016.

¹² Proceeding 21672, Exhibit 21672-X0001, at page 1.

¹³ Proceeding 21672, Alberta Utilities Commission Disposition Letter, June 7, 2016, at page 1.

¹⁴ Proceeding 21672, Alberta Utilities Commission Disposition Letter, June 7, 2016, at pages 1 – 2.

permanent feature of the Alberta market and if so, what issues should be in scope for the review.

25. The AESO held its first stakeholder meeting on Mothball Rule issues on July 25, 2016. In that meeting the AESO laid out its proposed plans for the framework and scope of the rule review. In a slide presented at the meeting, the AESO stated that:

Section 306.7 was developed as an interim means to ensure mothball outages are undertaken in a transparent, reliable and FEOC manner pending a further a comprehensive review of mothball outages and related issues.¹⁵

26. The AESO also recognized that “[n]one of these ISO Rules were intended to address mothball outages. Previously, market participants taking a mothball outage would not meet the intent of the ISO Rules.”¹⁶
27. On September 16, 2016 each of ATCO Power (“ATCO”), Capital Power Corporation (“Capital Power”), ENMAX Corporation (“ENMAX”), TransAlta Corporation (“TransAlta”) and TransCanada Energy Ltd. (“TransCanada”) submitted differing comments to the AESO, with Capital Power advocating withdrawal of the MBR.¹⁷ The consumer representative agencies such as the Utilities Consumer Advocate (“UCA”), the Industrial Power Consumers Association of Alberta (“IPCAA”) and Alberta Direct Connect Consumers Association (“ADC”) did not provide written comments.¹⁸
28. The AESO held a Mothball Rule working session on September 23, 2016, stating that the purpose of the session was “to gather input from stakeholders on whether mothball outages are an appropriate mechanism in Alberta’s market design framework.”¹⁹

¹⁵ AESO Stakeholder Update on Mothball Outages Presentation, July 25, 2016, online: <www.aeso.ca/assets/Uploads/Presentation-for-AESO-Stakeholder-Session-re-Mothball-Outages-2016July26.pdf> (“AESO July 25 Presentation”), at slide 9.

¹⁶ AESO July 25 Presentation, at slide 3.

¹⁷ These stakeholder comments can be found online at: <www.aeso.ca/rules-standards-and-tariff/consultation/mothballing/>

¹⁸ The MSA submits that at this point it would be beneficial for consumer representatives to have a further opportunity to provide their perspectives to the Commission.

¹⁹ AESO Working Session on Mothball Outages Presentation, September 23, 2016, online: <www.aeso.ca/rules-standards-and-tariff/consultation/mothballing/> (“AESO Sept 23 Presentation”), at slide 3.

29. On October 28, 2016, ATCO, TransCanada, and Capital Power submitted final comments on the Mothball Rule.²⁰ Capital Power opposed the Mothball Rule, equating mothballing to physical withholding and stating concerns about reliability, wholesale market price fidelity, market power, anti-FEOC prices and barriers to entry/exit.²¹
30. On April 19, 2017, during the period of consultation, TransAlta announced that it would be retiring its Sundance 1 unit and, pursuant to the MBR, mothballing its Sundance 2 facility effective January 1, 2018.²² On December 6, 2017, TransAlta announced it would mothball three additional Sundance units:
 - (a) Sundance Unit 3 on April 1, 2018 for a period of up to two years;
 - (b) Sundance Unit 5 on April 1, 2018 for a period of up to one year; and
 - (c) Sundance Unit 4 on April 1, 2019 for a period of up to two years.²³
31. The combined effect of TransAlta's use of the MBR would be the exit of capacity of 1,054 MW from the market, a significant quantity. Owners of other thermal generating units could employ the MBR to mothball other plants as well.
32. On September 14, 2017, the AESO held another Mothball Rule working session, providing an overview of the interim Mothball Rule and soliciting feedback. At this meeting the AESO stipulated that comments pertaining to a future capacity market in Alberta were deemed to be out of scope.²⁴

²⁰ These stakeholder comments can be found online at: www.aeso.ca/rules-standards-and-tariff/consultation/mothballing/

²¹ Capital Power Corporation, Letter to Mr. William Chow, Alberta Electric System Operator re: AESO Correspondence to Stakeholders Regarding Amended Process Schedule to Address Mothball Outages and Related Issues – Cancellation of October 17, 2016 Working Session, October 28, 2016, online: www.aeso.ca/assets/Uploads/Capital-Power-Final-Written-Comment-Mothball-Phase-2.pdf.

²² TransAlta News Release, "TransAlta Board Approves Plan for Accelerating Transition to Clean Power in Alberta", April 19, 2017, online: www.transalta.com/newsroom/news-releases/transalta-board-approves-plan-for-accelerating-transition-to-clean-power-in-alberta/

²³ TransAlta News Release, "TransAlta Announces Accelerated Transition to Clean Energy", December 6, 2017, online: www.transalta.com/newsroom/news-releases/transalta-announces-accelerated-transition-clean-energy/

²⁴ AESO Stakeholder Update on Mothball Outages Presentation, September 14, 2017, online: www.aeso.ca/assets/Uploads/AESO-Stakeholder-Update-on-Mothball-Outages-September-14-2017.pdf at slide 7.

