Stakeholder Comment Matrix – July 23, 2019

Consultation on Proposed new and amended ARS related definitions

Date of Request for Comment: July 23, 2019	Contact: Rajveen Gill
Period of Consultation: July 23, 2019 through August 6, 2019	Phone: 780-412-3435
Comments From: EPCOR Distribution & Transmission Inc.	Email: rgill@epcor.com
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Listed below is the summary description of changes for the proposed new and amended ARS related definitions. Please refer back to the Consultation Letter under the "Attachments" section to view materials related to the proposed new and amended ARS related definitions. Please place your comments/reasons for position underneath (if any).

Definitions – New

Existing	Proposed	Stakeholder Comments and/or Alternate Proposal
No definition currently exists for use in the Alberta reliability standards	"**radial circuit**" means an arrangement of contiguous **system elements** energized at 50 kV or higher that: (a) extend from a **system element** on the networked **transmission system** in a linear or branching configuration; (b) connect to one or more of a load facility, a **generating unit**, or an **aggregated generating facility**; and (c) comprise the only circuit by which power can flow between the networked **transmission system** and the facilities	1. Given the significance of these changes, EDTI believes that changes to definitions such as BES and radial are better addressed in AESO tariff proceedings rather than ad hoc consultations. 2. Does the AESO anticipate any changes to transmission project cost classifications with this proposed definition? 3. Why is this definition of radial circuit for ARS different from what has been proposed in the AESO's 2018 tariff (section 4.2)? 4. Can the AESO provide the rationale behind the inclusion of "…an arrangement where the circuit energized at 50 kV or higher is connected to another circuit energized at 50 kV or higher, either through a switching device that is operated normally open or through facilities energized at less than 50 kV where the circuit would be a **radial circuit** if the connection did not exist." in part (c)?

	identified in item (b) under normal operating conditions, and includes an arrangement where the circuit energized at 50 kV or higher is connected to another circuit energized at 50 kV or higher, either through a switching device that is operated normally open or through facilities energized at less than 50 kV where the circuit would be a **radial circuit** if the connection did not exist.		
No definition currently exists for use in the Alberta reliability standards	"**system access service**" as defined in the Act means the service obtained by **market participants** through a connection to the **transmission system**, and includes access to exchange electric energy and **ancillary services**.		
Definitions – Amended			
Existing	**Proposed**	**Blackline of Existing and Proposed**	**Stakeholder Comments and/or Alternate Proposal**
"bulk electric system" as defined by the Regional Reliability Organization, means the electrical generation resources, transmission lines, **interconnections**, with neighbouring **systems**, and associated equipment, generally operated at voltages of one hundred (100) kV or higher; radial **transmission facilities** serving only load with one	"**bulk electric system**" means all **system elements** that are included in the following: (i) all **system elements** that have all terminals energized at 100 kV or higher that are not part of a **radial circuit**; (ii) a **radial circuit** comprised of **system elements** that have all terminals energized at 100 kV or higher where the **radial circuit** connects to: (a) any facility included in items (iv) through (vii)	"**bulk electric system**" means all **system elements** that are included in the following: (i) all **system elements** that have all terminals energized at 100 kV or higher that are not part of a **radial circuit**; (ii) a **radial circuit** comprised of **system elements** that have all terminals energized at 100 kV or higher where the **radial circuit** connects to: (a) any facility included in items (iv) through (vii) below; or (b) 2 or more generating resources, being **generating units** and **aggregated generating facilities**, that have a combined **maximum authorized real power** higher than 67.5 MW;	1. Given the significance of these changes, EDTI believes that changes to definitions such as BES and radial are better addressed in AESO tariff proceedings rather than ad hoc consultations. 2. Does the AESO anticipate any changes to transmission project cost classifications with this proposed definition? 3. Please clarify "direct connection" and "common switchyard" in parts (iv), (v), and (vi). 4. It is not clear how the presence of a third winding (whose voltage is ≥100kV) on a non-dedicated

