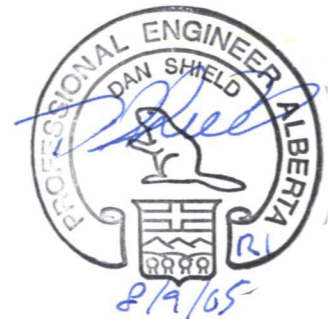


Operational Voice Communications Standard

Rev. 1

Final

September 7, 2005



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1.0 Introduction

1.1 Purpose

This document presents the technical requirements of operational voice communications for Participants in the Alberta Interconnected Electric System (AIES).

The intent of these technical requirements is to:

- a) Assist the AESO and Participants in the AIES in applying basic criteria for operational voice communications.
- b) Ensure the safe, reliable and economic operation of the AIES and the Alberta energy market.

1.2 Application

This standard applies to all facilities that will be directly connected to the AIES. It will be applied on a **go forward basis**, that is the standard shall not be used as justification to retrofit or change existing systems presently applied to the AIES that are not compliant with this standard. The AESO reserves the right, on a case-by-case basis, to endorse retrofitting existing non compliant communication systems with this standard for those facilities the AESO deems critical to the AIES.

This standard supersedes the technical requirements of the Operational Voice Communications for the AIES, Technical Standards OPP 003.3, issued 2003-07-28 for all new projects.

1.3 Definitions

The following definitions apply within this document.

Automated Dispatch and Messaging System (ADAMS) – “means the software and procedures used to communicate between the system controller and market participants for real time management of the AIES.” As defined in the ISO Rules.¹

Dedicated communication service - A telecommunication service that connects two parties that is for the exclusive use of the two parties and who's reliability and availability are not degraded by activities by others on shared equipment.

Direct access number - A telephone number dedicated to the functionality associated with the Participant role at that location. For example, at a marketing location the direct access number is one dedicated to the marketing function. The telephone number requires a primary number with automatic forwarding to another number if the primary number is busy, or a primary number with an alternate number available if the primary number is busy.

¹ ISO Rules, April 1, 2005

Generating Facility Owner (GFO) – “Has the meaning as that provided for “owner” in the Electric Utilities Act, of a generating unit.” As defined in the ISO Rules.

Market Participant – “Any person that supplies, generates, transmits, distributes, trades, exchanges, purchases or sells electricity, electric energy, electricity services or ancillary services.” As defined in the Electric Utilities Act.²

MSAT telephone service - A commercially available satellite voice communications service in which telephone service is provided for the purpose of dialing and communicating with other parties, usually on a one-to-one basis.

MSAT dispatch service - A commercially available satellite voice communications service in which specified Participants can enter into a multi-party communication, with each party having access to all parties at the same time.

Normal telephone service - Private line telephone service provided by a commercial supplier of telephone services.

Operational voice communications - Voice communications required for the operation and security of the AES and occurring between the SC and Participants, Wire Service Providers, power system operators and interconnected control area operators.

Transmission Facility Owner (TFO) – “Has the meaning as that provided for “owner” and “transmission facility” in the Electric Utilities Act.” As defined in the ISO Rules.

Wire Owner (WO) - Has the meaning as that provided in the Electric Utilities Act for “owner” and “electric distribution system”. Wire owners maintain the responsibilities as that provided in the Electric Utilities Act and the Roles, Relationships and Responsibilities Regulation. As defined by the ISO Rules

Wire Service Provider (WSP) - A person authorized by a wire owner to act on behalf of that owner. As defined by the ISO Rules.

1.4 Modifications

In respect to this standard the AESO must:

- a) seek and consider the input and feedback of any affected parties prior to making changes or additions to the standard;
- b) make and manage all changes to this standard;
- c) make this standard publicly available via the AESO website.

² Electric Utilities Act, 2003, Part 1, Section 1

1.5 Requirement for Review

This standard expires and must be reviewed within five (5) years of the effective date shown on the cover page and given below. This standard shall stay in force during the review period, but shall automatically cease to have force twelve (12) months after the five (5) year expiry date.

The effective date of this standard is September 7, 2005.

1.6 Document Change History

VERSION	DISCRIPTION	DATE
Rev 1	New Standard Issued	2005. 09.07
Rev 0	New interconnection standard superseding OPP 003.03	2005. 08.10
OPP 003.3	Revised to AESO Operating Policies and Procedures	2003. 07. 28
003.3	New Issue in Pool Code	2001. 12. 21

2.0 Overview

2.1 Background

The AESO, via the System Controller (SC), operates a spot electric energy market and is the real-time operating authority for the AIES. Reliable telephone voice communications between the SC and Participants is fundamental to the safe, reliable and economic operation of the power system and energy market.

Initially, a highly-reliable system was installed between the SC and Transmission Facility Owners (TFO's) to meet this requirement. However, that system's overall reliability was affected by a number of changes over time and the increased number of Participants.

In March 2000, the Power Pool of Alberta initiated a feasibility study for improving the requirements for operational communications with Participants. The study group made recommendations on the communication requirements that included the implementation of the Automated Dispatch and Messaging System (ADAMS), development of voice communications standards to support the SC function, and involvement by the stakeholder community in development of these standards.

The resulting new voice communication standard takes into account the different roles of Participants and their impact on the interconnected electric system.

As a result of the AESO's ADAMS, a number of telephone voice conversations are eliminated with Participants. In other cases, normal telephone services are used. In some cases, additional steps must be taken to ensure that voice communication capability is not interrupted due to a failure of one or more communication systems.

