

ARC Operations Work Group Assessment and Conversion of NERC PRC-021-1 to Alberta PRC-021-AB-1 Under Voltage Load Shedding Program Data			
Section	NERC PRC-021-1	Alberta PRC-021-AB-1	Reason for Difference
Purpose	Ensure data is provided to support the Regional database maintained for Under-Voltage Load Shedding (UVLS) programs that were implemented to mitigate the risk of voltage collapse or voltage instability in the Bulk Electric System (BES).	The purpose of this reliability standard is to ensure data is provided to support the WECC database maintained for UVLS programs.	Excluded last portion of the NERC purpose as it just describes why UVLS programs are implemented.
Applicability	4.1. Transmission Owner that owns a UVLS program. 4.2. Distribution Provider that owns a UVLS program.	<ul style="list-style-type: none"> TFOs, WOs, transmission connected end-use customers and owners of industrial systems that own a UVLS system. ISO 	Identified applicable entities in Alberta.
Effective Date	August 1, 2006	Ten calendar days after the date of approval by the Commission.	
Definitions		Italicized terms used in this reliability standard have the same meanings as set out in the Alberta Reliability Standards Glossary of Terms and Part 1 of the ISO Rules. ¹	Added definitions section to the Alberta reliability standard.
Requirement	R1. Each Transmission Owner and Distribution Provider that owns a UVLS program to mitigate the risk of voltage collapse or voltage instability in the BES shall annually update its UVLS data to	R1. The ISO must update its UVLS data annually to support the WECC UVLS database.	Identified the regional entity and the applicable entity in Alberta.

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¹ Defined terms are not italicized in this document, but will appear in the Alberta Reliability Standards document.

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	support the Regional UVLS program database. The following data shall be provided to the Regional Reliability Organization for each installed UVLS system:	<p>R2. The <u>ISO must provide the</u> following data to the <u>WECC</u> for each installed UVLS system <u>that is in the WECC database</u>:</p> <ul style="list-style-type: none"> • Size and location of customer load, or percent of connected load, to be interrupted. • Corresponding voltage set points and overall scheme clearing times. • Time delay from initiation to trip signal. • Breaker operating times. • Any other schemes that are part of or impact the UVLS programs such as related generation protection, islanding schemes, automatic load restoration schemes, UFLS and <u>RAS (identified as Special Protection Systems by WECC)</u>. <p>R3. <u>TFOs , WOs, transmission connected end-use customers and owners of industrial systems must provide UVLS data in accordance with OPP 1306 "Reporting Equipment Changes" and upon request by the ISO.</u></p>	<p>Changed the passive term "shall" to "must"</p> <p>Added a requirement to identify obligations of TFOs and WOs to provide data to the ISO.</p>

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Measure		<p><u>MR1. Evidence that the UVLS data update process was completed within 12 months of the previous update.</u></p> <p><u>MR2. Written confirmation from WECC that UVLS data was received.</u></p> <p><u>MR3. Written confirmation from the ISO that UVLS data was received.</u></p>	Developed measures specific to the requirements.
Requirement	R1.1. Size and location of customer load, or percent of connected load, to be interrupted.	▼	NERC requirements R1.1 to R1.5 are included in Alberta requirement R2.
Measure			
Requirement	R1.2. Corresponding voltage set points and overall scheme clearing times.	▼	
Measure			
Requirement	R1.3. Time delay from initiation to trip signal.	▼	
Measure			
Requirement	R1.4. Breaker operating times.	▼	
Measure			
Requirement	R1.5. Any other schemes that are part of or impact the UVLS programs such as related generation protection, islanding schemes, automatic load restoration schemes, UFLS and Special Protection Systems.	▼	

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Section	NERC PRC-021-1	Alberta PRC-021-AB-1	Reason for Difference
Measure	M1. Each Transmission Owner and Distribution Provider that owns a UVLS program shall have documentation that its UVLS data was updated annually and includes all items specified in Requirement 1.1 through 1.5.		
Requirement	R2. Each Transmission Owner and Distribution Provider that owns a UVLS program shall provide its UVLS program data to the Regional Reliability Organization within 30 calendar days of a request.	R4. The ISO must provide its UVLS data to the WECC within 30 calendar days of a written request to do so from WECC .	Identified the regional entity and the applicable entity in Alberta. Changed the passive term "shall" to "must"
Measure	M2. Each Transmission Owner and Distribution Provider that owns a UVLS program shall have evidence it provided the Regional Reliability Organization with its UVLS program data within 30 calendar days of a request.	MR4. Written confirmation from WECC that data was received within 30 calendar days of a request .	Identified the type of evidence required.
Procedures			
Compliance	1. Compliance Monitoring Process 1.1. Compliance Monitoring Responsibility Regional Reliability Organization. 1.2. Compliance Monitoring Period and Reset Time Frame One calendar year. 1.3. Data Retention Each Transmission Owner and Distribution Provider that owns a UVLS program shall retain a		There is no compliance section currently proposed in the Alberta Reliability Standards. A compliance program will be developed at a later date for Alberta Reliability Standards that recognizes the compliance monitoring and enforcement

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- Deleted: M2. Each Transmission Owner and Distribution Provider that owns a UVLS program shall have evidence it provided the Regional Reliability Organization with its UVLS program data within 30 calendar days of a request.

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	<p>copy of the data submitted over the past two years. The Compliance Monitor shall retain all audit data for three years.</p> <p>1.4. Additional Compliance Information Transmission Owner and Distribution Provider shall demonstrate compliance through self-certification or audit (periodic, as part of targeted monitoring or initiated by complaint or event), as determined by the Compliance Monitor.</p> <p>2. Levels of Non-Compliance</p> <p>2.1. Level 1: Did not update its UVLS data annually.</p> <p>2.2. Level 2: UVLS data was provided, but did not address one of the items identified in R1.1 through R1.5.</p> <p>2.3. Level 3: UVLS data was provided, but did not address two or more of the items identified in R1.1 through R1.5.</p> <p>2.4. Level 4: Did not provide any UVLS data.</p>		<p>structure in Alberta.</p> <p>This approach is deemed consistent with the existing ISO Rules.</p>
Regional Differences	None identified.	None identified.	Not applicable in Alberta

Proposed Terms for the Alberta Reliability Standard Glossary:

“transmission connected end-use customer” - means an entity purchasing electricity for their own use that are connected to the AIES at a high voltage level above 25 kV.



"owner of industrial system" - means the owner of an industrial system designated as such by the Commission in accordance with the Hydro and Electric Energy Act and includes the operator of such system.

Defined Terms Used in this Standard:

(As included in the ISO Rules Definitions or Alberta Reliability Standards Glossary)

- Commission
- ISO
- transmission facility owner (TFO)
- under frequency load shedding (UFLS)
- under voltage load shed (UVLS)
- WECC
- wire owner (WO)
- reliability standard
- load

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that were implemented to mitigate the risk of voltage collapse or voltage instability in the Bulk Electric System (BES)

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Distribution Provider that owns a UVLS program.

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Each Transmission Owner and Distribution Provider that owns a UVLS program to mitigate the risk of voltage collapse or voltage instability in the BES shall