
EOP-003-AB-1 Load Shedding Plans

1. Purpose

The purpose of this *reliability standard* is to ensure plans are in place and are implemented to shed *load* when there is insufficient generation or transmission capacity, to mitigate the risk of an uncontrolled failure of the *Interconnection*.

2. Applicability

This *reliability standard* applies to the entities listed below:

- *ISO*
- *TFOs*
- *demand customers*
- *WSPs* who are counterparties to an agreement with the *demand customer* for the provision of load shedding services.

3. Definitions

Italicized terms used in this *reliability standard* have the meanings as set out in the Alberta Reliability Standards Glossary of Terms and Part 1 of the ISO rules.

4. Requirements

- R1** When the AIES is operating with insufficient generation or transmission capacity and after considering all remedial steps, the *ISO* must issue *directives* to shed *load*.
- R1.1** *Demand customers* and *WSPs* must shed *load* or reduce *MW* inflow as directed by the *ISO*.
- R1.2** When coordination with the *ISO* is not possible or practicable, and after considering all remedial steps, the *TFO*, when operating with insufficient generation or transmission capacity, must shed *load* rather than risk an uncontrolled failure of components or *cascading* of the *Interconnection*.
- R2** The *ISO* must establish plans for automatic *load* shedding for *underfrequency* or under voltage conditions.
- R3** The *ISO* must submit *UFLS* plans to the *WECC* for coordination of *UFLS* plans among other *interconnected transmission operators* and *balancing authorities*.
- R4** The *ISO* must coordinate *UVLS* plans among other *interconnected transmission operators* and *balancing authorities* external to Alberta.
- R5** The *ISO* must consider one or more of these factors in designing an automatic *load* shedding scheme: frequency, rate of frequency decay, voltage level, rate of voltage decay, or power flow levels.

- R6** The *ISO* must implement automatic *load* shedding in *MW* blocks established to minimize the risk of further uncontrolled separation, loss of generation, or system shutdown.
- R7** After the *AIES* separates from the *Interconnection*, if there is insufficient generating capacity to restore system frequency following automatic *underfrequency load shedding*, the *ISO* must issue *directives* to shed additional *load*.
- R8** The *ISO* must coordinate automatic *load* shedding throughout Alberta with *underfrequency* isolation of generating units, tripping of shunt capacitors, and other automatic actions that will occur under abnormal frequency, voltage, or power flow conditions.
- R9** The *ISO* must have procedures for directing operator controlled manual *load* shedding to respond to real-time emergencies.
- R10** The *ISO* must be capable of directing manual *load* shedding in a time frame adequate for responding to the emergency.
- R11** *Demand customers* and *WSPs* must be capable of implementing manual *load* shedding in a time frame adequate for responding to the emergency.

5. Processes and Procedures

No procedures have been defined for this *reliability standard*.

6. Measures

The following measures correspond to the requirements identified in Section 4 of this *reliability standard*. For example, MR1 is the measure for R1.

These measures will be used by the *ISO* in carrying out its *compliance monitoring* duties in accordance with *ISO rule 12*. The *ISO* may consider other data and information, including any provided by a *market participant*.

- MR1** Voice recordings and logs exist to confirm the *ISO* issued *directives* to shed *load*.
 - MR1.1** Electronic logs, metering or electronic data exists to confirm the *market participant* shed *load*.
 - MR1.2** Electronic logs and/or electronic data exist to confirm the *TFO* shed *load*.
- MR2** Automatic *load* shedding plans exist. Plans meet the defined need of *load* shedding situations.
- MR3** Written confirmation from the *WECC* that the *ISO* submitted *UFLS* plans.
- MR4** Written confirmation from *interconnected transmission operators* and *balancing authorities* external to Alberta indicating that the *ISO* coordinated *UVLS* plans.
- MR5** One or more of these factors were considered in the design of the *load* shed scheme.
- MR6** One or more *MW* blocks exist in *load* shed plans or schemes.
- MR7** Voice recordings and logs exist to confirm the *ISO* issued *directives* to shed additional *load*.
- MR8** *ISO rules*, *interconnection* standards or studies exist to show coordination with automatic actions.

EOP- 003- AB-1 Load Shedding Plans

- MR9** Procedures exist for directing operator controlled manual *load* shedding.
- MR10** Electronic logs, and/or voice recordings exist to confirm the *ISO* directed manual *load* shedding. Manual *load* shedding is performed in a time frame adequate to respond to the emergency as defined in operating procedures or equipment ratings.
- MR11** Electronic logs, metering or electronic data exists to confirm the manual *load* shedding. Manual *load* shedding is performed in a time frame adequate to respond to the emergency as defined in operating procedures or equipment ratings.

7. Appendices

No appendices have been defined for this *reliability standard*.

8. Guidelines

No guidelines have been defined for this *reliability standard*.

Revision History

Effective	Description
2009-00-00	

Definitions

This section is used for information purposes only and will not be included in the final draft version that is filed with the Alberta Utilities Commission (AUC).

- *Alberta Interconnected Electric System or AIES*
- *balancing authority*
- *cascading*
- *compliance monitoring*
- *directive*
- *industrial system or IS*
- *Independent System Operator or ISO*
- *Interconnection*
- *load*
- *market participant*
- *reliability standard*
- *transmission facility owner or TFO*
- *transmission operator*
- *underfrequency*
- *underfrequency load shedding or UFLS*
- *under voltage load shed or UVLS*
- *Western Electricity Coordinating Council or WECC*
- *wire owner or WO*
- *wire services provider or WSP*