33. On November 21, 2017, the AESO provided the MSA with its draft recommendation regarding certain proposed changes to the interim Mothball Rule. However, as it did with the existing MBR, the MSA had significant concerns about the proposed changes.
34. Accordingly, the MSA wrote to the AESO on January 15, 2018 advising it was concerned that the interim rule, and the proposed revised rule, may undermine the FEOC operation of the market by restricting or preventing competition and may enable the manipulation of market prices away from a competitive market outcome.
35. In that letter, and in order to address its concerns, the MSA asked the AESO to provide various analysis and information including any analysis about:
 - (a) whether or not the MBR sufficiently discourages anti-competitive practices in the electricity industry;
 - (b) whether or not the MBR supports the FEOC operation of the market;
 - (c) whether or not the AESO had considered the adoption of an economic test for market participants to provide to the AESO and MSA regarding both the economics of the generating unit and the market impact of the proposed mothball;
 - (d) whether there was any analysis of the MBR's impact on forward and retail prices including the nature and process by which the mothball outages are made public;
 - (e) any analysis of market impacts to the power pool and the capacity market of a prolonged (up to 36 months under the AESO's proposal) mothball outage;
 - (f) any explanation about the fact that Supply Transmission Service rights were to be retained by mothballed assets potentially preventing entry to the market or causing unnecessary transmission infrastructure to be installed; and
 - (g) the effect of that on barriers to entry by others on potentially unnecessary transmission infrastructure being installed in the market.
36. On January 26, 2018 the AESO responded to the MSA, declining to answer the MSA's questions or provide the requested records, and advising that the AESO would not be pursuing the proposed changes to the MBR because of the anticipated eventual transition to a capacity market.
37. Fundamental to the MSA's Complaint is that the consultation process has come to naught and the MBR has become de facto a permanent feature of the Alberta market without

adequate consultation or assessment and no Commission oversight. This has had the deleterious effects outlined in Sections 25(1)(b) and 25(1.1) of the *EUA* as detailed further below.

IV. THE MBR DOES NOT SUPPORT FEOC, IS NOT IN THE PUBLIC INTEREST AND MAY HAVE AN ADVERSE EFFECT ON THE STRUCTURE AND PERFORMANCE OF THE MARKET

38. The MSA is satisfied that the Mothball Rule is inconsistent with the legislative framework governing the Alberta electricity market, does not support the fair, efficient and openly competitive operation of the market, is not in the public interest; and may have an adverse effect on the structure and performance of the market. In particular, the MSA is concerned that the MBR:
- (a) provides large generators with an unfair competitive advantage;
 - (b) permits physical withholding;
 - (c) negatively impacts market exit and entry;
 - (d) may create an opportunity for firms to collude that would not otherwise exist; and
 - (e) may impact system reliability.
39. For those reasons, the MSA is of the view that the MBR ought to be removed or, alternatively, revised to comply with the legislative framework and the fair, efficient and openly competitive operation of the market.

Unfair Advantage

40. The MBR appears to now be entrenched as a structural element of the market that can be unevenly utilized or applied among market participants. This is antithetical to the purposes of the *EUA* enumerated in Section 5 therein, including that there are to be rules to prohibit “unfair advantages” to any participants and that competition is to be fair and openly competitive.
41. For all market participants, or at least those who utilize the MBR prior to consideration of AESO reliability concerns, the MBR enables uneconomic units to be temporarily

withdrawn from the market in order to reduce losses. However, firms with a large portfolio of assets may leverage the MBR to remove units from the market that would otherwise be viable because their other assets stand to benefit from an increase in market prices. The MBR in its current form does not contemplate a market power or an economic test to assess or determine whether or not a unit is able to recover its costs before being allowed to initiate a mothball outage. Conversely, smaller market participants do not have the portfolio necessary to employ this particular use of the MBR. Thus, the rule has uneven application amongst market participants and offers advantages to some that it does not offer to others, which is inconsistent with Section 5(c) of the *EUA*.

42. Particularly in the current environment of low prices, mothballing could understandably be beneficial for certain owners as a means of reducing, deferring or avoiding costs, but while still hedging their bets, i.e. taking a unit offline, thereby saving the expense associated with operating it, but then reversing the decision and returning to the market as circumstances change. This is simply a means of physical withholding, (failing to offer electricity services that a generator is capable of providing) which, prior to the MBR, was prohibited in Alberta's electricity market.

Physical Withholding

43. Physical withholding is not compatible with the Alberta market framework since generators must, subject to an exception under Section 2(f)(iii) of the *FEOC Regulation*, offer all of their capacity unless they are experiencing an AOR. AORs are conditions related solely to the physical operation of the generating asset; conditions related to transmission constraints or market-related conditions that are solely economic are not AORs. Mothball outages are fundamentally inconsistent with the exceptions permitted in the event of an AOR to withhold capacity.
44. Under Section 2(f)(iii) of the *FEOC Regulation*, if the AESO is not going to require all the electric energy to be offered, there should be a means of making that determination, not through a mechanism such as the MBR, but through a more rigorous and transparent process that imposes further analysis, consultation and assessment of market and reliability effects.

