

## 6. DISPATCH AND DIRECTIVES

### 6.1 Asset Dispatching

*The system controller will dispatch assets according to the rules and the terms and conditions of the bids and offers.*

An **asset** will be **dispatched** within the terms and constraints set out in the **ISO rules** and the respective **offer** or **bid** associated with that **asset**.

### 6.2 Form of Dispatch and Directives

*The system controller will follow specific guidelines in delivering a dispatch and a directive.*

The specific communication form of a **dispatch** and an **ancillary service directive** is set out as follows:

#### 6.2.1 Form of Communication

The system controller may, at any time, dispatch and give ancillary service directives in accordance with the rules. The primary form of dispatch and ancillary service directives from the system controller will be through the automated dispatch and messaging system. Secondary means of communication will be by voice, if the automated dispatch and messaging system is unavailable.

#### 6.2.2 Communication Systems

*Pool participants must provide acceptable methods of communication.*

Unless otherwise authorized by the **ISO**, each **pool participant** must comply with the ISO Operating Policies and Procedures' technical standards for operational voice communications and **automated dispatch and messaging system**.

If communication systems become unavailable, the **pool participant** and **system controller** shall take action to identify the cause of the interruption, and to restore the communication system.

#### 6.2.3 Receiving and Implementing Directions

*Each pool participant receiving dispatches must ensure that persons are available to receive and implement a dispatch.*

**Pool participants** receiving **dispatches** shall ensure that persons are available to receive, and implement a **dispatch** delivered via the communication system described in rule 6.2.2, within the time period specified in the ISO Operating Policies and Procedures. The **pool participant** shall confirm a **dispatch** or **directive** by responding to the automated message, or in the case of a voice **dispatch** or **directive**, by repeating the **dispatch** or **directive** to the **system controller**.

#### 6.2.4 Dispatch and Directive Records

*The system controller will retain dispatch and directive records for a specified period.*

The **system controller** shall retain an electronic record of all **automated dispatch and messaging system dispatches, directives** and responses suitable for audit purposes. In the case of voice **dispatches**, the **system controller** shall record on tape all voice conversations that occur on the communication systems. **Dispatch** and **directive** records shall be kept for no less than **45 days**, and may be used to audit **dispatches**.

The **system controller** is responsible for ensuring there is a record of **dispatches** and **directives** sufficient to meet audit and verification requirements of the **ISO** and will retain electronic records for no less than one year.

#### 6.2.5 Monitoring

*The system controller reports and tracks the performance of ancillary service providers.*

- a) The **ISO** will monitor the declarations from **ancillary service providers** and the response to **ancillary service dispatches** and **ancillary service directives** for any significant changes, unusual activities or failures to comply.
- b) The **system controller** will consult with **ancillary service providers** whose actions has not met the expectations as defined in rule 6.5.3.
- c) The **system controller** will prepare regular reports on **ancillary services**.

#### 6.2.6 Requests for Records

*Pool participants may request to audit records for specific assets.*

**Pool participants** may make a written request to audit a record of a **dispatch** or **directive**. The **pool participant's** request shall specify the **asset** or **assets** affected, and the approximate date and time of the **dispatch** or **directive** which is to be audited. The request must be received by the **ISO** no more than **45 days** from the date of the **dispatch** or **directive**.

In the case of voice **dispatches** and **directives**, the **ISO** shall copy the pertinent portions of the voice record, which shall be sent to the requesting **pool participant**. If the portion of the voice recording is unsatisfactory to the **pool participant** in the audit, the **pool participant** may request, in writing to the **ISO**, that the full voice recording be subject to a dispute.

Voice records that have been requested for an audit will be stored by the **ISO** until any disputes arising from that **dispatch** or **directive** have been resolved.

## 6.3 Energy Market Dispatch and Directives

### 6.3.1 Factors to Take Into Account

*The system controller must take certain information into account when determining an energy market dispatch.*

In determining an **energy market dispatch**, the **system controller** must take into account:

- a) All information submitted in the **offers** and **bids** for all **assets** in the **energy market merit order**;
- b) The parameters submitted for **assets** under the requirements of the **rules**.

### 6.3.2 Dispatch Content

*The system controller will provide the pool participant specific information in the energy market or DDS dispatches.*

The information provided to the **pool participant** receiving an **energy market dispatch** or **DDS dispatch** shall include the information set out below, but shall not include any information that the **system controller** deems to be competitive market information:

- a) Name of the **asset**;
- b) The instruction (**dispatch on, dispatch off, DDS dispatch on, or DDS dispatch off**) for the **asset**;
- c) Specific **MW** value to which the **asset** is receiving an **energy market dispatch** or **DDS dispatch**;
- d) Date and time the **energy market dispatch** or **DDS dispatch** is to take effect.

### 6.3.3 Interconnection Dispatching

*Interconnection scheduling is subject to the operating procedures of other control areas. Energy market dispatch will be in the same form for all pool participants. NERC e-tags are required for interchange transactions and wheel- through interchange transactions.*

An **energy market dispatch** on the **interconnections** must take these procedural conditions into account:

- a) The physical scheduling of energy on an external **interconnection** is governed by the operating procedures agreed to by the **ISO** with the **balancing authority area operator** at the other end of the **interconnection**.
- b) The **system controller** will use the same form of **energy market dispatch** as provided in **rule 6.3.2**.

