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## TOP-005-AB-1 Operational Reliability Information

### 1. Purpose

The purpose of this *reliability standard* is to require entities responsible for reliable power system operation, to have the operating data needed to monitor system conditions within their areas.

### 2. Applicability

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

- *ISO*
- *pool participants*
- *TFOs*

### 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** The *ISO* must provide the *VRC* with the operating data that the *VRC* reasonably requires to perform operational *reliability* assessments and to coordinate reliable operations within the *VRC* area.
- R2** Upon request, each *TFO* must provide to the *ISO*, the operating data that is necessary to allow *ISO* to perform operational *reliability* assessments and to coordinate reliable operations. *TFOs* must provide the types of data as listed in Appendix 1 of this *reliability standard*, unless otherwise agreed to by the *ISO*.
- R3** Upon request, the *ISO* must provide to other *balancing authorities* and *transmission operators* external to Alberta with immediate responsibility for operational *reliability*, the operating data that is necessary to allow these *balancing authorities* and *transmission operators* external to Alberta to perform operational *reliability* assessments and to coordinate reliable operations. The *ISO* must provide the types of data as listed in Appendix 1 of this *reliability standard*, unless otherwise agreed to by these *balancing authorities* and *transmission operators*.
- R4** Upon request, the *ISO* must provide to *TFOs* with immediate responsibility for operational *reliability*, the operating data that is necessary to allow *TFOs* to perform operational *reliability* assessments and to coordinate reliable operations. The *ISO* must provide the types of data as listed in Appendix 1 of this *reliability standard*, unless otherwise agreed to by the *TFOs* and with immediate responsibility for operational *reliability*.

**R5** Each *pool participant* must provide to the *ISO* data as specified in other *ISO rules* that is necessary to enable the *ISO* to conduct operational *reliability* assessments and coordinate reliable operations.

## **5. 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** A confirmation letter from the *ISO* is provided to the *compliance monitor* within 30 *days* of a request. The letter confirms that the *ISO* has provided the data as requested by the *VRC*. The letter is dated and signed by an authorized representative of the *VRC*.

**MR2** A confirmation letter from the *TFO* is provided to the *ISO* within 30 *days* of request. The letter confirms that the *TFO* has provided the data as requested by *ISO*, and is acceptable to the *ISO*. The letter is dated and signed by an authorized representative of the *ISO*.

**MR3** A confirmation letter from the *ISO* is provided to the *compliance monitor* within 30 *days* of request. The letter confirms that the *ISO* has provided the data as requested by the *balancing authorities* or *transmission operators*. The letter is dated and signed by an authorized representative of the *balancing authorities* and *transmission operators* external to Alberta.

**MR4** A confirmation letter from the *ISO* is provided to the compliance monitor within 30 *days* of request. The letter confirms that the *ISO* has provided the data as requested by the *TFO*. The letter is dated and signed by an authorized representative of the *TFO*.

**MR5** A confirmation letter from the *pool participant* is provided to the *ISO* within 30 *days* of a request. The letter confirms that the *pool participant* has provided the data as requested by *ISO*, and is acceptable to the *ISO*. The letter is dated and signed by an authorized representative of the *ISO*.

## **7. Appendices**

### **Appendix 1 - TOP-005-AB-0 Electric System Reliability Data**

Appendix 1 lists the types of data that the *ISO*, *TFOs*, *VRC*, *balancing authorities*, and *transmission operators* are expected to provide and share with each other.

1. The following data must be updated at least every ten minutes.

1.1 Transmission data. Transmission data for all *interconnections* plus all other facilities considered key, from a *reliability* standpoint:

1.1.1 Status

1.1.2 *MW* or ampere loadings

- 1.1.3 MVA capability
- 1.1.4 Transformer tap and phase angle settings
- 1.1.5 Key voltages
- 1.2 Generator data:
  - 1.2.1 Status
  - 1.2.2 *MW* and *MVA*r capability
  - 1.2.3 *MW* and *MVA*r net output
  - 1.2.4 Status of automatic voltage control facilities
- 1.3. Operating reserves:
  - 1.3.1 *MW* reserve available within ten minutes
- 1.4. *balancing authority* demand:
  - 1.4.1 Instantaneous
- 1.5. Interchange:
  - 1.5.1 Instantaneous actual interchange with each *balancing authority*
  - 1.5.2 Current *interchange schedules* with each *balancing authority* by individual *interchange transaction*, including *interchange* identifiers, and reserve responsibilities
  - 1.5.3 *Interchange schedules* for the next 24 hours
- 1.6. *Area control error* and frequency:
  - 1.6.1 Instantaneous *area control error*
  - 1.6.2 Clock hour *area control error*
  - 1.6.3 System frequency at one or more locations in the *balancing authority*
- 2. The following information must be updated as soon as the information becomes available.
  - 2.1. *Interconnection reliability* operating limits and system operating limits in effect
  - 2.2. Forecast of operating reserves at peak, and time of peak for current *day* and next *day*
  - 2.3. Forecast *peak demand* for current *day* and next *day*
  - 2.4. Forecast changes in equipment status
  - 2.5. New facilities in place
  - 2.6. New or degraded *remedial action schemes*
  - 2.7. Emergency operating procedures in effect
  - 2.8. Severe weather, fire, or earthquake
  - 2.9. Multi-site sabotage

## 8. Guidelines

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

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### Revision History

Effective	Description
2009-05-26	New Issue