

802 ENERGY EMERGENCY ALERTS AND FIRM LOAD DIRECTIVES

1. Purpose

To define the policies and procedures to issue energy emergency alerts and firm load directives, and to provide guidelines for all parties involved in their responsibilities upon receiving energy emergency alerts or firm load directives from the system controller (SC)

2. Background

In the event of an energy supply shortfall when there is insufficient energy offered in the energy market to meet energy requirements in Alberta, the SC must quickly and clearly communicate the information to all parties involved. The SC accomplishes this by issuing energy emergency alerts in accordance with this OPP. If the energy supply shortfall condition deteriorates, the SC will maintain regulating reserve by issuing firm load directives to curtail firm load, if required. When the energy supply condition allows, the SC will issue directives to restore the curtailed firm load.

It is critical that all involved parties understand these alerts and directives so that they act in a concerted and coordinated effort to maintain the secure state of the Alberta Interconnected Electric System (AIES).

3. Policy

- Four levels of energy emergency alerts may be issued in a supply shortfall situation in accordance with OPP 801, summarized here as follows:

An **Energy Emergency Alert 1** will be declared **after** the following steps have been taken:

- All available resources in the energy market merit order are committed to meet AIES firm load and reserve requirements.
- Non-firm loads have been curtailed.
- Procedures have been implemented to optimize the use of resources in the ancillary service merit order.

An **Energy Emergency Alert 2** will be declared **after** the following steps have been taken:

- All the steps listed under Energy Emergency Alert 1 have been taken.
- Load management procedures have been implemented, which may include the voluntary load curtailment program, voltage reduction, public appeal to reduce demand and reduction to non-essential loads.
- Ancillary service directives have been issued to supplementary reserves to increase energy supply and firm load is now relied upon for reserve.

- Emergency energy has been requested of neighbouring Balancing Authorities.
- Ancillary service directives have been issued to spinning reserves.

An **Energy Emergency Alert 3** will be declared **after** the following steps have been taken:

- All the steps listed under Energy Emergency Alert 1 and Energy Emergency Alert 2 have been taken.
- Firm load curtailment has been implemented to maintain the minimum required regulating reserve.

An **Energy Emergency Alert 0** will be issued to terminate previous energy emergency alert(s) when energy supply is sufficient to meet AIL and reserve requirements.

- Energy emergency alerts will be issued to parties listed in Table 1 by the indicated methods, as well as posted on the AESO web page in the AIES event log.
- The required firm load curtailment will be shared by all wire owners (WOs) based on the following:

$$\text{WO Firm Load Curtailment} = \frac{\text{Total Firm Load Curtailment} * \text{WO Demand}}{\text{Total Demand of all Pool Purchasers}}$$

4. Responsibilities

4.1 ISO

The ISO will:

- Review and update this OPP as required.
- Periodically review and audit firm load curtailment plans with WOs, wire service providers (WSPs) and transmission facility owners (TFOs).

4.2 System Controller

The SC is responsible for:

- Issuing energy emergency alerts to parties listed in Table 1 by the indicated methods.
- Posting energy emergency alerts on the ISO web page.
- Issuing firm load directives to curtail or restore firm load to parties listed in Table 2.
- Updating the Vancouver Reliability Coordinator (VRC) of the situation until Alert 2 and Alert 3 are terminated.
- Submitting Energy Emergency Report to the VRC when Alert 3 is declared.

4.3 Participants and Transmission Facility Owners (TFOs)

The TFOs will:

- Carry out responsibilities for all emergency alerts listed in Table 1.

4.4 WSPs and WOs

The WSPs and WOs will:

- Develop and maintain load curtailment plans in consultation with TFOs and the ISO in accordance with ISO Rule 6.8.
- Comply with SC directives on load curtailments.
- Ensure that load curtailment plans can be implemented at all times.
- Carry out responsibilities listed in Table 1 and Table 2.

