Bulk and Regional Tariff Design Stakeholder Engagement Session 6B

June 24, 2021

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Stakeholder participation

The participation of everyone here is critical to the engagement process. To ensure everyone has the opportunity to participate, we ask you to:

- Listen to understand others' perspectives
- Disagree respectfully
- Balance airtime fairly
- Keep an open mind

Welcome and Introductions

Session purpose and objectives

- The purpose of the session is to engage stakeholders in a discussion of the AESO's targeted mitigation discussion outcomes, Session 5B (DOS) and Session 6A stakeholder feedback, and areas of alignment The session objectives include:
  - Provide an overview and seek stakeholder input on the outcomes of the targeted mitigation engagement
  - Share our learnings and seek stakeholder input on Session 5B (DOS) and Session 6A stakeholder feedback and areas of alignment
  - Present and discuss implementation considerations
  - Seek to understand outstanding stakeholder concerns

Agenda

Time	Agenda Item	Presenter
8:00 – 8:15	Welcome, introduction, purpose and session objectives	AESO / Stack'd
8:15 – 9:00	Targeted mitigation engagement • Mitigation process and outcomes • Mitigation options • Mitigation next steps • Q&A	AESO
9:00 – 10:00	DOS modernization recommendation feedback and revisions (Session 5B) • Summary of learnings and feedback themes • Revisions to the DOS modernization recommendation resulting from feedback • Q&A	AESO
10:00 – 10:30	Break	
10:30 – 11:10	DOS modernization recommendation feedback and revisions (Session 5B) cont. • Summary of learnings and feedback themes • Revisions to the DOS modernization recommendation resulting from feedback • Q&A	AESO

Agenda

Time	Agenda Item	Presenter
11:10 – 11:30	What we heard – Session 6A • Summary of learnings • Q&A	AESO
11:30 – 12:00	Areas of alignment and misalignment • Summary • Q&A	AESO
12:00 – 12:20	Break	
12:20 – 12:30	Implementation considerations • Q&A	AESO
12:30 – 1:00	Session close-out and next steps • Rate sheets written consultation • Overall engagement survey • AESO application and the AUC process • Q&A	AESO

Registrants (as of June 17, 2021)

- Alberta Direct Connect Consumers Association (ADC)
- Alberta Newsprint Company (ANC)
- AltaLink Management Ltd.
- ATCO Electric
- Best Consulting Solutions Inc.
- BluEarth Renewables
- Brubaker and Associates, Inc. on behalf of ADC
- Campus Energy
- Canadian Renewable Energy Association (CanREA)
- Capital Power Inc.
- Chapman Ventures Inc.
- City of Grande Prairie
- City of Medicine Hat
- Consumers Coalition of Alberta (CCA)
- Customized Energy Solutions
- DePal Consulting Limited
- Dow Chemical Canada ULC
- DeepZero Energy
- Enel North America
- Energy Storage Canada
- ENMAX Corporation
- EPCOR Distribution & Transmission Inc.
- FortisAlberta Inc.
- Heartland Generation Ltd.
- Imperial Oil
- Industrial Power Consumers Association of Alberta (IPCAA)
- Lionstooth Energy Inc.
- MATL Canada/MATL LLP
- Millar Western Forest Products
- Morgan Stanley
- Pembina Pipeline Corp.
- Power Advisory LLC
- Rodan Energy Solutions
- Solas Energy Consulting Inc.
- Suncor Energy Inc.
- TC Energy
- TransAlta Corporation
- Turning Point Generation
- Utilities Consumer Advocate (UCA)
- URICA Asset Optimization
- VIDYA Knowledge Systems/ CWSAA
- West Fraser Mills Ltd.
- Weyerhaeuser
- Wolf Midstream Inc.
- 2332823 Alberta Ltd.