Market Entry and Exit

45. The MBR may have other adverse effects on the structure and performance of the market as it pertains to exits from the market by current unit owners and entry to the market by new investors.
46. Section 5(d) of the *EUA* requires a market wherein “decisions of the electric industry about the need for and investment in generation of electricity are guided by competitive market forces”. This provides for a wholesale market wherein the price signal, based on a known, stable quantity of assets operating under the MOMC rule, is what informs and activates decisions about the need for (and investment in) generation of electricity, such as whether to build new economic generating assets or conversely to retire those which are uneconomic.
47. Mothballing can, purposely or otherwise, deter entry by others into the Alberta market. This is a matter of a prospective new entrant’s expectations regarding certainty of demand growth in the market and about whether a current market participant could exercise market power to influence market prices.
48. A strategic barrier to entry occurs when an incumbent’s actions create or maintain a barrier to entry. In the case of mothball outages, the possibility always remains that significant amounts of mothballed capacity could return to the market on as short a period as the three months’ notice provided in Section 4(1) of the MBR. This is a much shorter time-frame than one in which a new build could occur, thereby the MBR is an AESO introduced rule that may dissuade investment in new generation.
49. When a unit is mothballed, available supply will decrease and therefore prices will tend to increase due to tighter supply/demand balance. Additionally, the MBR creates uncertainty about if and when the unit may return to service. Uncertainty tends to raise prices further, as it creates more risk and therefore investors demand more risk compensation. However, compared to the retirement of a unit, the extent of the market price increase resulting from a mothball outage may be less as there remains the prospect that the unit will return to service. This dampens the inherent price signal for generation build in the market.

50. Retirements, conversely, provide greater market certainty. With certainty there will be more confidence in the price signal and certain entrants who could otherwise be dissuaded from entering an environment with significant mothballed capacity and who would defer or delay investing, may then invest with more confidence and less risk compensation.
51. Likewise, new entrants and new investment may be deterred or dissuaded if potential entrants perceive that prices at the time are at higher levels only because of current market participant offer control, reasoning that post entry the controlling incumbent may reverse a mothball decision and set prices at a level that would not enable the new entrant to recover costs.
52. Unnecessary delays in retiring uneconomic coal units may adversely affect the market in that renewable generators will continue to be more reliant on policy-based subsidies instead of market revenue because the availability of units that do not retire could suppress wholesale electricity revenues below the level optimal for new investment. The probable result will be deterred investment, dynamic inefficiency, increased consumer costs, and risk to system reliability.
53. The MBR impacts decisions to exit as well, since owners are not required to make certain decisions that a FEOC market would otherwise require. For example, the MBR is a means whereby some owners can avoid site remediation costs. Ongoing mothballing of plants, rather than permanent retirement may, for those owners, constitute a preferred option in that site remediation costs are thereby postponed. This naturally prolongs commercially reasonable retirement decisions.

Collusion

54. Section 4(1) of the MBR includes a minimum three months' written notice before a market participant may cancel the mothball outage and return the unit to service. The MSA is concerned that this waiting period may create an opportunity for firms to collude that would not otherwise exist.
55. When a firm commences a mothball outage, it provides a credible signal to other market participants that it has impaired its ability to initiate a competitive response to high price

events. Because the generator must under the MBR provide a minimum of three months' notice to return their mothballed unit to service, other firms are guaranteed that they will face less competitive pressure, which, in turn, lowers the risk of employing cooperative offer strategies. This may create an incentive for a firm to mothball units in order to facilitate more manipulative offer strategies within its own portfolio of assets and from other generators. So, by virtue of the (minimum) three month notice period, the MBR has potentially created a mechanism by which firms can provide tacit signals to each other that will enhance their ability to exercise market power.

System Reliability

56. Mothballing, particularly under the parameters in the MBR, may also impact the critical area of system reliability. The current MBR does not mandate a reliability assessment by the AESO or the market participant require an assessment in this or any other respect, except that under Section 3(1) the market participant must notify the AESO of the "impact to MW capability" by reason of that outage and to state the minimum time (not to be greater than six months) in which the unit could be restored to full capability. Further, there is no market certainty built into the MBR that a mothballed unit could actually be returned to service within the prescribed six month period, nor penalties for failure to return as directed.
57. Under the MBR, the AESO may issue a directive to cancel a mothball outage for reliability purposes, but must first complete an assessment of supply adequacy at that time. This is further reason that the AESO's assessment of a mothball outage and any risks or costs accruing to the market should be clearly set forth in the rule and transparent to the market. As would be the case for any unit mothballed for any length of time, the MSA is concerned that the owner may for various reasons be unable to respond within the necessary or an appropriate timeframe to address a short term supply shortfall. This concern militates against the MBR in its present form, and also undermines any argument that a benefit of mothballing is that it enables the unit in question to serve as a backstop in the event of a short term supply shortfall.

58. The MSA is concerned about the lack of transparency whereby the AESO, upon receiving a mothball notification under Section 3(1) of the MBR, determines the extent to which a mothball outage may adversely affect the reliable and economic operation of the Alberta interconnected electricity system (“AIES”). Market participants have a duty under Section 6 of the *EUA* to support the FEOC operation of the market and the AESO has a statutory duty under Section 17 of the *EUA* to provide for the reliable operation of the AIES.
59. Mothballing material amounts of generating capacity and potentially impairing the reliability of the AIES would in the MSA’s view constitute a breach of the requirement in Section 6 of the *EUA* for market participants (and for the AESO in accepting the removal of the capacity) to support an FEOC market. The MBR, if accepted by the Commission, should provide for appropriate tests to assess the effect of a proposed mothball on system reliability, and to provide transparency to all market participants as to the duration of the outage and the time required to bring a unit back into service. The Commission should also consider whether the MBR should include penalties for a market participant that cannot respond to a direction to cancel a mothball outage.