- c) **Importers and exporters** must make reasonable efforts to procure transmission service for the **offered available capability**.
- d) The **pool participant** must submit **electronic tags (e-tags)** for each **interchange transaction**.
- e) The **pool participant** must submit a single **e-tag** for each **wheel-through interchange transaction**.
- f) The sum of the **importer's e-tag** quantities (MW) and **importer's wheel-through interchange transaction e-tag** quantities (MW) for a single import **source asset** may only be less than the **available capability** of such **asset** stated two hours before the start of the **settlement interval** if the **importer** has an **acceptable operational reason**. Each **importer** who **offers** energy must submit an energy restatement in accordance with **rule 3.5.3.2** prior to the **settlement interval** in which the **offer** is to take effect, if the sum of the **importer's e-tag** quantities (MW) and **importer's wheel-through interchange transaction e-tag** quantities (MW) for such **settlement interval** is less than the **available capability**. Unless otherwise requested by the **system controller** under **rule 6.3.7**, the sum of the **e-tag** quantities (MW) and **importer's wheel-through interchange transaction e-tag** quantities (MW) cannot be greater than the **available capability offered** two hours before the start of a **settlement interval**.
- g) The sum of the **exporter's e-tag** quantities (MW) and **exporter's wheel-through interchange transaction e-tag** quantities (MW) for a single export **sink asset** may only be less than the **available capability** of such **asset** stated two hours before the start of the **settlement interval** if the **exporter** has an **acceptable operational reason**. Each **exporter** who **bids** energy must submit an energy restatement in accordance **rule 3.5.4.2** prior to the **settlement interval** in which the **bid** is to take effect, if the sum of the **exporter's e-tag** quantities (MW) and **exporter's wheel-through interchange transaction e-tag** quantities (MW) for such **settlement interval** is less than the **available capability**. Unless otherwise requested by the **system controller** under **rule 6.3.7**, the sum of the **e-tag** quantities (MW) and **exporter's wheel-through interchange transaction e-tag** quantities (MW) cannot be greater than the **available capability offered** two hours before the start of a **settlement interval**.
- h) If an **e-tag** for a **wheel-through interchange transaction** is curtailed, then the **importer/exporter** must restate both the import **offers** and the export **bids**, corresponding to the **wheel-through interchange transaction** in the **e-tag**, to the curtailed volume.

#### 6.3.4 Equal Price Offers or Bids

*The ISO will follow certain guidelines to manage equal price offers or bids for assets during a settlement interval.*

If a price of an **offer** or **bid** submitted in respect of an **asset** for a **settlement interval** is identical to the corresponding price of another **offer** or **bid** in respect of another **asset** for the same **settlement interval**, the **ISO** will:

- a) Determine the **energy market dispatch** by considering applicable constraint information for each of the **assets**, and
- b) If equal **offers** or **bids** remain; then as necessary proportioning participation amongst the **assets** within the **settlement interval** to the extent that identified **offer** or **bid** constraints allow and in a manner determined appropriate by the **ISO**.

### 6.3.5 Long Lead Time Energy

#### 6.3.5.1 Authority to Issue a **Long Lead Time Energy Directive**

The **system controller** may, in accordance with this **rule 6.3.5**, issue a **long lead time energy directive** to a **pool participant** with a **long lead time generating asset**.

#### 6.3.5.2 Requirements and Directives

- a) **Long lead time energy** with respect to a **long lead time generating asset** must be declared to the **ISO** by a **pool participant**, upon request by the **system controller** in accordance with **ISO Operating Policies and Procedures**.
- b) A **pool participant** whose **long lead time generating asset** is not synchronized to the **AIES** must submit to the **ISO** the time of day that such **asset** will be synchronized to the **AIES**, in order to have such **asset dispatched** according to the **energy market merit order**.
- c) A **pool participant** whose **long lead time generating asset** is synchronized to the **AIES** but has **long lead time energy** not reflected in its **available capability** due to **asset** constraints, must reflect the availability of such energy by appropriately adjusting the **available capability** of such **asset** in order to have such energy **dispatched** according to the **energy market merit order**.
- d) The time of day and the adjustment to **available capability** referenced in **rules 6.3.5.2 (b) and 6.3.5.2 (c)** must represent the physical condition of the **long lead time generating asset** as determined by either the time of the last notice of the **long lead time generating asset's** intention to start or the time of such **asset's** last **dispatch off**, as it relates to the **operating constraints** submitted to the **ISO** under **rule 3.5.3.4**. The time of day and the adjustment to the **available capability** must be submitted at least two hours prior to the beginning of the **settlement interval**.
- e) Subject to subsections 18(1) and 18(2) of the **T-Reg**, and in **accordance with ISO Operating Policies and Procedures**, the **system controller** may issue a **long lead time energy directive to a pool participant** for a specified **settlement interval**, if the **adequacy** assessment pursuant to **ISO Operating Policies and Procedure** forecasts insufficient supply to meet **AIES demand** during such **settlement interval**. The **system controller** must cancel the **long lead time energy directive** once the **adequacy** assessment indicates there is sufficient supply to meet **AIES demand** in subsequent **settlement intervals**.