Overview of Engagement Process

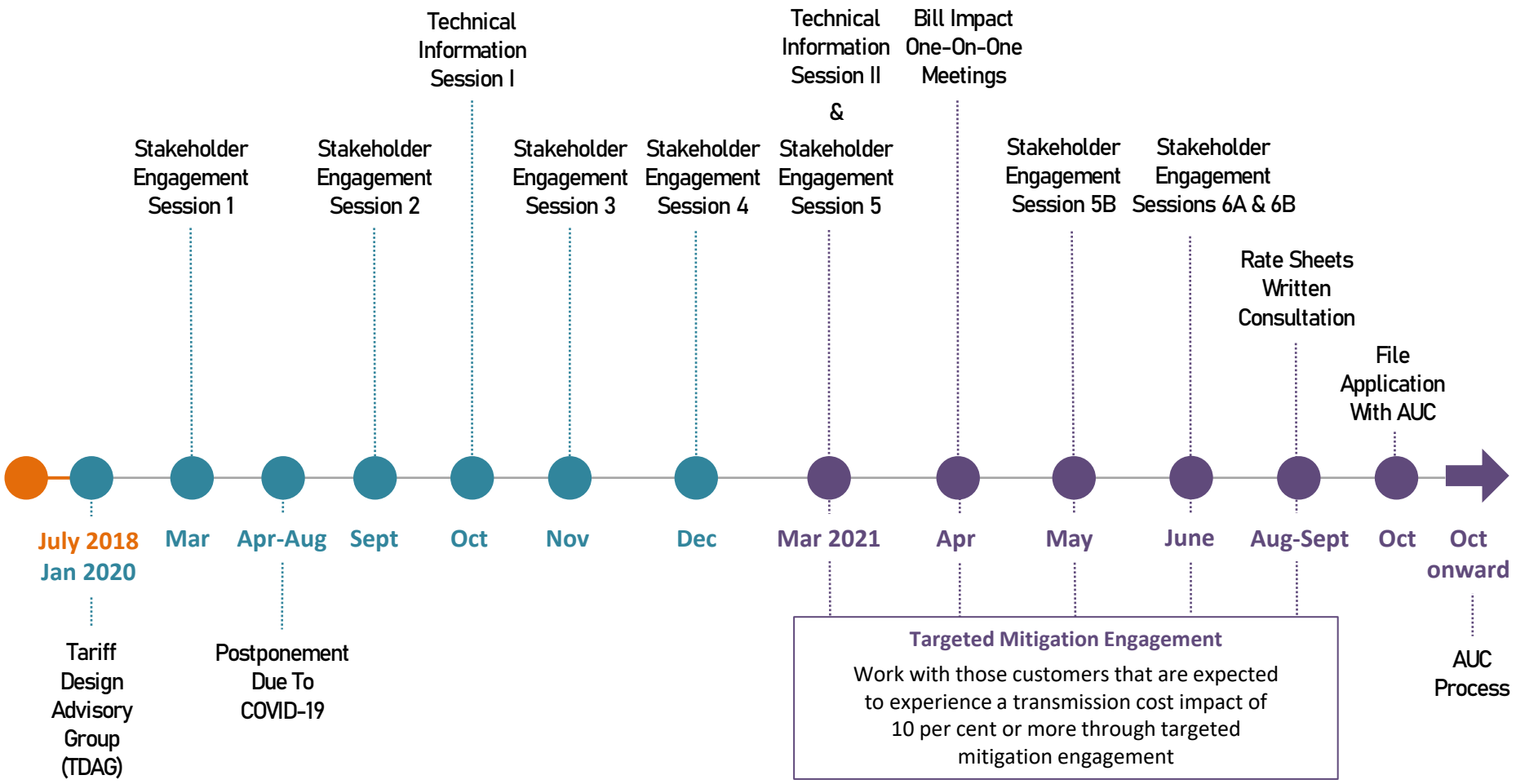
AESO Stakeholder Engagement Framework

Stakeholder engagement

The AESO's stakeholder engagement will:

- Ensure that stakeholders' needs and interests are consistently, transparently and meaningfully considered in the development of a rate design proposal for bulk and regional cost recovery;
- Provide clear objectives to be examined and evaluated in the development of a rate design proposal for bulk and regional cost recovery;
- Assist stakeholders in understanding and evaluating the AESO's preferred rate design;
- Supply stakeholders with tools that will allow them to consider and assess the impact of the AESO's preferred rate design; and
- Identify areas of alignment in order to support an efficient regulatory process.

Stakeholder engagement timeline



2018-19 2020 2021

Your participation

- Your participation to date has been very insightful to the AESO in understanding your perspectives and helping the AESO develop its preferred rate design proposal
- Your continued participation in this engagement is critical to help us prepare a well-informed application to the AUC for the benefit of Albertans
- We are looking for collaborative solutions to minimize the disruption for customers who are impacted by these changes, and your continued engagement is critical for our success
- The AESO recognizes the importance of providing clarity on this initiative for all of Alberta's electricity consumers