V. PRICE IMPACTS AND OTHER EFFECTS ON CONSUMERS

60. In the short term, the MSA expects that consumers will pay increased costs by virtue of the announced mothballs already enabled by the MBR, since removing the anticipated level of TransAlta’s supply has increased pool prices.

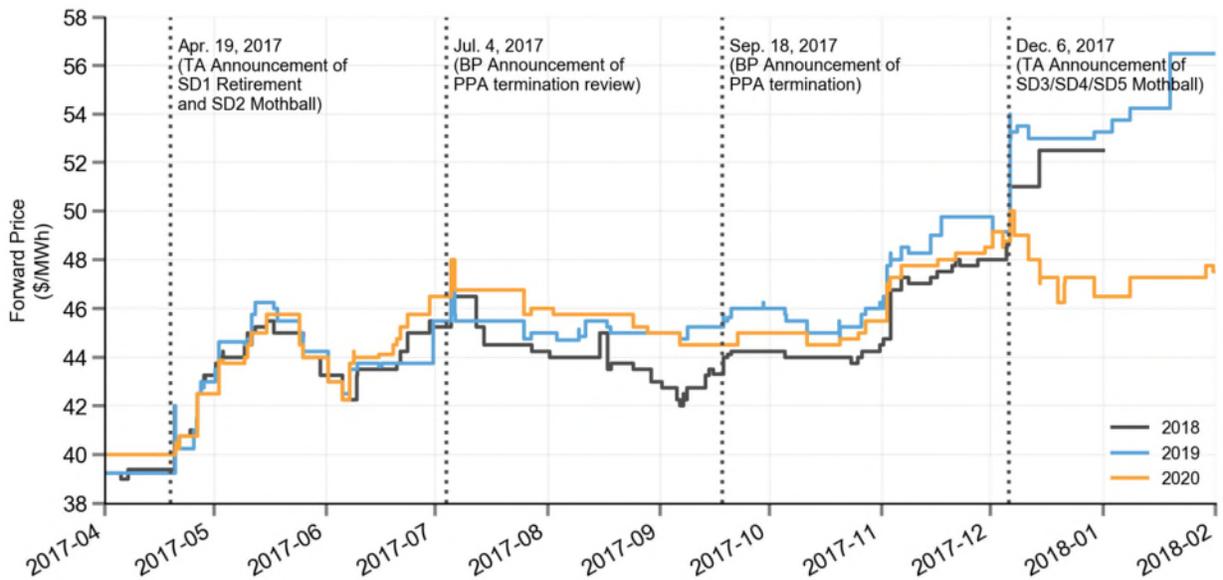
Forward Market Analysis

61. The forward curve represents market participants’ expectations of future prices. If market participants expected prices to differ from the current forward curve, it is assumed that they would make trades to leverage the arbitrage opportunity and that forward prices would adjust accordingly. Therefore, changes to future market conditions, such as the mothballing of generation assets, are implicitly included in the forward price curve.
62. On April 19, 2017, TransAlta announced its intention to retire Sundance unit 1 and to mothball unit 2 effective January 1, 2018. On December 6, 2017, TransAlta further

announced it would mothball Sundance units 3 and 5 effective April 1, 2018 and unit 4 effective April 1, 2019.

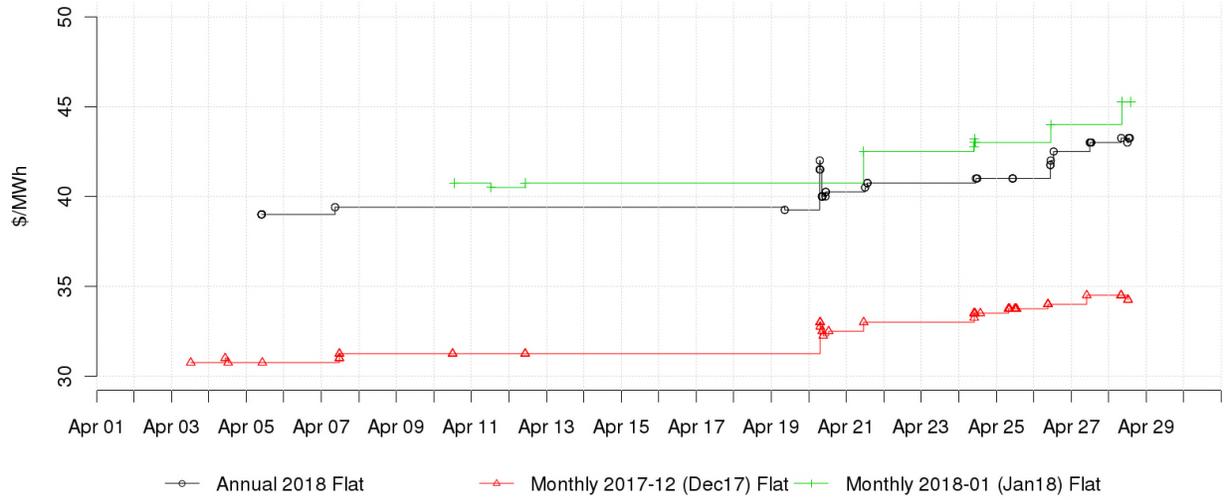
- 63. To assess the impact of mothball announcements, one may observe the change in forward market prices following TransAlta’s announcements. Following each announcement, forward prices changed to reflect the level of expected supply available from TransAlta’s generation assets.
- 64. Figure 1 shows the evolution of flat annual forward prices for calendar years 2018-2020, while Figures 2 and 3 provide a more granular look at the flat monthly forward prices surrounding TransAlta’s two mothball announcements during 2018.