2.2 Guidelines

In developing this standard, the following principles were used as guidelines:

- Voice communication standards must meet criteria set by NERC³ and the WECC⁴.
- Voice communication standards must be fair and equitable to all Participants and provide reasonable opportunity for Participants to take part in the Alberta electric system market.
- The standards must meet the needs for the safe, reliable and economic operation of the power system.

³ NERC COM-001-0, COM-002-0, IRO-002-0.

⁴ WECC MORC Section 7.

3.0 General Requirements

The AES provides reliable electricity 24 hours a day and 7 days a week. Therefore all of the participant communication requirements identified in the following sections are required on a 24 hours per day and 7 days per week basis.

4.0 Market Participants Receiving Energy Dispatches or Providing Ancillary Services

The requirements that apply to all market participants receiving energy dispatches or are providing ancillary services are identified in the following table.

Table 4-1: General Requirements for All Participants

Participants	Primary Communications	Backup Communications
All Participants who are required to receive energy market dispatches	1. Automated Dispatch and Messaging System (ADAMS) 2. Normal telephone service with direct access number.	None
All Participants who are required to receive ancillary service dispatches	1. Automated Dispatch and Messaging System (ADAMS) 2. Normal Telephone Service with a direct access number and a telephone set equipped with mute capability and able to be dedicated to group conference calls.	One of the following services to the generation facility's operating authority location is required: 1. MSAT Telephone or Dispatch Service 2. Dedicated communication service to the AESO.

5.0 Requirements for Generators

The technical requirements for Generating Facility Owners (GFO's) are as follows:

Table 5-1: Requirements for Generators

Participants	Primary Communications	Backup Communications
Generating Units connected to the distribution system (interconnection \leq 25 kV)	Normal telephone service to the generation facility's operating authority location. Use of cellular phones for off hour coverage is acceptable providing 7x24 coverage is maintained. Voicemail is not acceptable.	None.
Generating Units connected to the transmission system (interconnection $>$25 kV) where the aggregated	Normal telephone service with a direct access number to the generation facility's operating authority location. Use of cellular phones for off hour coverage is acceptable providing 7x24 coverage is maintained.	Alternate generation facility operating authority contact number.

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Participants	Primary Communications	Backup Communications
generation output connected as a single source to the transmission system is less than 50 MW	Voicemail is not acceptable.	
Generating Units connected to the transmission system (interconnection >25kV) where the aggregated generation output connected as a single source to the transmission system is greater than or equal to 50 MW	1. Normal telephone service with a direct access number to the generation facility's operating authority location and a telephone set that is equipped with mute control and can be dedicated to group conference calls.	One of the following services to the generation facility's operating authority location is required: 1. Telephone service via dedicated communications system to the Transmission Facility Owner (TFO) who provides the transmission interconnection. 2. MSAT telephone or dispatch service. 3. Dedicated communication service to the AESO.
Generating Units that provide black start service	Normal telephone service with a direct access number to the generation facility's operating authority location and a telephone set that is equipped with mute control and can be dedicated to group conference calls.	MSAT dispatch service to the generation unit location is required. In addition, any one of the following services to the generation facility's operating authority location is required: 1. Telephone service via dedicated communications system to the Transmission Facility Owner (TFO) who provides the transmission interconnection. 2. MSAT telephone service. 3. Dedicated communication service to the AESO.

NOTE:

1. For large generating facilities with multiple units and multiple control rooms each control room shall meet the above standards.
2. Industrial systems with on site generation shall follow the generator requirements based on generation MVA rating regardless of site load levels.

6.0 Requirements for Transmission Facility Operators

The technical requirements for Transmission Facility Operators (TFO's) are as follows:

Table 6-1: Requirements for Transmission Facility Operators

Participants	Primary Communications	Backup Communications
All operators of transmission facilities except transmission operators who operate only radial transmission equipment	Normal telephone service with a direct access number and a telephone that is equipped with mute capability and that can be dedicated to group conference calls.	In addition, any one of the following services is required: 1. Dedicated communication service to the AESO. 2. MSAT dispatch service. 3. MSAT telephone service.
Transmission operators who operate only radial transmission equipment	Normal telephone service with a direct access number to the facility's operating authority location.	Alternate facility operating authority contact number.

For larger TFO's with multiple operator workstations additional MSAT telephone services may be required for restoration purposes.

7.0 Requirements for Wire Service Providers

The technical requirements for Wire Service Providers are as follows:

Table 7-1: Requirements for Wire Service Providers

Participants	Primary Communications	Backup Communications
All Wire Service Providers	Normal telephone service with direct access number.	None
All Wire Service Providers who can contribute incremental load additions for black start process requirements	Normal telephone service with direct access number. (To be directed by the Black Start Committee.)	In addition, any one of the following services is required: 1. Telephone service via dedicated communications system to the Transmission Facility Owner (TFO) who provides the transmission interconnection. 2. MSAT telephone service

8.0 Requirements for Interconnected Control Areas

The technical requirements for Interconnected Control Areas are as follows:

Table 8-1: Requirements for Interconnected Control Areas

Participants	Primary Communications	Backup Communications
All Control Areas connected to the AIES	Normal telephone service with direct access number.	MSAT dispatch service.

9.0 Operation Requirements

All Participants are responsible for ensuring the operational voice communications systems as specified by this standard are in place and maintained.

As needed the AESO will initiate and coordinate testing of the operational voice communications systems as per OPP 1203.