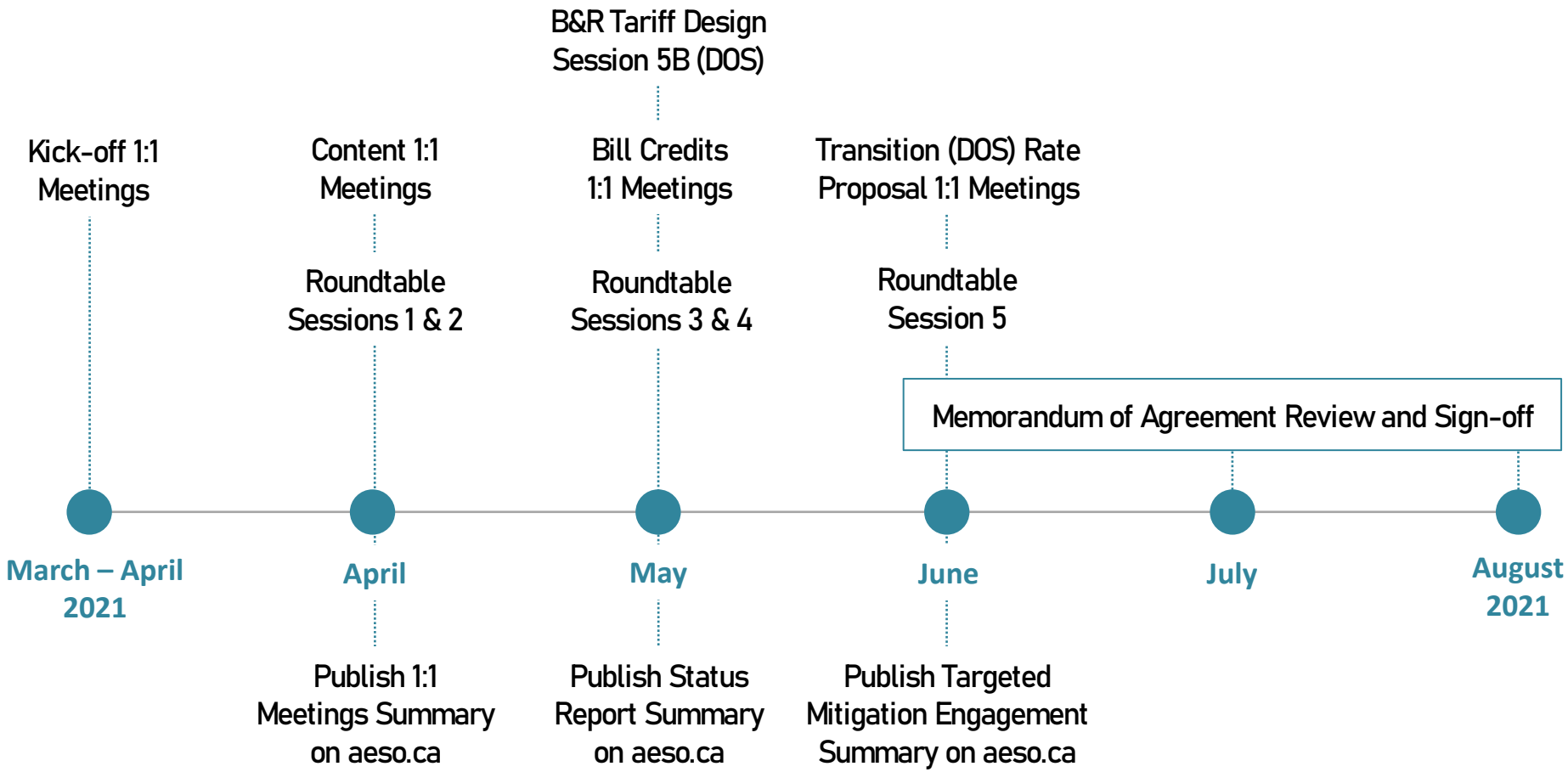
Targeted Mitigation Engagement Outcomes

AESO mitigation proposal starting principles (from B&R Session 5 March 25, 2021)

The AESO is seeking to develop a mutually acceptable mitigation proposal with the small group of impacted loads that will:

1. **Limit the rate impact for customers**: Mitigate rate impact to under 10 per cent increase to a party's transmission bill for initial stage of transition
2. **Adapt with design and rates**: Ensure options are adaptable to changes to the preferred rate design and forecasted rates
3. **Consistent application**: Mitigation options can be applied consistently across all impacted loads and not be individually defined
4. **Administrative simplicity**: Feasible to implement with current tools and systems
5. **Mutually acceptable**: Account for feedback from broad stakeholder group

Targeted mitigation engagement timeline



B&R: Bulk and Regional
DOS: Demand Opportunity Service

Mitigation outcomes

- Three alternatives explored:
  - A phasing-in of the preferred rate design and/or bill credits
  - A modernized demand opportunity service (DOS) rate
  - A non-firm interruptible rate class (i.e., a separate rate class for flexible loads that exists permanently and maintains costs for these loads where they are today and would be distinct from DOS)
- The AESO and significantly impacted stakeholders continue to hold differing views of mitigation being transitionary versus permanent treatment
- Non-firm interruptible rate class not accepted by AESO as a feasible alternative
- Engagement had led to three mitigation options:
  - Transition (DOS) Rate
  - Bill credits
  - Combination of Transition (DOS) Rate and bill credits

Memorandum of Agreement

- The AESO is developing a Memorandum of Agreement (MOA) based on the targeted mitigation engagement completed to date
  - Will continue to iterate with the impacted parties through the end of August 2021 to finalize the MOA and determine which of the impacted parties will sign the MOA
- The final MOA will be presented to the broader stakeholder group and the Alberta Utilities Commission (AUC or Commission) as part of the formal Bulk and Regional Tariff Application
  - The AESO will seek approval of this MOA from the Commission in conjunction with its preferred rate design and modernized DOS rate
  - MOA does not preclude parties from making submissions to the Commission on the merits of the preferred rate design or modernized DOS rate

Memorandum of Agreement (cont.)

- If the preferred rate design is substantially approved, the impacted parties that sign the MOA supports the use of these mitigation options
- Any party is eligible for approved mitigation options if their estimated transmission cost impact is greater than or equal to a 10 per cent increase
  - Parties that sign on to the MOA may not be eligible for mitigation if the Commission substantially approves the preferred rate design but makes minor changes that result in that party's transmission cost impact falling below the 10 per cent threshold
  - Impact will be estimated based on 2019 usage and approved rate design

Option 1: Transition (DOS) Rate

- Transition (DOS) Rate is a temporary variation of DOS
  - The 20 per cent limit to the load factor on contracted DOS load will apply if the contracted DOS level reduces the estimated transmission bill increase to below 10 per cent;
  - Otherwise, the DOS load factor can exceed 20 per cent up to levels that reduce the estimated transmission bill increase to 10 per cent (based on 2019 usage);
  - All other terms and conditions of the modernized standard DOS rate will apply
- Transition (DOS) Rate will be available for five years and comes into effect when preferred rate design becomes effective
- Upon expiry, any party operating under the Transition (DOS) Rate provisions will be required to meet the provisions of the standard DOS Rate
- Parties can make adjustments to their DOS level until end of year three; after that a DOS representation will be required

Option 2: Bill Credits

- The AESO will apply bill credits to the DTS bill for a site, in the form of an energy charge credit
- The calculation of the credit on energy charge is consistent for all sites; but the resulting credit will differ between sites based on mitigation value to reach a 10 per cent transmission bill impact

Energy charge credit percentage estimated as:

Credit on Energy Charge = ((Annual Transmission Costs [under 2019 ISO tariff rates] X 110%) – (Annual Transmission Costs [under AUC approved design])) / (Energy [2019 Site Actual Energy] X Energy Charge [under AUC approved design])

- Credit will be available for five years, starting when the approved rate design takes affect, decreasing by 20 per cent each year

Option 3: Combination

- A variation from bill credits which takes into account any reduction in transmission bill impact due to use of Transition (DOS) Rate

Energy charge credit percentage estimated as:

Credit on Energy Charge = ((Annual Transmission Costs [under 2019 ISO tariff rates] X 110%) – (Annual Transmission Costs [under AUC approved design]+ **DOS Rate**)) / (Energy [2019 Site Actual Energy] X Energy Charge [under AUC approved design])

- Credit will be available for five years, starting when the approved rate design takes affect, decreasing by 20 per cent each year