- f) Subject to **rules 6.3.5.2 g)** and 8.1.1 and the definition of **incremental generation costs**, a **pool participant** that has complied with a **directive** to provide **long lead time energy** and the cancellation of such **directive** may be eligible to receive payment for **incremental generation costs** from the **ISO**.
- g) A **pool participant** that elects to participate in the energy market before receiving a **long lead time energy directive**, or after receiving a cancellation of a **long lead time energy directive** but before complying with such cancellation, is not eligible to receive payment for **incremental generation costs**. A **pool participant** that has received a **long lead time energy directive** may change the availability of the **long lead time energy** in accordance with **ISO rules 6.3.5.2 b), 6.3.5.2 c) and 6.3.5.2 d)**. In such circumstances, the **system controller** must cancel the **long lead time energy directive** and **dispatch the long lead time generating asset** according to the **energy market merit order** and the **pool participant** is not eligible for payment for **incremental generation costs**.

#### 6.3.5.3 Payment for Incremental Generation Costs

- a) Payment for **incremental generation costs** to a **pool participant** that has complied with a **long lead time energy directive** is intended to keep the **pool participant** whole, to the extent that energy receipts received as a result of the **directive** do not recover **incremental generation costs**.
- b) In the event a **pool participant** is eligible for payment for **incremental generation costs** and does not recover its **incremental generation costs** from the energy receipts received or associated with the **energy production** that is a result of a **long lead time energy directive**, the **ISO** must pay an additional amount up to, but not more than, the **incremental generation costs** net of such revenue.

#### 6.3.5.4 Financial Settlement

Where a **long lead time generating asset** has complied with a **long lead time energy directive**, then:

- a) within 40 **business days** after the end of the **settlement period** in which such **directive** was issued, the **pool participant** must issue to the **ISO** a statement showing:
  - (i) amount owing or owed as calculated in accordance with the definition of **incremental generation costs** and this **rule 6.3.5.4** along with supporting documentation; and
  - (ii) such other information as the **ISO** considers appropriate and has requested;

- b) the **pool participant** must provide to the **ISO** the supporting information used to determine the amount specified in any statement provided pursuant to this rule 6.3.5.4, including all information necessary to confirm the costs, charges and other items specified in the definition of **incremental generation costs**;
- c) settlement in respect of any such statement shall occur on or before 40 business days following receipt by **ISO** of the statement and supporting information specified in this rule 6.3.5.4; and
- d) if there is any dispute between a **pool participant** and the **ISO** in respect of an **incremental generation cost** claim for compensation then the matter will be resolved in accordance with the provisions of the applicable **ISO rules**.

#### 6.3.5.5 Reporting

In the event the **system controller** issues a **long lead time energy directive** the **ISO** must prepare a report and post such report on the **AESO** website. Such report must include:

- a) an explanation of the circumstances that caused and are related to the issuance of a **long lead time energy directive**, (e.g., date, duration, quantities (**MW**) affected);
- b) chronological events and material market impacts;
- c) any other matters the **ISO** deems appropriate.

#### 6.3.6 Dispatch Down Service Dispatch

##### 6.3.6.1 Eligibility

Eligibility may be determined at the sole discretion of the **ISO**.

- a) Subject to rule 6.3.6.1 b), a **source asset** is eligible to be **dispatched off** in the **energy market merit order** for **DDS** when the **pool participant** submits an **offer** for **DDS** to the **ISO** in accordance with rule 3.5.
- b) A **source asset** is not eligible to be **dispatched off** in the **energy market merit order** for **DDS** when:
  - i) such **dispatch** would cause **transmission must-run** to be required.
  - ii) such **dispatch** would be in an area where one or more **source assets** are **constrained down**.
  - iii) such **dispatch** would impair the **source asset's** ability to comply with an **ancillary service dispatch** or **directive**.

- iv) the **pool participant** is unable to respond to such **dispatch**.

#### 6.3.6.2 Conditions for Dispatch Down Service Dispatch

The **system controller** must **dispatch off operating blocks** in the **energy market merit order** that have offered eligible **DDS** when the conditions described in **rules 6.3.6.2 a)** or **6.3.6.2 b)** or in both exist.

- a) With respect to **DDS** for **transmission must-run** quantities the conditions are:
  - i) The **system marginal price** is less than or equal to the **reference price**; and
  - ii) A **source asset** has been issued a **transmission must-run dispatch** or **directive**; and
  - iii) The sum of the **transmission must-run** quantity (MW) and the **long lead time energy directive** quantity (MW) is greater than **constrained down directive** quantity (MW) as calculated by the **system controller**,
- b) With respect to **DDS** for a **long lead time energy directive** the conditions are:
  - i) A **pool participant** has received a **long lead time energy directive**;
  - ii) A **long lead time generating asset** is delivering its energy in accordance with such **directive**; and
  - iii) The highest priced **operating block** in the **energy market merit order** for the current **settlement interval** has not been fully **dispatched**.