Figure 1: Evolution of Flat Annual Forward Prices



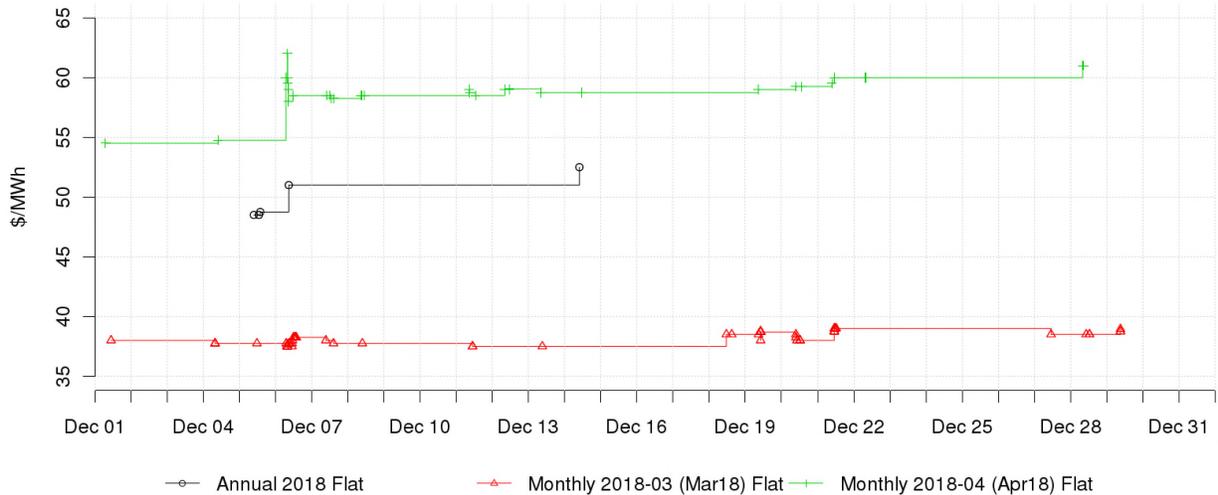
April 19, 2017 – SD1 and SD2

Figure 2: Evolution of Flat Forward Prices in April 2017



Contract	Price Before	Price After	Difference
2018 Flat	\$39.06	\$41.26	\$2.20
Dec 17 Flat	\$31.06	\$33.62	\$2.56
Jan 18 Flat	\$40.67	\$43.75	\$3.08

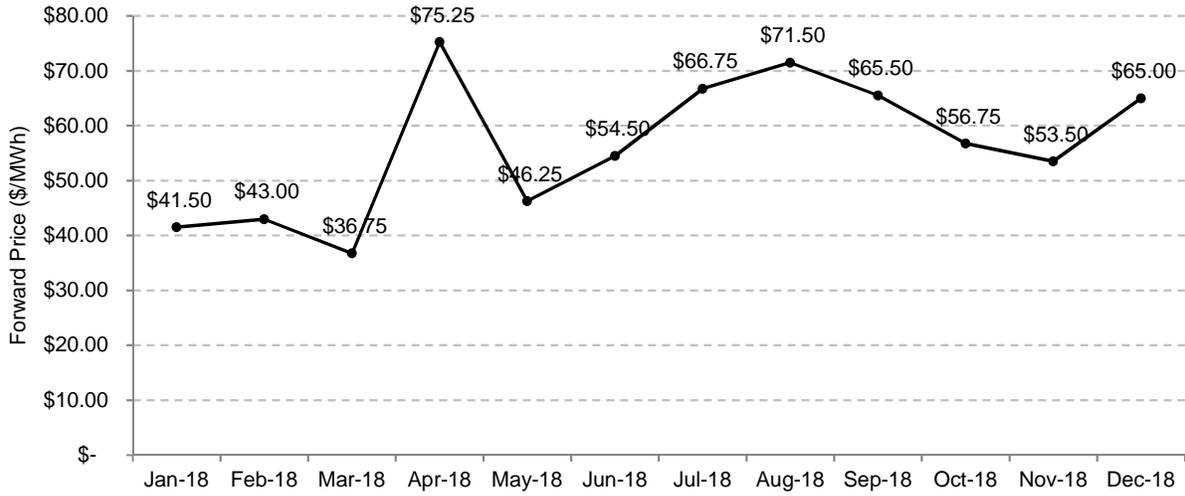
Figure 3: Evolution of Flat Forward Prices in December 2017



Contract	Price Before	Price After	Difference
2018 Flat	\$48.58	\$51.75	\$3.17
Mar 18 Flat	\$37.78	\$38.34	\$0.56
Apr 18 Flat	\$54.63	\$59.28	\$4.65

65. The forward curve, as of February 28, 2018, shows (see Figure 4 below) prices rising in April 2018, falling in May, gradually rising during the summer, and finally falling off in the fall. The rise in April 2018 is likely influenced by the planned outage of a natural gas generating unit taking 860 MW out of the market, together with the withdrawals of Sundance units 3 and 5. The gradual rise in prices over the summer and decrease in the fall are consistent with weather-associated changes in demand and thermal generation derates. Prices are higher in general compared to recent years, which can be partially attributed to the mothballing of the Sundance units, as well as higher carbon costs and reduced offer control from the Balancing Pool.