Mitigation eligibility and option selection process

- Should the preferred rate design be substantially approved the AESO will recalculate transmission bill impact estimates to identify highly impacted parties
  - Using substantially approved preferred rate design, including approved functionalization, approved demand/energy split, 2019 usage and 2019 test rates (based on 2019 billing determinants and revenue requirement)
- Highly impacted parties will be informed they are eligible for mitigation
- Highly impacted parties must inform the AESO within 45 days of their selected mitigation option, including the Transition (DOS) Rate contract amount
- If the substantially approved preferred rate design results in a significant change in the number of parties with a greater than 10 per cent transmission cost impact the MOA will become void

Mitigation implementation

- Should the preferred rate design and the MOA be approved the AESO will file an ISO tariff rider setting out the following as part of its compliance filing:
  - List of highly impacted parties (those parties that are expected to experience an increase of 10 per cent or more transmission cost impact)
  - Mitigation option selected by each impacted party
  - Transition (DOS) Rate contract levels elected by highly impacted parties that select this option, along with load factor limit if greater than 20%
  - Energy credit values for highly impacted parties that select this option

Estimated value of the mitigation options

- The transitionary bill mitigation options for the significantly impacted parties result in the following estimated mitigation value (or cost)
  - Estimates represent upper bounds for either option 1 or 2 if all parties select that specific option; costs for option 3 would fall under these upper bounds

	Estimated Billing Determinant Impact	Estimated Per Unit Impact	Estimated Total Mitigation Value (or Cost) for 5 Years
Option 1: Transition DOS (for amounts greater than 20% LF)	81 MW reduction in billing capacity	Monthly $3,509/MW of billing capacity	$17.0 million
Option 2: Bill Credits	1,970 GWh - Annual	Average Year 1 Credit of $3.30/MWh (Declining annually)	$19.5 million

- The actual mitigation value (or cost) will depend on the impacted parties' option selection and actual operations

Targeted mitigation next steps

- Drafting and finalizing MOA (June to August 2021)
- Impacted parties decide whether or not to sign, including a rationale for their decision (August 2021)
- MOA will be included as part of the AUC application (October 2021)
- Implementation of the mitigation options will be included as part of the compliance filing (post AUC decision)

Questions?

DOS Modernization Recommendation Feedback & Revisions

Stakeholder feedback

- Review of the stakeholder feedback on the DOS Modernization Recommendation highlighted the following themes:
  - DTS cannibalization / erosion
  - DOS Rate charges
  - Business case
  - DTS contract level
  - 20 per cent load factor
  - Bidding requirement for DOS load
  - Settlement and monitoring
  - Other items

Feedback theme: Risk of DTS erosion

- Some stakeholders expressed concern the proposal doesn't prevent DTS cannibalization
  - Concerns modernized DOS will contribute to erosion of billing determinants
  - Concerns modernized DOS will result in higher overall costs to consumers due to different self-supply dispatch decisions for load on DOS
  - Some stakeholders suggested the AESO provide energy storage with its own rate so as not to risk cannibalizing DTS
  - Define metrics for success

Proposal seeks to find the balance

- The objective of DOS is to reduce the level of average rates charged to DTS customers by applying the additional revenue earned from the use of temporarily under-utilized transmission system assets
- To meet this objective, the qualification for DOS requires ensuring that the consumption would not have occurred under Rate DTS
- To enable this:
  - Consistent and reliable application of qualification criteria is essential to the success of opportunity rates
  - Sufficient rights and remedies to deter and remedy any misuse of Rate DOS

Feedback theme: DOS Rate charges should be reviewed

- Some stakeholders stated the DOS rate design (charges) should be in scope
  - Discounted rates are a policy matter
  - No sunk costs should be recovered through DOS charges
  - DOS load bidding in market so should pay same rates as generators

Rationale for maintaining DOS rate charges despite DTS changes

- The purpose of Rate DOS is to provide the opportunity to generate additional tariff revenue to the benefit of all rate payers by enabling consumption that would be uneconomic and not otherwise occur under Rate DTS
- If Rate DOS customers only paid for short-run variable costs, then rate payers would not be better off, as the payments made by Rate DOS customers would only serve to offset the costs they directly impose
- The energy charge of the preferred rate design is representative of the historical long-run contribution of energy consumption to investment in transmission infrastructure
- To charge DOS customers less than this amount would run the risk that facilitating their consumption of energy would cause more system costs in the long-run than the revenue they contribute, leading other rate payers to be made worse off

Feedback theme: Challenges with the business case

- The original recommendation for Rate DOS required customers to provide a business case that the AESO would review regarding the economic rationale for using Rate DOS
- Range of stakeholder concerns with the qualification business case:
  - Clarity, transparency and standardization of criteria needed
  - Requirements need to be more strict
  - DOS should be an alternative to load retention rates
  - Only evaluate the business case at one point in time
  - Standardize for energy storage
  - Parties should not have to disclose economic information
  - AESO unqualified to assess

Business case: Alternative proposal

- Shift from business case to customer representation
  - Instead of providing a business case to the AESO, a customer makes a representation to the AESO that its use of Rate DOS will enable consumption that would be uneconomic and would not otherwise occur under Rate DTS
  - The representation would be standardized and included in the application form for Rate DOS. A brief description of the reasons for using DOS would be included in the application form, but it would be used for audit purposes
  - The AESO would monitor users of Rate DOS for indications that the representation they provided is untrue and that the customer requires firm service or otherwise appears willing to pay the higher Rate DTS, including, but not limited to: (1) failing to respond to dispatches or directives, (2) exceeding the contract capacity, (3) exceeding the maximum load factor limit
  - If the AESO determines a customer has misrepresented its use of Rate DOS, the AESO may charge and recover Rate DTS plus interest and any other costs or damages incurred, and may restrict future use of Rate DOS by the customer