#### 6.3.6.3 Determining Dispatch Down Service Dispatch Quantity

- a) Subject to **rules 6.3.6.2 a)** and **6.3.6.2 b)**, the **DDS dispatch** quantity (MW) is the lesser of:
  - i) the **transmission must-run** quantity (MW) and the **long lead time energy directive** quantity (MW) less the **constrained down directive** quantity (MW). The **DDS dispatch** quantity (MW) cannot be less than zero MW.
  - ii) the eligible quantity of **DDS offers**.
- b) **Operating blocks** in the **energy market merit order** that have been **dispatched off** with respect to **DDS** for **transmission must-run**

quantities will be **dispatched on** by the **system controller** prior to **dispatching operating blocks** that are greater than the **reference price**.

- c) **Operating blocks** in the **energy market merit order** that have been **dispatched off** with respect to **DDS** for a **long lead time energy directive** will be **dispatched on** by the **system controller** following the **dispatch of the highest priced operating block** in the **energy market merit order** for the current **settlement interval**.

#### 6.3.6.4 Dispatching Dispatch Down Service

The **system controller** will use the same form of **dispatch** as provided in **rule 6.3.2**.

The **system controller** will determine which **source assets** will be **dispatched** for **DDS** in order of relative economic merit and eligibility considerations outlined in **rule 6.3.6.1**.

If a **DDS** offer is determined by the **ISO** to be ineligible to provide **DDS** and it is next **DDS offer** in the **DDS merit order**, then the **system controller** will **dispatch** the next **DDS offer** in the **DDS merit order** that is eligible to provide **DDS**.

The **system controller** will **dispatch DDS** in accordance with **rules 6.3.6.2 and 6.3.6.3**. Notwithstanding **rule 6.3.6.3 a)**, the quantity of the **DDS dispatch** may be less than the quantity determined in such **rule** during the following periods:

- a) The period of time when the **system controller** has **dispatched up** to the **reference price** in the **energy market merit order**, requiring **operating blocks** in the **energy market merit order** to be **DDS dispatched off**, prior to **dispatching operating blocks** that are greater than the **reference price**.
- b) The period of time when the **system controller** has **dispatched down** to the **reference price** in the **energy market merit order** requiring **operating blocks** in the **energy market merit order** to be **DDS dispatched on**, subject to **rule 6.3.6.1 and 6.3.6.2**.

#### 6.3.7 Supply Shortfall Directive

If during the **trading day** the **system controller** determines that the forecasted **AIES load** requirement exceeds the available supply in any **settlement interval**, the **system controller** will use **ISO** supply shortfall operating policies and procedures to issue **directives** as required.

#### 6.3.8 Supply Surplus Directive

If during the **trading day** the **system marginal price** is determined by a **\$0 operating block**, the **system controller** will use **ISO** operating policy and procedures to issue **directives** as required for the applicable **settlement intervals**. **Pool participants** shall

provide the **ISO** with **asset** information necessary to carry out the operating policy and procedure.

### 6.3.9 Declaration of Pool Price

#### 6.3.9.1 Pool Price Determination

The **pool price** for any **settlement interval** will be based on the time weighted average of the 60 one minute **system marginal price** values determined for each minute of the **settlement interval**. The **system marginal price** at each minute is:

- a) the highest eligible **asset marginal price** of all **assets** required to meet **AIES demand**; or
- b) \$1000/MWh, if to maintain **system security** the **system controller** had directed an involuntary curtailment of non-**price responsive load** in accordance with rule 6.8; or
- c) as prescribed in **rule 6.9** in the event of an **energy market suspension**.

#### 6.3.9.2 Determination of Asset Marginal Price

The **asset marginal price** for a **pool participant's asset** for each minute of a **settlement interval** will be set at the price specified for the **price block** in the **pool participant's offer** or **bid** for such **asset** which corresponds to the **energy market dispatch** of such **asset** at the time the **energy market dispatch** was issued and accepted by the **pool participant**, pursuant to the following conditions:

- a) The **asset** is not used to calculate the **system marginal price** if the **price block** for that **asset** has not received an **energy market dispatch** in the **settlement interval**;
- b) The **asset marginal price** of an **interchange transaction** is not used to set the **system marginal price**.
- c) The **reference price** is not used to set the **system marginal price**.

## 6.4 Ancillary Service Dispatch

### 6.4.1 Factors to Take into Account

*The system controller will consider the necessary information to determine an ancillary service dispatch.*

In determining the **ancillary service dispatch**, the **system controller** will take into account:

- a) All information submitted in the declarations for all **assets**;
- b) The applicable **ancillary service merit order**;
- c) Any information supplied to the **ISO** in regards to **ancillary services** or **transmission constraint** information; and

- d) The energy market, under extraordinary conditions or emergency procedures as outlined in the ISO Operating Policies and Procedures.