(1) transmission source are generally not included in this definition.	below; or (b) 2 or more generating resources, being **generating units** and **aggregated generating facilities**, that have a combined **maximum authorized real power** higher than 67.5 MW; (iii) a transformer that has its primary terminal and at least one secondary terminal energized at 100 kV or higher; (iv) a **generating unit** that has a **maximum authorized real power** higher than 18 MW where **system access service** is provided through a switchyard that is directly connected to **transmission facilities** energized at 100 kV or higher, including all **system elements** from the terminal of the **generating unit** to the **transmission facilities** energized at 100 kV or higher; (v) an **aggregated generating facility** that has a **maximum authorized real power** higher than 67.5 MW where **system access service** is provided through a switchyard that is directly connected to **transmission facilities** energized at 100 kV or higher, including all **system elements** from the collector bus to the **transmission facilities**	(iii) a transformer that has its primary terminal and at least one secondary terminal energized at 100 kV or higher; (iv) a **generating unit** that has a **maximum authorized real power** higher than 18 MW where **system access service** is provided through a switchyard that is directly connected to **transmission facilities** energized at 100 kV or higher, including all **system elements** from the terminal of the **generating unit** to the **transmission facilities** energized at 100 kV or higher; (v) an **aggregated generating facility** that has a **maximum authorized real power** higher than 67.5 MW where **system access service** is provided through a switchyard that is directly connected to **transmission facilities** energized at 100 kV or higher, including all **system elements** from the collector bus to the **transmission facilities** energized at 100 kV or higher, and excluding the **generating units** and the collector system feeders; (vi) all **generating units** and **aggregated generating facilities** where **system access service** is provided through a common switchyard that is directly connected to **transmission facilities** energized at 100 kV or higher and the **generating units** and **aggregated generating facilities** have a combined **maximum authorized real power** higher than 67.5 MW, including all **system elements** from the terminal of each **generating unit** and from the collector bus of each **aggregated generating facility** to **transmission facilities** energized at 100 kV or higher, and excluding the **generating units** and collector system feeders of each **aggregated generating facility**; (vii) a **blackstart resource**, including all **system elements** from the terminal of the **blackstart resource** to **transmission facilities** that are energized at 100 kV or higher; and (viii) a static or dynamic **reactive power** resource that is dedicated to supplying or absorbing **reactive power** to or from the **transmission system** and is	transformer (with a high-side voltage that is ≥100kV and a low-side winding <100kV which is connected to a capacitor bank) changes whether the capacitor bank is part of the BES or not. 5. EDTI finds the proposed format of BES hard to interpret and apply. EDTI suggests a re-write or alternate presentation of the BES definition (i.e. a matrix or decision workflow) to better clarify the requirements. 6. Is the AESO able to provide a map of what is to be included in the BES? 7. ARS TPL-002 System Performance Following Loss of a Single BES Element applies to transmission facilities rated 69 kV and above. The proposed BES definition appears to apply only transmission facilities rated 100 kV and above. Does the AESO see an inconsistenecy between TPL-002 and the proposed BES defintion? 8. Please explain why the proposed BES definition ratings are not aligned with NERC? 9. Can the AESO clarify the reasoning behind excluding the exemption of the NERC Local Area Network definition? 10. Is the AESO able to provide a comparison of the application of LAN in Edmonton and Calgary's service territories with the proposed BES definition?

	energized at 100 kV or higher, and excluding the **generating units** and the collector system feeders; (vi) all **generating units** and **aggregated generating facilities** where **system access service** is provided through a common switchyard that is directly connected to **transmission facilities** energized at 100 kV or higher and the **generating units** and **aggregated generating facilities** have a combined **maximum authorized real power** higher than 67.5 MW, including all **system elements** from the terminal of each **generating unit** and from the collector bus of each **aggregated generating facility** to **transmission facilities** energized at 100 kV or higher, and excluding the **generating units** and collector system feeders of each **aggregated generating facility**; (vii) a **blackstart resource**, including all **system elements** from the terminal of the **blackstart resource** to **transmission facilities** that are energized at 100 kV or higher; and (viii) a static or dynamic **reactive power** resource that is dedicated to supplying or	connected: (a) to **transmission facilities** energized at 100 kV or higher; (b) through a dedicated transformer that is directly connected to **transmission facilities** energized at 100 kV or higher; or (c) through a non-dedicated transformer that has its primary terminal and at least one secondary terminal energized at 100 kV or higher.	

	absorbing **reactive power** to or from the **transmission system** and is connected: (a) to **transmission facilities** energized at 100 kV or higher; (b) through a dedicated transformer that is directly connected to **transmission facilities** energized at 100 kV or higher; or (c) through a non-dedicated transformer that has its primary terminal and at least one secondary terminal energized at 100 kV or higher.		