Business case: Alternative proposal

Options	Advantages	Disadvantages
Original proposal (business case)	• Already specified within the Terms and Conditions and accepted by AUC	• Subjectivity • Administrative burden for AESO • Uncertainty for applicant
Alternative proposal (representation and no business case)	• No AESO assessment • At the time of the application, the AESO will rely upon the market participant's representation that the consumption is uneconomic under Rate DTS	• Reliance on monitoring and remedy provisions to protect rate payers against misrepresentation • Remedies, which would include claw backs, could result in significant financial liabilities for market participants if they misuse Rate DOS

Qualification: Shift from business case to customer representation

- The AESO recommends the alternative proposal and standardizing the application for Rate DOS to include a representation
  - The representation will ensure the customer understands the purpose of Rate DOS and ensures its described use of Rate DOS aligns with this purpose
  - Removes the need for customers to provide a detailed business case and for the AESO to review such detailed business case as part of the application process; however, customers will have to perform their own due diligence to ensure they can make the representation
  - The terms and conditions for Rate DOS would include sufficient remedies to deter and remedy misuse of Rate DOS

Qualification checks

- To validate there are no issues with use of DOS at point of qualification the following will be confirmed:
  - **All DOS customers**
    - Application form is complete and signed
    - Technical assessment to ensure DTS + DOS contract capacity use does not exceed connection capability, or cause transient stability or voltage control problems
    - Are capable of consuming up to the DTS + DOS contract capacities
    - Demonstrate the ability to recall DOS energy
  - **Storage**
    - STS contract capacity $\gtrsim$ DTS + DOS contract capacity

Feedback theme: DTS contract level should be determined by the customer

- Stakeholders suggested:
  - The DTS requirement should be determined by the customer
  - The AESO should clarify its intent around requiring energy storage assets to also have a DTS contract, when one of the reasons for being granted a DOS contract is that operating under DTS is unfeasible for the project

DTS contract level will be determined by the customer

- The DOS rate will not specify a minimum DTS level for DOS load; however, Rate DOS requires Rate DTS service as an applicability provision
  - Having Rate DTS service ensures that the AESO can appropriately apply other ISO tariff terms and conditions
  - The AESO is not proposing to change this requirement to have a DTS contract
  - A non-zero DTS contract will be required for DOS
- The customer will determine the appropriate contract capacities and assume the risks of such contract levels
  - Recall risk: Increases as more customers use DOS or DTS in area
  - Request to switch to DTS: Requires standard SASR timelines
  - Ancillary service qualification risk: Can the service still be provided in the event of DOS recall?

Feedback theme: Twenty per cent maximum load factor too limiting or ineffective

- The AESO received mixed feedback on maximum load factor of 20 per cent:
  - Load factor limits revenue maximization
  - Historical use not representative
  - Not high enough for certain storage options or high load factor loads
  - AESO should study further for storage charge and discharge
  - Load factor limit should eliminate the need for a business case
  - Ineffective replacement for ‘short-term and temporary’ and does not limit DOS applications

Maintaining the twenty per cent maximum load factor in DOS recommendation

- The driver behind the 20 per cent load factor is a replacement for short-term and temporary use of available transmission capacity
  - The measure is not designed to meet specific customers needs and should not consider technology or load type
  - The 20 per cent load factor is the replacement for subjective assessment of short-term or temporary use; the higher the load factor the less it represents short-term or temporary use
  - While a low load factor may reduce the opportunity for revenue maximization, it also guards against Rate DTS cannibalization
- The AESO will maintain the 20 per cent maximum load factor as a technology agnostic quantitative requirement to reduce subjective qualification for Rate DOS while also deterring DTS Rate cannibalization

Feedback theme: Bidding requirement for DOS load unclear or complex

- Stakeholder concerns with bidding DOS loads:
  - Should be a standing bid with “down-to” DTS requirements
  - Requiring bidding negates the half-range option for storage
  - Bidding requires more examples, more consultation, more understanding of associated costs
  - Concerns with linking DOS (transmission rate) to energy market outcomes
  - Allow parties to chose between bidding or transaction request

Simplified approach to bidding

- The AESO understands the concerns related to bidding complexity and recommends DOS customers consider a simplified bidding approach:
  - Standing bid at $999.99/MWh equal to DOS contract capacity
    - Dispatch on indicates participant may consume as much DOS as was dispatched
    - Dispatch / directed off indicates participant cannot consume the volume of DOS energy dispatched off
    - More sophisticated bidding strategies are available to participant if desired
  - A second block at $0.00/MWh can be used to allow participant to manage their load factor
    - When energy is moved from $999.99/MWh to $0/MWh, participant will be dispatched off and would stop using DOS energy
    - When energy is moved from $0/MWh to $999.99/MWh, participant will be dispatched on and may start using DOS energy

Simplified approach to bidding (cont.)

- Dispatch on does not require the participant to use DOS capacity, the bid dispatch permits the use of DOS capacity
- Dispatch off prohibits the use of all or portion of DOS capacity
- Simplified approach applies to traditional loads and storage
- DOS less than 5 MW will not qualify until such time that ISO rules permit lower bid volumes
  - Market submissions under 5 MW planned for implementation prior to 2024
- For more information, please refer to the Demand Opportunity Service (DOS) Bid Examples document located on the AESO website

https://www.aeso.ca/assets/Uploads/Session-5B-DOS-Bid-Examples-FINAL.pdf

Feedback theme: Clarifications for settlement

- Stakeholder concerns with settlement:
  - AESO should clarify how monthly settlement works with an annual max load factor
  - POD charges should be separated out (so loads can have confidence their POD is maintained with a low DTS level)
  - Remove loss charge as unclear why DOS load pays losses