#### 6.4.2 Ancillary Service Dispatch Content

*The system controller will provide ancillary service dispatches to ancillary service providers specifying required services.*

- a) The **system controller** will, through an **ancillary service dispatch**, notify the **ancillary service provider** that they are “on notice” to supply an **ancillary service**. The specific form and content of the **ancillary service dispatch** will include the following information for:
  - i) Spinning Reserve (SR) (OPP 402)
    - a) The **asset** being given an **ancillary service dispatch**
    - b) The type of **ancillary service** to be supplied (SR)
    - c) The amount of SR to be supplied (**MW**)
    - d) The time the **ancillary service dispatch** is to take effect
  - ii) Supplemental Reserve Generation (SUPG) or Supplemental Reserve Load (SUPL) (OPP 402)
    - a) The **asset** being given an **ancillary service dispatch**
    - b) The type of **ancillary service** to be supplied (SUPG or SUPL)
    - c) The amount of SUPG or SUPL to be supplied (**MW**)
    - d) The time the **ancillary service dispatch** is to take effect
  - iii) Regulating Reserve (RR) (OPP 401)
    - a) The **asset** being given an **ancillary service dispatch**
    - b) The type of **ancillary service** to be supplied (**RR**)
    - c) The amount of **RR** to be supplied (**MW**)
    - d) The time the **ancillary service dispatch** is to take effect

- iv) Voltage Support (VS)
  - a) The **ancillary service dispatch** is deemed to have been issued when an **asset** is synchronized to the **AIES** and the **AVR** is placed in automatic
- v) Fast Acting Remedial Action Scheme for Loads (RASL)
  - a) The type of **ancillary service** to be supplied (RASL)
  - b) The amount of RASL to be supplied (**MW**)
  - c) The time by which the RASL must be armed.
- vi) Black Start Capability (BSC)
  - a) The **ancillary service dispatch** for BSC is deemed to have been issued when a declaration is submitted stating the **asset's** BSC availability.
- vii) Remedial Action Scheme for Generators (RASG)
  - a) The **asset** being given an **ancillary service dispatch**
  - b) The type of **ancillary service** to be supplied (RASG)
  - c) The time by which the RASG must be armed.

The **system controller** shall notify the **ancillary service provider** when they are no longer required to provide a specific **ancillary service**.

- b) The **system controller** will, through an **ancillary service dispatch**, notify the **ancillary service provider** that they are to supply **transmission must-run (TMR) ancillary services**. A **TMR ancillary service dispatch** will include the following information:
  - i) The **asset** being issued an **ancillary service dispatch**
  - ii) The type of **ancillary service** to be supplied (**TMR**)
  - iii) The amount of **TMR** to be supplied (**MW**)
  - iv) The time the **ancillary service dispatch** is to take effect

The **system controller** shall notify the **ancillary service provider** when they are no longer required to provide **TMR**.

#### 6.4.3 Ancillary Service Provider Discretion

*Ancillary service providers may decline an ancillary service dispatch.*

- a) The **ancillary service provider** may decline an **ancillary service dispatch** but must restate in a timely manner, the new capability of the **asset** to provide these services. The decline of an **ancillary service dispatch** will be recorded by the **system controller** and the **ancillary service provider** must provide reasons for declining the **ancillary service dispatch**.

The SC will record the declined **ancillary service**.

- b) Acceptance of the **ancillary service dispatch** by the **ancillary service provider** is a commitment to provide the **ancillary service** requested by the **system controller** from the **asset** at the **ancillary service dispatched** capability. The owner of a facility retains the right to operate his facility as it deems prudent consistent with **good electric operating practices**.

## 6.5 Ancillary Service Directive

*The system controller will issue directives for ancillary services to ensure the safe and reliable operation of the AIES.*

- a) When the **system controller** determines that the delivery of **ancillary services** are required to ensure the safe and reliable operation of the **AIES**, the **system controller** will issue an **ancillary service directive** to those **ancillary service providers** that have accepted an **ancillary service dispatch**.
- b) Following an **ancillary service directive** for the delivery of **spinning reserve** or **supplemental reserve**, the **system controller** will, as soon as practicable, issue **energy market dispatches** to recover reserves. Within one hour of an **ancillary service directive** the **system controller** will either issue the **ancillary service provider** an **energy market dispatch** for the **asset** that received the **ancillary service directive** or notify the **ancillary service provider** that they are no longer required to provide for the **ancillary service directive**.

### 6.5.1 Ancillary Service Directive Content

*The system controller will follow certain protocol when issuing an ancillary service directive.*

The **ancillary service directive** will include the following information for:

- a) Spinning Reserve (SR) (OPP 402)
  - i) The **asset** being issued an **ancillary service directive**
  - ii) The type of **ancillary service** to be supplied. (SR)
  - iii) The amount of SR to be supplied (**MW**).
- b) Supplemental Reserve Generation (SUPG) or Supplemental Reserve Load (SUPL) (OPP 402)
  - i) The **asset** being issued an **ancillary service directive**

- ii) The type of **ancillary service** to be supplied (SUPG or SUPL)
- iii) The amount of SUPG or SUPL to be supplied (**MW**)
- c) Regulating Reserve (RR)
  - i) This type of **ancillary service directive** is an automatic electronic signal that will ramp the **asset** within the **ancillary service dispatch** parameters.
- d) Voltage Support (VS)
  - i) The **asset** being issued an **ancillary service directive**
  - ii) The amount of VS to be supplied (e.g. bus voltage setting)
- e) Remedial Action Scheme for Loads (RASL)
  - i) This type of **ancillary service directive** is an automatic electronic signal that must immediately trip at least the amount of **MW** issued in the **ancillary service dispatch**.
- f) Black Start Capability (BSC)
  - i) The **asset** being issued an **ancillary service directive**.
- g) Remedial Action Scheme for Generators (RASG)
  - (i) This type of **ancillary service directive** is an automatic electronic signal that must immediately trip the generator issued the **ancillary service dispatch**.