Figure 4: Flat Monthly Forward Prices as of February 28, 2018



Counterfactual Analysis

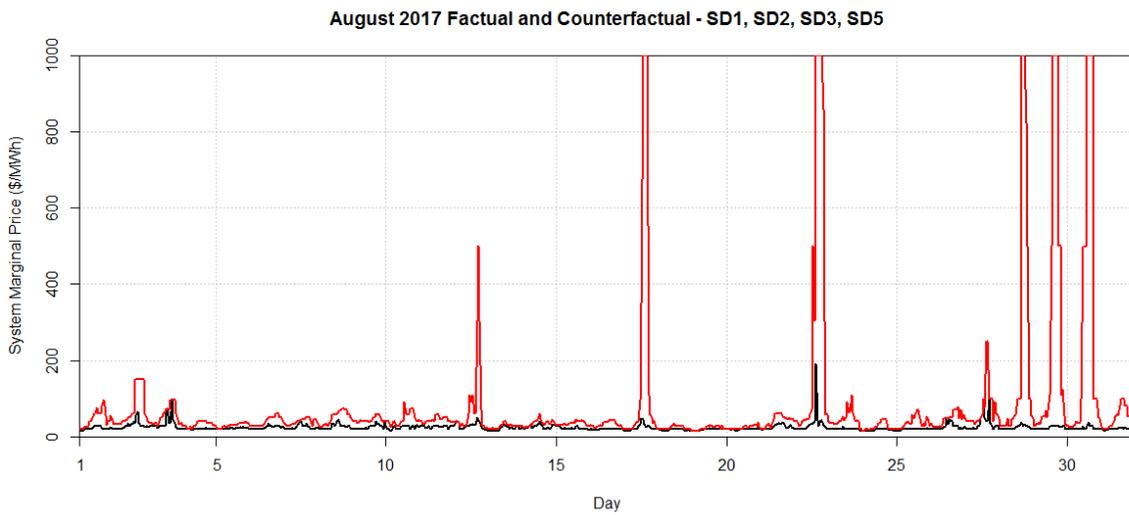
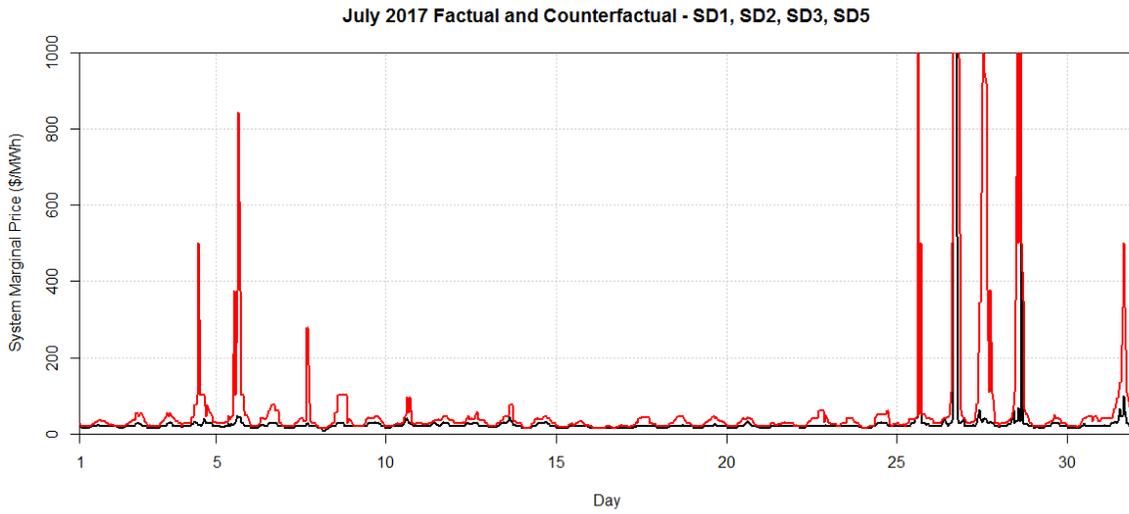
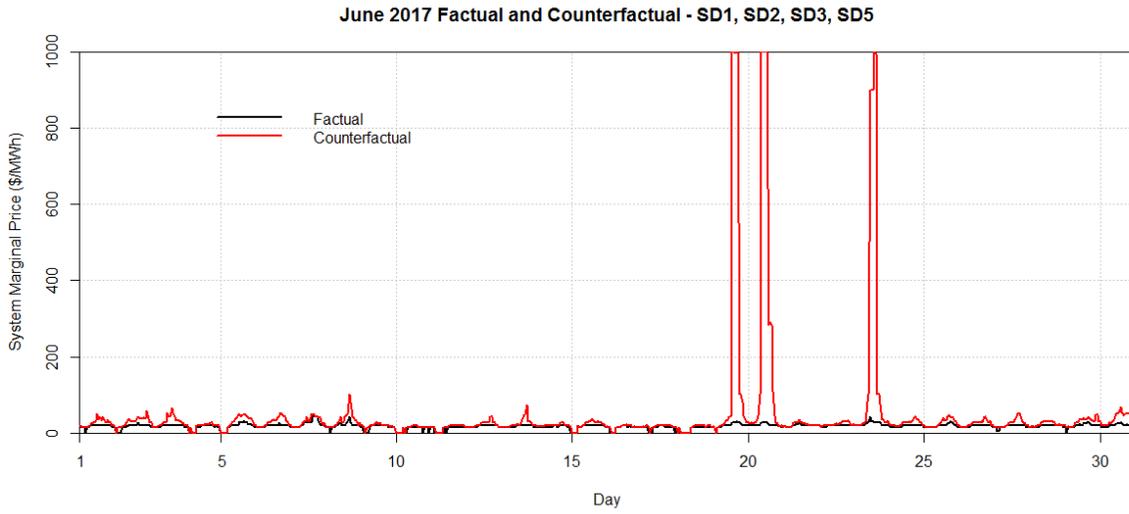
66. The MSA conducted a counterfactual analysis to simulate the effect of removing Sundance units 1, 2, 3, and 5 from the market during all hours in June, July, and August 2017. The purpose of this analysis is to gain insight into the potential impact that the withdrawal of the aforementioned Sundance units’ combined capacity of 1,334 MW may have on price and reliability. Table 1 shows the output of the model in each month.