Monthly settlement of annual load factor updated

- DOS customer is allocated a 12-month load factor balance equal to the DOS contract capacity x hours in 12-month period x 20%
- Each month settled against the remaining 20 per cent load factor balance
  - Settlement maintains the load factor energy balance
  - Exceeding the DOS load factor level of 20% over the year will result in charges at the ~~DOS~~ DTS surcharge rate
- Impact of exceeding DTS + DOS contracted MW levels
  - Metered energy above the DTS + DOS contracted MW levels will be charged as Rate DTS (aligned with current Rate DOS) and therefore will not contribute the 20 per cent load factor
  - May result in a DTS contract adjustment to reflect usage

Monthly settlement of DOS considering annual maximum load factor illustrative example updated

- Customer allocated DOS energy to use over 12 months (ex. 17,520 MWh)
- The DOS load factor energy balance declines as DOS energy is used
- Once DOS load factor energy balance drops to zero any DOS energy consumed would be charged at the DTS surcharge rate
- Load factor energy balance reset after 12 months

Line Item	Description	Jan	Feb	Mar	Apr	May
DOS Contract capacity (MW)		10	10	10	10	10
DOS Energy used (MWh)	Energy above DTS contract capacity	1455	1200	2000	7440	7440
Load factor energy balance at month end (MWh)	8760 h *10 MW * 20% = 17520 MWh allowed	16065	14865	12865	5425	-2015
DOS charges ($15/MWh)	DOS Energy Used x $15/MWh	-$21,825.00	-$18,000.00	-$30,000.00	-$111,600.00	~~-$22,785.00~~ -$81, 375.00
DTS surcharge ($110/MWh)	The energy charged at the DTS surcharge rate	$0.00	$0.00	$0.00	$0.00	-$221,650.00
Total charges ($)	DOS charges plus DTS surcharge or credit	-$21,825.00	-$18,000.00	-$30,000.00	-$111,600.00	~~-$244,435.00~~ -$303,025.00

Losses settlement under rate DOS updated

- An underlying principle of an opportunity service is that all costs caused in provision of the service are paid by the consumer of the service
- The use of DOS capacity causes losses on the system that would not otherwise occur, and therefore Rate DOS should include a losses charge
- Without it, generators are subsidizing the use of DOS since generators will pay the cost of losses
- Note: the losses charge can be minimized by consuming DOS energy when energy prices are low, because the ~~DOS~~ losses charge is a percentage of pool price

POD charges with Rate DOS

- Rate DTS POD charges are based on one definition of billing capacity, relied on for both regional and POD charges
- Currently the ISO tariff has no requirement for the installed capacity of interconnection facilities to align with Rate DTS contract levels
- Upcoming comprehensive Customer Contribution Policy review will look at a number of issues including interconnection facilities cost, AESO investment, standard facilities, installed versus contract capacity and customer contributions

DOS monitoring

- Regular monitoring:
  - As mentioned earlier, the AESO would monitor users of Rate DOS using certain criteria which may indicate that the representation they provided is untrue and that the customer requires firm service or otherwise appears willing to pay the higher Rate DTS, including, but not limited to: (1) failing to respond to dispatches, (2) exceeding the contract capacity, (3) exceeding the load factor
  - The existence of these criteria would automatically give rise to a presumption that the customer has misrepresented its use of Rate DOS; however, there would be an opportunity for the customer to explain or provide additional information to rebut the presumption
  - The AESO would ultimately make the final determination

DOS monitoring (cont.)

- If the AESO finds the market participant has mispresented its use of Rate DOS, the AESO may:
  - Charge and recover Rate DTS plus interest over the historical period (potentially the entire period the Rate DOS applied) and any other costs or damages incurred
  - Restrict future use of Rate DOS by the customer
- Market dispatch violations will be referred to Market Surveillance Administrator (MSA)

Other Items

Allowing DOS for unplanned outages or derates

- Some stakeholders suggested that DOS be available for use for self-supply generator outages and derates, as few cogenerators currently utilize Rate DOS for planned outages due to the rate's inflexibility and there may be opportunities for increased transmission tariff revenue that is currently foregone
- DOS should not be considered a stand-by rate
- Given the modernization of Term type DOS, with the removal of the transaction request and having DOS loads bid into the market, the AESO could allow the use of Term type DOS for self-supply generator derates and unplanned outages provided the customer has controls in place to allow for DOS recall
- This will maximize transmission tariff revenue by allowing sites that have not contracted DTS for stand by to use the grid rather than curtail load

Separating the filing of Rate DOS from the Rate DTS

- Some stakeholders suggested that Rate DOS be a separate application
- In the interest of regulatory efficiency by having one application and one proceeding, the AESO does not plan to file a separate application for Rate DOS at this time

DOS availability and Connection Process

- Stakeholders requested the AESO to provide more information, including:
  - More details on SASR process for DOS (stages AESO will assess DOS qualification, connection study)
  - Capability maps of DOS availability
  - Notice (five years) to DOS customers of future constraints to their DOS
- The AESO will provide further details on the DOS application and contracting in the SASR process prior to the modernized DOS rate taking effect
- The AESO will not be prioritizing the development of a DOS capability map as part of DOS modernization

Recap of DOS Modernization Recommendation

- **Rate**
  - $/MWh conversion of DTS energy component
  - No expiry
  - Two types: Dispatchable and Term DOS
- **Qualification**
  - Standardized application process
    - Representation of DOS usage
  - Technical assessment of requested contract capacity
- **DOS usage and recall**
  - Managed through bids and merit order operation
- **Settlement**
  - Energy > DTS levels settled at DOS rate unless greater than 20 per cent
- **Audit**
  - Annual audit of representation and load factor

Questions?