The **system controller** will notify the **ancillary service provider** when the **ancillary service provider** is no longer required to provide a specific **ancillary service**.

#### 6.5.2 Ancillary Service Provider Discretion

*Ancillary service provider must comply with an ancillary service directive, unless there is an immediate risk to personnel or equipment safety.*

**Ancillary service providers** are obligated to comply with an **ancillary service directive** unless there is immediate risk to personnel or equipment safety. If for any unforeseen reason an **ancillary service directive** cannot be complied with, the **ancillary service provider** will notify the **system controller** as soon as practicable and give the **system controller** the reason the **ancillary service directive** cannot be complied with. The **system controller** will log any non-compliance and the reasons for the non-compliance.

#### 6.5.3 Ancillary Service Expectations

*When accepting an ancillary service dispatch and receiving an ancillary service directive, ancillary service providers must meet specific service expectations.*

The **system controller** will expect from the **ancillary service providers** that have accepted an **ancillary service dispatch**, that, when the **system controller** directs them to deliver an **ancillary service**, it will be delivered up to the **ancillary service dispatched** level.

In the management of ancillary service the system controller will expect the ancillary service providers to deliver:

- a) **Spinning reserve, supplemental reserve generation and supplemental reserve load (SR, SUPG, SUPL)** – The amount of **MW** stated in the **ancillary service dispatch** will be provided within 10 minutes of an **ancillary service directive** unless there is immediate risk to personnel or equipment safety.
- b) **Regulating reserve (RR)** – The **ancillary service provider** will provide the **MW** range at the **ramp rate** stated in the **ancillary service dispatch** for **RR** unless there is immediate risk to personnel or equipment safety.
- c) **Voltage Support (VS)** – The **ancillary service provider** will provide voltage support within the **MVA** range stated in their declaration when the **system controller** issues an **ancillary service directive** for **VS** unless there is immediate risk to personnel or equipment safety.
- d) **Power System Stabilizers (PSS)** – The **asset PSS** will be in the state declared in their declaration at all times.
- e) **Automatic Voltage Regulator (AVR)** – The **asset AVR** will be in the state declared in their declaration at all times.
- f) **Remedial Action Schemes for Loads (RASL)** – The amount of **MW** stated in the **ancillary service dispatch** will be armed and trip when an **ancillary service directive** is issued.

## 6.6 Pool Participant Non-Compliance with Energy Market Dispatches

### 6.6.1 Energy Market Dispatch Compliance Responsibilities of Pool Participant

- (a) **A pool participant** may only deliver energy to the **AIES** pursuant to a **dispatch** or a **directive** issued by the **system controller**.
- (b) Without limiting the generality of subsection (a) and subject to the provisions of this **rule 6.6**, a **pool participant** must comply with and follow an **energy market dispatch**.
- (c) With regard to its general responsibilities under **rule 6.6.1 (e)**, a **pool participant** must use all reasonable efforts to cause any **generating assets** referenced in an **energy market dispatch** to be operated using **good electric operating practice** to the quantity (**MW**) that is the subject of that **energy market dispatch**.
- (d) The **pool participant** must coordinate its energy, **dispatch down service** and **ancillary services** submissions to ensure that it is able to comply with all **dispatches** related to those submissions.

- (e) The **pool participant** must meet its **energy market dispatch** compliance responsibilities using a standard of practice attained by exercising the degree of knowledge, skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced person engaged in the same type of undertaking, including the design, implementation and use of a reasonable **energy market dispatch** protocols, together with personnel and software systems designed to detect and address errors or omissions in a timely fashion.

#### 6.6.2 Generating Asset Steady State Compliance

- (a) During **generating asset steady state**, with reference to an **energy market dispatch** issued to a **pool participant**, the average quantity (MW) delivered by a **generating asset** in any **10 minute clock period** referenced in the **energy market dispatch** must not vary from the **energy market dispatch** quantity (MW) by more than the **ADV**.
- (b) A **pool participant** that is supplying **regulating reserve** from a **generating asset** must ensure that the quantity (MW) delivered in any **10 minute clock period** is:
  - (i) not less than the **energy market dispatch** quantity (MW) minus the **ADV**, and
  - (ii) not greater than the **energy market dispatch** quantity (MW) plus the **regulation reserve** plus the **ADV**.