Table 1: Model Price Results

Month	Factual Price	Counterfactual Price
June 2017	\$16.85	\$45.67
July 2017	\$27.90	\$59.68
August 2017	\$23.64	\$78.55

67. In most hours, the counterfactual price is approximately \$10-15 higher than the observed price. However, high price hours due to scarcity conditions occur much more frequently, thus driving average prices higher. In many cases, high price events are brought on by reduced transfer capability on the BC-AB intertie. These events often lead to \$1,000 administrative shortage pricing.

Figure 5: Results of Counterfactual Analysis



VI. MOTHBALLING IN OTHER JURISDICTIONS

68. The MSA has reviewed mothball outage procedures in other electricity markets. The processes usually require advanced notice so that the Independent System Operator (“ISO”) or Regional Transmission Organization (“RTO”) can conduct a reliability test to determine if there are any effects on reliability from the generator taking the mothball outage. If there are, the ISO/RTO may explore solutions to alleviate the reliability concern. The solutions may include: changing operational procedures, remedial action schemes, transmission upgrades, or reliability must run contracts. Some jurisdictions also include economic tests prior to allowing a unit to be mothballed.

Texas

69. On receipt of a notification the Electric Reliability Council of Texas (“ERCOT”) posts the notification and all relevant studies and data for comment by market participants. Within 14 days of receiving that notice, market participants may submit comments on whether the unit is required to support system reliability and whether it should qualify for a reliability must run contract. Within 24 days of receiving notice, ERCOT will make an initial determination whether the resource is required to support transmission system reliability. A final assessment of whether the resource is required to support reliability must be completed within 60 days. If ERCOT determines the resource is not required to support reliability, it may suspend operations as submitted in the notice. It does not appear that there is a time limitation on the length of the mothball outage in ERCOT.
70. Resources that wish to mothball are required to submit a Notification of Suspension of Operations form to ERCOT no less than 90 days prior to the intended suspension of operations for a period of greater than 180 days. The notification must include an attestation of an officer of the owner that the resource is uneconomic to remain in service and will be unavailable for dispatch.

PJM (13 U.S. States plus D.C.)

71. The Pennsylvania, Jersey, Maryland (“PJM”) energy market allows for mothballing of generation assets with certain precautions and limitations that the MBR lacks. If a market

participant seeks to mothball an asset, it must give PJM 90 days' notice. After it has been provided with that notice, PJM will conduct a reliability test and the Internal Market Monitor will conduct an economic analysis of the effects of the mothball outage.

72. If the results of both tests are satisfactory, then the unit will be permitted to go on mothball. If the results are not satisfactory, PJM would provide notice to the market participant within 30 days of receiving the request to mothball. This initiates a process where within 60 days of submitting the request, the market participant must provide estimates of the costs that would be required to keep the unit in operation. Within 75 days of receiving the request, PJM will estimate the time needed to upgrade transmission to alleviate the reliability impact of the unit mothballing. Within 90 days of the notice, PJM will make public the details of the transmission upgrades required for the unit to deactivate.
73. If the unit cannot be permitted to deactivate due to the reliability or economic reasons, then the units will be made whole. A generator can be made whole by filing for full cost of service with FERC or by enrolling for compensation through the Deactivation Avoidable Cost Credit in the PJM Tariff.

NYISO

74. The New York ISO ("NYISO") requires a generating unit that intends to deactivate to provide 365 days' notice and at least 5 business days' notice from the date of deactivation to declare if it intends to mothball or retire the unit. NYISO must make public a reliability assessment of the unit mothballing within 90 days following the notice date. The reliability assessment assesses whether any reliability issues that arise due to the unit mothball can be addressed through the adoption of operating procedures or through the biennial reliability planning process. The study period for the assessment will be the five years following the conclusion of the 365 day notice period and the ISO will review key study assumptions with stakeholders. The assessment identifies any generator deactivation needs which can be rectified by implementing generator deactivation solutions which include, transmission solutions or reliability must run agreements.

75. If the assessment finds that there would be no reliability impacts from the mothball then the mothball outage is allowed to proceed.

MISO (Midcontinent)

76. Generators are permitted to mothball (called “generator suspension”) for a maximum of 36 cumulative months over a 5 year period. Generators intending to mothball must provide the transmission provider with 26 weeks’ notice. If the generator does not return to service after the declared mothball timeframe, the unit’s interconnection service will be terminated.
77. The transmission provider is, however, required to conduct a reliability study. If there are no issues with reliability then the unit is permitted to mothball. If the reliability study concludes that the generator is required for reliability reasons then the generator is eligible for treatment as a System Support Resource (SSR) unit. Prior to entering into an SSR agreement with a generating unit, the transmission provider must consider any alternatives to SSR unit status, including: remedial action plans, demand or generator alternatives, or transmission expansions.