What We Heard from Session 6A Stakeholder Feedback

Summary

- Primary comments from stakeholders in relation to AESO's preferred rate design were as follows:
  - Continued concern regarding allocation of costs to energy and demand using minimum system approach
  - Continued concern regarding recovery of energy related costs through flat energy charge
  - Continued questions on need for five-year average of 12-CP
  - Questions related to rate XOS and impact on exports

Comments with preferred rate design: Energy allocation

- Continued concerns with minimum system approach to allocate between demand and energy
  - Concern that methodology is not accounting for flows between areas appropriately
  - Questions regarding use of peak, net versus gross, or energy versus capacity
  - Concern that planning areas are arbitrarily defined
  - Concern about the allocation to demand and energy as a first step

Comments with preferred rate design: Flat energy charge

- Concerns with flat energy charge remain:
  - Concern that flat energy charge not consistent with time variation in use of transmission
  - Concern about impacts on long term response, incentives for self-supply / cost shifting
  - Concerns around cost for high load factor customers

Comments on five-year average 12-CP

- Questions about appropriate time horizon for calculation of 12-CP average (e.g.. One to five years)
- Concern about impact on DCG credits as a result of phasing in of five-year average
  - DFO calculation of DCG credits will need to recognize the transition of DCG credits

Comments on self-supply analysis

- Comments from stakeholders that:
  - Analysis should have included additional types of resources such as cogeneration/renewables/battery as a self-supply technology
  - Analysis needs to consider that one of the limitations on customers adopting self-supply is policy and tariff uncertainty
  - Analysis should be based on more recent average pool price
  - Analysis should consider impact of self-supply on pool prices
  - Assumption about carbon price limiting impact on self-supply needs to be tested
  - AESO should update delivered cost of energy report

Acknowledgement of feedback

- Your feedback has helped us understand your perspectives and where there are differences in views between stakeholders
- We will continue to consider your feedback in developing the application, including the process steps and issues list

Questions?

Break

Areas of Alignment

Identifying areas of alignment and misalignment

- Areas of alignment and misalignment from our engagement process will be used to inform the AESO's application, including list of issues for adjudication by the Commission to improve regulatory efficiency
- Seeking your feedback on whether we have appropriately captured the areas of alignment and misalignment

Areas of alignment – rate design

- Tariff provides price signals that impact how customers respond
  - All transmission charges are avoidable to varying degrees by transmission customers
  - Degree of response, including self-supply, is important to understand the impact of the tariff
- Transmission charges should reflect the costs of providing transmission service
  - Transmission charges based on cost causation will lead to efficient outcomes

Areas of misalignment – rate design

- Timing and need for change
  - Await regulatory certainty and economic recovery versus now is the time for change
- Allocation of costs between demand and energy
  - Some concern about allocation between demand and energy as a first step in preferred rate design
  - Different views on minimum system approach to allocate between demand and energy
- Opportunities and incentives for response to tariff charges
  - Total impact and potential self-supply response is not the primary driver for tariff design, understanding of incremental impact relative to today

Areas of misalignment – rate design (con't)

- Difference of views on choice of appropriate billing determinants
  - Appropriateness of 12-CP: value response provides versus the costs response shifts to other customers
  - 5-year average 12-CP: questionable value and implementation consequences for sites versus better aligning billing determinant with cost drivers
  - Flat versus time of use or other shaped energy charge: reflecting the time variation in the use of the system vs the fact that the system supports the use of energy at all times
  - Un-ratcheted NCP: Fixed costs should be recovered on fixed charges versus cost recovery should primarily relate to the different ways the system is used

Areas of alignment & misalignment – Mitigation

Alignment:

- It is not in anyone's interest to reduce the number of ratepayers

Misalignment:

- Mitigation should be temporary to transition ratepayers to face new cost reflective rates vs mitigation should be permanent
- Varied views on how eligibility for mitigation should be determined: a percentage cost increase threshold, a total dollar impact threshold, phased-in rate changes, based on an economic impact assessment

Areas of alignment & misalignment – Energy Storage Treatment

Alignment:

- Energy storage is unique in that it is not the producer or the end consumer of electric energy, nor is it the transmitter
- Energy storage can participate in Alberta's electricity use cases by providing energy price arbitrage, operating reserves, Non-wires solutions for transmission deferral
- Energy Storage should be treated in a FEOC manner

Misalignment:

- Treatment of energy storage when charging is like other consumers
- Feasibility of interruptible rates for storage and other grid users
- Applicability of DOS for energy storage is an improvement

Note: Areas of alignment and misalignment on DOS modernization will be identified following review of the July 9th feedback

Questions?

Implementation Considerations

Implementation considerations

- Contract capacity amendment period:
  - AESO will apply to the Commission to allow parties to adjust their contract capacity with the implementation of the new rates should they wish to do so
  - AESO will propose that any contract capacity amendments made during the rate implementation period will not be subject to the adjusted metering practice (AMP) requirements for contract capacity changes
    - the implementation of the AMP at such sites would align with the timing as approved by the Commission in the upcoming AMP Implementation proceeding
  - Payment-in-lieu of notice (PILON) would not apply to Rate DTS contract capacity amendments within the contract capacity amendment period
- DOS settlement reporting:
  - The AESO will develop settlement reporting to allow customers to track the use of DOS energy against the annual maximum load factor
- Minimum participation level for DOS will be reduced to 1 MW once the ISO rules are updated to enable assets under 5 MW to participate in the energy market
  - Change anticipated to occur as part of the Energy Storage ISO Rule Amendments

Questions?