#### 6.6.3 Ramping Compliance

- (a) In accordance with an **energy market dispatch** issued to a **pool participant**, the output of a **generating asset** which is the subject of the **energy market dispatch** and is **ramping** must be changed to move directionally towards the quantity (MW) indicated in that **energy market dispatch** within ten (10) minutes of the time specified in the **energy market dispatch**.
- (b) a **generating asset** must reach **generating asset steady state** in:
  - (i) no longer than the period of time calculated as follows:
    - (A) divide the incremental **energy market dispatch** quantity (MW) by the **ramp rate** submitted by the **pool participant** in the **Energy Trading System**;
    - (B) add forty percent (40%) of the time calculated in **rule 6.6.3(b) (i) (A)** or five (5) minutes, whichever is greater;
    - (C) add the ten (10) minutes referred to in **rule 6.6.3 (a)**;and
  - (ii) no sooner than the period of time calculated as follows:
    - (A) divide the incremental **energy market dispatch** quantity (MW) by the **ramp rate** submitted by the **pool participant** in the **Energy Trading System**;

(B) subtract forty percent (40%) of the time calculated in **rule 6.6.3(b) (ii) (A)** or five (5) minutes, whichever is greater.

#### 6.6.4 Operational Deviation Energy Market Dispatch Relief

- (a) With respect to an **energy market dispatch**, in the event that a **generating asset** experiences an **operational deviation**, the **pool participant** must verbally inform the **system controller** as soon as practical of the occurrence of the **operational deviation** and provide a description of the cause if known.
- (b) The **pool participant** must inform the **system controller** of the information required under subsection (a) on a telephone line designated by the ISO which will contain a voice recording system.
- (c) Unless otherwise instructed by the **system controller**, the **available capability** of a **generating asset** must be restated in accordance with **rule 3.5.4.2** no later than twenty (20) minutes after the commencement of the **operational deviation**, if the **operational deviation** extends for twenty (20) minutes or longer.

### 6.6.5 Exceptions to Non-Compliance

Notwithstanding the provisions set out in **rules** 6.6.2, 6.6.3 and 6.6.4, a **pool participant** will not be considered to be non-compliant with an **energy market dispatch** for a **generating asset** if the **pool participant** has met its responsibilities as set out in **rule** 6.6.1 and if one or more of the following circumstances occur:

- (a) The **generating asset** is **ramping** into position to provide **operating reserves** in response to an **ancillary service dispatch** in the fifteen (15) minutes before the time indicated in that **ancillary service dispatch**;
- (b) The **generating asset** is operating below the **minimum stable generation** level indicated in the **Energy Trading System**, but only if that **generating asset** is:
  - (i) coming on line and its **available capability** submitted to the **ISO** is equal to its **minimum stable generation** and it has received an **energy market dispatch** for that quantity (**MW**);
  - (ii) going off line and its **available capability** submitted to the **ISO** is equal to zero (0) and it has received an **energy market dispatch** for that quantity (**MW**);
  - (iii) unable to follow the **ramp rate** submitted by the **pool participant** in the **Energy Trading System** when its output is being increased to its **minimum stable generation** and a verbal plan has been submitted to the **system controller** indicating the proposal for **ramping to minimum stable generation**, which verbal plan must be updated for deviations of greater than thirty (30) minutes or fifty (50) **MW**; or
  - (iv) stopped at an output level not identified in the verbal plan referenced in iii) above, but which is below **minimum stable generation** for more than thirty (30) minutes for an operational reason and has restated its **available capability** accordingly;
- (c) The **generating asset** is responding to abnormal frequency through automatic governor action;
- (d) An **operational deviation** has occurred and the **pool participant** has complied with **rule** 6.6.4; or
- (e) Energy is being delivered to the **AIES** from a **generating asset** while it is being tested or **commissioned** or both, in accordance with any applicable **ISO rules** and Operating Policies and Procedures.

## 6.7 **System Security**

### 6.7.1 Independent System Operator

*The ISO has certain responsibilities for ensuring system security.*

The **ISO**:

- a) Must schedule to prevent a threat to **system security**.
- b) May schedule out of the **energy market merit order** to prevent a threat to **system security**.

### 6.7.2 System Controller

*The System Controller has certain responsibilities for ensuring system security.*

The **system controller** acting reasonably:

- a) Shall at all times **dispatch** in a manner to prevent a threat to **system security** from occurring.
- b) May **dispatch** out of the **energy market merit order** to prevent a threat to **system security** or to return the **AIES** to a safe and reliable state.
- c) Will issue **directives** to **market participants** as required to prevent a threat to **system security** or to return the **AIES** to a safe and reliable state.
- d) Must use reasonable efforts to promptly advise the **transmission facilities owners** in the event of a **system emergency**.
- e) Must use reasonable efforts to promptly advise all **pool participants** in the event of a **system emergency**.

### 6.7.3 Market Participant

*Market participants have certain responsibilities for ensuring system security.*

The **market participants** must:

- a) Use reasonable efforts to promptly advise the **system controller** upon becoming aware of any circumstance with respect to its facilities that could be expected to adversely affect **system security** or the **AIES**'s ability to deliver energy.
- b) Use reasonable efforts to comply with **directives** from the **system controller** to prevent a threat to **system security** or to assist in the recovery from or return the **AIES** to a safe and reliable state.