CAISO (California)

78. CAISO has a process for market participants to mothball units which requires generators to provide the CAISO with 60 days’ notice prior to the intended mothball date. In order to retain repowering rights, the generator on mothball must within a specified time period make the unit available to provide energy, be accepted in the repower process, or be in good standing in the generation interconnection process.
79. The process does not allow market participants to mothball units for economic reasons. Prompted by a now denied complaint filed with the Federal Energy Regulatory Commission on June 17, 2016, the CAISO had a stakeholder consultation process in 2017 to set up a process to allow mothballing for economic reasons and to explain the mothballing requirements in detail. However, the consultation was dropped prior to Board of Governors approval of process options in November 2017.

80. The draft final proposal suggested that a generator can go on a mothball outage for no longer than one month at a time in May through October and no longer than four months at a time from November to April. The suggested minimum length of time for a mothball request was one month and a generator could make multiple subsequent requests to mothball. It was suggested that the generator must submit any requests for a mothball outage 60 days in advance and the CAISO would conduct a reliability assessment between 60 and 8 days prior to the requested mothball date. The generator would be notified of approval or denial of its mothball request no less than 8 days before the effective date. If the mothball outage was denied, then the CAISO would pay the generator to remain in service at cost of service. If the mothball outage was approved, the generator could not return from the mothball outage early unless the CAISO required the unit for reliability reasons in which case, the CAISO would offer the unit a cost of service payment plus an adder to for costs incurred to bring the unit back online.

IESO

81. The Independent Electricity System Operator in Ontario (“IESO”) defines an outage as:

a piece of equipment to be in an outage state when it is removed from service, in a state other than its normal state, unavailable for connection to the system, temporarily derated, restricted in use, or reduced in performance. This includes de-staffing of a generation unit during a period when market participants do not expect the unit to be scheduled to provide energy or operating reserve. Auxiliary equipment is also considered to be in an outage state when it is not available for use.

82. In Ontario, mothball outages are considered long-term outages and are managed through the IESO’s outage management procedures. The IESO allows generators to apply for planned outages in advance on a quarterly, weekly, three day, or one day basis with priority given to outages that applied for their outages earlier in advance than later. The IESO will assess the outages for any reliability or market impacts and approve the outage if there are none

NEM

83. In Australia’s National Energy Market, a generating unit that wishes to self-decommit needs to provide the Australian Energy Market Operator (“AEMO”) at least 2 days’ notice before doing so and must advise the AEMO of any changes to its self-decommitment decisions. The AEMO likewise needs to inform the public of any changes to self-decommitment decision as soon as practicable.

VII. CONCLUSION

84. In Proceeding 21115, the Commission determined:

The majority finds that the process of determining whether the publication of the HTR is consistent with the objectives of the statutory scheme does not involve a cost-benefit analysis or a balancing of the benefits against the deleterious effects.... instead, the majority finds that where an administratively introduced element of market structure gives rise to market outcomes that conflict with the objective of the statutory scheme, as is the case here, then even if such instances are relatively rare, the administratively introduced element of market structure cannot be allowed to persist.²⁵
[Emphasis added]

85. Here, the MBR was introduced as an interim and expedited measure in response to a single event – the suspension of electricity generation at Milner. It was to undergo a comprehensive review including full consultation under AUC Rule 17, but has not. The Commission was aware of possible concerns and in its June 7, 2016 Disposition Letter stated that any party could submit a complaint under Section 25 of the *EUA*.
86. The MBR has introduced new features to the Alberta market, such as uncertainty about supply availability and physical withholding by certain market participants who are in a position to mothball portions of their generating capability. The MSA recognizes that it has a statutory onus under Section 25(4.11) of the *EUA* to prove that the MBR “may have” an adverse effect on the structure and performance of the market”, or that it does not support

²⁵ AUC Decision 21115-D01-2017, Application by the Market Surveillance Administrator Regarding the Publication of the Historical Trading Report, May 17, 2017, at paragraph 217.

FEOC, or that it is not in the public interest. The MSA is satisfied that all of those elements will be proven.

VIII. RELIEF SOUGHT

87. The MSA requests that the Commission set this matter down for hearing and grant the relief sought below. The MSA anticipates that, in addition to the AESO, other parties will wish to participate or intervene in the disposition of this Complaint. The MSA will await the advice and directions of the Commission in respect of this matter and respectfully requests the opportunity to file further material, evidence and submissions once the Commission determines the nature and scheduling of a hearing into this matter.
88. The MSA requests that the Commission either require the AESO to remove the MBR or to amend it to address its adverse effects on the structure and performance of the market and to address the public interest.

ALL COMMUNICATIONS related to this Complaint should be directed to the Market Surveillance Administrator and its legal counsel as follows:

Market Surveillance Administrator
500, 400 – 5 Avenue, SW
Calgary, AB T2P 0L6

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1900, 520 - 3rd Avenue S.W.
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Attn: John D. Blair, Q.C.
Phone: (403) 232-9500
Fax: (403) 266-1395
Email: jblair@blg.com

ALL OF WHICH IS RESPECTFULLY SUBMITTED BY THE MARKET SURVEILLANCE ADMINISTRATOR this 16th day of March, 2018.

MARKET SURVEILLANCE ADMINISTRATOR

(Original signed by)

DOUG DOLL