Next Steps

Engagement schedule

- **July 9, 2021 |** Stakeholder feedback due on questions set out in Stakeholder Comment Matrix Session 6B
- **Late August/September 2021 |** The AESO will publish draft rate sheets for stakeholder review and written feedback
- **September 2021 |** The AESO will launch a survey to seek stakeholder input on the overall Bulk and Regional Tariff Design engagement process
- **October 2021 |** File application with AUC for public proceeding and approval

Session feedback

- We want to thank you for attending the Bulk and Regional Tariff Design Stakeholder Engagement Session 6B and we would appreciate your feedback on the session
- Launch Zoom poll
- We invite all interested stakeholders to provide their input on this session via the questions set out in the **Stakeholder Comment Matrix Session 6B on or before July 9, 2021**. The matrix will be available on June 17, 2021, on our website at www.aeso.ca
  - Path: Stakeholder Engagement > Rules, standards and tariff consultations > Tariff (filter) > Bulk and Regional Tariff Design > Session 6B | June 24, 2021

Rate sheets written consultation

- In late August/September 2021, the AESO intends to publish draft rate sheets for stakeholder review and written feedback
- **Purpose**
  - The purpose of the written consultation is to seek stakeholder input on the clarity and effectiveness of the draft rate sheets
- At that time, we invite all interested stakeholders to provide their input on the draft rate sheets via the questions set out in the Stakeholder Comment Matrix Rate Sheets.
- The draft rate sheets and associated comment matrix will be available late August/September and notice will be provided in our Stakeholder Newsletter and our website at www.aeso.ca
  - Path: Stakeholder Engagement > Rules, standards and tariff consultations > Tariff (filter) > Bulk and Regional Tariff Design

Overall engagement survey

- In September 2021, the AESO will launch a survey to seek stakeholder input on the overall Bulk and Regional Tariff Design engagement process. The survey will be available on our website at www.aeso.ca
- **Purpose**
  - The purpose of the survey is to seek stakeholder input on the overall engagement process for the Bulk and Regional Tariff Design engagement to guide us as we continuously work to improve how we engage stakeholders to ensure our approach allows stakeholders' needs and interests to be consistently, transparently and meaningfully considered
- At that time, we invite all interested stakeholders to share their perspectives on this overall engagement
  - Path: Stakeholder Engagement > Rules, standards and tariff consultations > Tariff (filter) > Bulk and Regional Tariff Design

AESO application and the AUC process

- The AESO will file an application with the AUC putting forward its preferred rate design on or before October 15, 2021
- The AUC will initiate a public proceeding following the filing of the AESO's application
- The AUC proceeding is a public process where registered participants are able to voice their concerns, objections or support and have them considered and understood before a decision is reached
- The AUC will decide whether or not to approve the AESO's preferred rate design based on what is fair, responsible and in the public interest
  - The outcomes of the targeted mitigation engagement will be tested by the AUC, who will make a decision on the overall rate design and any agreements on mitigation that are reached through the targeted mitigation engagement process
- Given the steps in the regulatory process, we anticipate the **earliest the new rate design would come into effect is 2024**

Questions?

Contact the AESO

- ***Twitter:*** *@theAESO*
- ***Email:*** *tariffdesign@aeso.ca*
- ***Website:*** *www.aeso.ca*
- Subscribe to our stakeholder newsletter

Thank you

Appendix – DOS additional content

Term Type DOS

- Condition for term type DOS - for scheduled maintenance of a generating unit where the market participant has planned maintenance of an on-site generating unit that normally supplies electric energy to an industrial process on the same premises; and would reduce the load of its industrial process in these circumstances rather than pay the cost of receiving additional electric energy under Rate DTS
- This DOS rate type continues to represent the full DTS charge in $/MWh and is intended to allow short-term usage at less than the full cost (including ratchet) of Rate DTS but would be significantly more costly than Rate DTS for long-term or more frequent usage.

Monthly settlement of DOS considering annual maximum load factor alternative example

- January and February has unused DOS energy under the maximum load factor and that DOS energy carries over into March (33 + 192 = 225 MW)
- In March, customer exceeds the monthly allowable DOS energy plus the carry-over DOS energy by 287 MWh (512 minus 225). That volume is settled at DTS surcharge rate
- In April, the customer uses no DOS energy and is credited back the DTS surcharge amount, and the unused energy balance becomes 1440 – 287 = 1153 MWh for use in May

	Description	Jan	Feb	Mar	Apr	May
DOS Contract capacity (MW)		10	10	10	10	10
Monthly Allowable DOS Energy (MWh)	hours in month x contract capacity x 0.2	1488	1392	1488	1440	1488
DOS Energy used (MWh)	energy above DTS contract capacity	1455	1200	2000	0	1494
Monthly Energy below (above) Monthly Allowable DOS Energy	Negative – monthly use exceeded monthly allowable; Positive – monthly use was below monthly allowable	33	192	-512	1440	-6
DOS charges ($15/MWh)	Min(DOS Energy Used, Monthly allowable) x $15/MWh	-$21,825.00	-$18,000.00	-$22,320.00	$0.00	-$22,410.00
Monthly DTS surcharge energy used (or credited) (MWh)	The energy applied at the DTS surcharge rate	0	0	287	-287	0
DTS surcharge or credit ($110/MWh)	Monthly DOS surcharge or refund	$0.00	$0.00	-$31,570.00	$31,570.00	$0.00
Total charges or credit ($)	DOS charges plus DTS surcharge or credit	-$21,825.00	-$18,000.00	-$53,890.00	$31,570.00	-$22,410.00

Appendix – Acronyms

Acronyms

- AGF = Aggregated Generating Facilities
- AIES = Alberta Interconnected Electric System
- AIL = Alberta internal Load
- ARS = Alberta Reliability Standards
- AS = Ancillary Services
- AUC = Alberta Utilities Commission
- BTF = Behind-The-Fence
- CP = Coincident Peak
- DFO = Distribution Facility Owner
- DOS = Demand Opportunity Service
- DTS = Demand Transmission Service
- EAL = ESBI Alberta Limited (Transmission Administrator prior to the formation of the AESO)
- EEA = Energy Emergency Alert
- GTA = General Tariff Application
- IOS = Import Opportunity Service
- LdF = Load Factor
- MSA = Market Surveillance Administrator
- OR = Operating Reserve
- PILON = Payment in Lieu of Notice
- POD = Point-of-Delivery
- SASR = System Access Service Request
- VER = Variable Energy Resource
- XOS = Export Opportunity Service