## 6.8 Involuntary Load Curtailment

*Wire owners will curtail demand when directed by the system controller.*

During **AIES** conditions when **AIES demand** and **regulating reserve** cannot be met through **dispatches** within **bid** and **offer** constraints, the **system controller** may direct involuntary curtailment of demand by some or all **wire owners**. **Wire owners** will share the involuntary curtailment of demand based on the following:

$$\text{Wire Owner Load Curtailment} = \frac{\text{Total Load Curtailment Required}}{\text{Total Demand of all Pool Purchasers}} \times \text{Wire Owner Demand}$$

A **wire services provider** may be authorized by a **wire owner** to act on behalf of that owner.

**Wire owners' load** curtailment plans for supply shortfall events, at minimum, must consider the following factors:

- a) The requirements of **LCP**;
- b) Operating limit violations;
- c) The need to maintain the integrity of **remedial action schemes** and the **under frequency load shedding scheme**;
- d) Public safety and environmental impact; and
- e) **System controller** discretion to adjust curtailments as required to account for unforeseen circumstances.

## 6.9 Energy Market Suspension

### 6.9.1 Objective

*Under extraordinary circumstances, the system controller may suspend the normal operation of the energy market.*

The purpose of this rule is to prescribe the conditions under which the energy market may be suspended and the process to be used by the **system controller** to suspend the energy market.

The suspension of the energy market means that the **system controller** is not obliged to follow the **energy market merit order** nor the **ancillary services merit order** in issuing **dispatches** and that the **system marginal price** will be predefined and set in accordance with **rule 6.9.4**.

### 6.9.2 Initiating an Energy Market Suspension

*If deemed necessary, the system controller may suspend the energy market under specific events or conditions.*

In the determination of the **system controller**, the energy market may be suspended if any of the following conditions apply:

- a) **AIES** has experienced a **blackout**;
- b) The **AIES** breaks up into two (2) or more **electrical islands**;
- c) The **AIES** is not in a secure operating state and in the judgment of the **system controller** is on the verge of a **system emergency**.
- d) The **system controller** is unable to issue **dispatches** under normal market operations because the:
  - i) **system controller** is forced to abandon the workplace;
  - ii) **system controller** is unable to access or utilize the market management tools such as the **energy market merit order**.
- e) An order is received from the **Commission** to suspend market operations;
- f) Circumstances that, in the judgment of the **system controller**, warrant the suspension of the energy market.

### 6.9.3 Declaration of Energy Market Suspension

*The system controller will issue a notice that the market has been suspended, and will notify pool participants using certain methods of communication.*

The **system controller** will issue a notice that the energy market has been suspended. As soon as possible the **system controller** will update the notice indicating the reason for the suspension and, if practical, an expected time of return to normal energy market operation. In the case of a **system emergency**, the **system controller** will issue **directives to market participants**, as required, to return the **AIES** to a safe and reliable state.

If the **system controller** suspends the energy market for any of the reasons listed in rule 6.9.2, the **system controller** will notify **pool participants**. Communication prioritization will be to use methods that attempt to contact **pool participants** simultaneously. The **system controller** will use one or more of the following methods, to notify the **pool participants** that the energy market has been suspended:

- a) **Alberta Electric System Operator** website through the **system controller** real time shift report and/or other message.
- b) Fax to all **pool participants**.
- c) Phone notifications via regular phone communication systems.
- d) Phone notifications via back up phone communication systems to **pool participants** with this capability.
- e) **Automated dispatch and messaging system**.

#### 6.9.4 Pricing of Energy During Energy Market Suspension

*During an energy market suspension, the ISO will follow certain protocol to set the system marginal price.*

During periods of **energy market suspension** the **system marginal price** will be set at the following levels for the duration of the suspension, dependent upon the reason for the suspension:

- a) The **system marginal price** will be set at \$50/MWh in the event of a blackout;
- b) The **system marginal price** will be set at the price of the last **block** receiving an **energy market dispatch** that was eligible to set **pool price** using the last available **energy market merit order** prior to the **energy market suspension** in the event that:
  - i) The **system controller** suspends the energy market for reasons of **system security**;
  - ii) The **system controller** is forced to abandon the workplace;
  - iii) The **system controller** is unable to access or utilize market management tools such as the **energy market merit order** list;
  - iv) The **AIES** breaks up into two (2) or more **electrical islands**
  - v) In the judgment of the **system controller** circumstances warrant the suspension of the energy market.

If an order from the **EUB** to suspend market operations occurs, the **system marginal price** will be set at the price ordered by the **EUB**, or lacking this direction, at the price of the last **block** receiving an **energy market dispatch** that was eligible to set **pool price** using the last available **energy market merit order** prior to the **energy market suspension**.

#### 6.9.5 Ending of Energy Market Suspension

*The system controller will notify pool participants when an energy market suspension has ended, and a report will be published.*

The **energy market suspension** will end as soon as normal energy market operations are possible and the **AIES** can be operated reliably, as determined by the **system controller**. The **system controller** will issue a notice that the **energy market suspension** has ended and normal energy market operations have resumed. A report outlining the nature of the suspension and which may also include recommendations as to possible revisions to these **energy market suspension rules** would be made available to **pool participants** following such a suspension.

The **ISO** will publish a preliminary report, on the **ISO** website, within **5 business days** following an **energy market suspension**. The **ISO** will publish a final report, on the **ISO** website, within **20 business days** following an **energy market suspension**.