5. System Controller Procedures

5.1 Issuing an energy emergency alert

The SC will:

1. Determine if criteria are met for energy emergency Alert 1, Alert 2, Alert 3 or Alert 0 as described in OPP 801.
2. Request the VRC to declare the alert identified in step 1.
3. If the VRC agrees to the request, then:
 - a. Notify the Operations on-call person.
 - b. Issue an energy emergency alert to all participants with non-zero block(s) in the energy merit order via ADAMS:
 - i. Click the message box (telephone) icon on the EMO toolbar.
 - ii. Select Alert from the message type drop down list.
 - iii. Select the energy emergency alert message from the canned message drop down list.
 - iv. Click Send.
 - c. Call the TFOs, WSPs and WOs listed in Table 1 to inform them of the energy emergency alert. If a party is listed in more than one category, call that party once only.
 - d. Enter the energy emergency alert in the shift log by selecting the appropriate energy emergency alert message from the drop down list and post it to the web.
4. Update the VRC of the situation at a minimum of every hour until the Alert 2 or Alert 3 is terminated.

5.2 Issuing a firm load directive to curtail firm load

1. Determine if firm load curtailment is required to maintain the minimum amount of regulating reserve.
2. Calculate each WO's portion of the firm load curtailment using the Load Curtailment Calculator, a Microsoft Excel worksheet residing in the SC_workbook.xls.
 - a. Open the "Load shed" worksheet and enter the load amount that is required to be curtailed.

The worksheet will calculate each WO's portion of load curtailment rounded up to the nearest MW.

- b. Click "Save snapshot of this file" button on the worksheet to save the current calculation as a read-only document for audit purposes.
- c. Print a copy of the worksheet.
3. Issue firm load directives to curtail firm load to the WSPs and WOs listed in Table 2, using the following script:
 - a. This is "your name" with the AESO directing "WSP" to drop XX MWs of firm load by (present time plus 10 minutes). Please repeat this back to me and be sure to notify me when the curtailment is complete.
4. Notify the operation on-call person.
5. Enter the firm load directive in the shift log by selecting the appropriate message from the drop down list and adding to the end of the message the amount of load curtailed. **Do not** post this information to the web.

5.3 Issuing a firm load directive to restore load

The SC will:

1. Determine if enough supply is available to restore all or part of the shed load while maintaining regulating reserves.
2. Determine, if only part of the shed load can be restored, the amount of load restoration for each WO on a pro rata basis.
3. Issue a firm load directive to restore firm load to a new level to each of the WSPs and WOs that has curtailed load, or cancel the firm load directive
 - a. This is "your name" with the AESO directing "WSP" to a new level of curtailment. Please restore XX MWs of load to a new curtailment level of XX MWs. Please notify me when this new level has been reached.
 - b. OR to increase the curtailment level, use the following script.

This is "your name" with the AESO directing "WSP" to drop a further XX MWs of firm load to a total curtailed amount of "previous plus new directive level" by (present time plus 10 minutes). Please repeat this back to me and be sure to notify me when the curtailment is complete.
 - c. OR for canceling a directive

This is "your name" with the AESO canceling the firm load directive issued to "WSP" at (present time).
4. Enter the firm load directive cancellation in the shift log by closing out the initial directive, or enter a new directive to the new level by starting a new directive and closing out the old one. **Do not** post this information to the web.

5.4 Reporting requirements

1. In addition to the reporting listed in Section 5.3, the SC will record in the shift log, but **not** post on the web:
 - a. The cause(s) of the event.
 - b. The date, time and reason, if known, for any non-compliance of a firm load directive.

2. Any time Alert 3 is declared, the SC will submit the Energy Emergency Alert 3 Report (EOP-002-AB-2 Appendix 1) to the VRC within two business days of the incident.

6. Figures and Tables

Table 1

Notification list for all energy emergency alerts, and responsibilities of notified parties

Party to be Notified	Notification Method	Responsibilities of Notified Party
All participants with non-zero blocks bids or offers in the energy market merit order	ADAMS messages	Participants with dispatch rights to generating assets in Alberta must make reasonable efforts to ensure that their generating plant operators are aware of the alerts and that the operators understand that they must contact the SC if there is any work that increases the risk of tripping the generator. The SC will assess the risk and decide if the work should continue or stop.
Transmission Facility Owners (TFOs): <ul style="list-style-type: none"> • AltaLink Control Center* • ATCO Electric System Control Center * • ENMAX Control Center* • EPCOR Control Center* • Red Deer Electric Control Center* • Lethbridge Electric Control Center * • Medicine Hat Electric Control Center 	Phone calls	If there is any work that increases the risk of constraining generation or tripping an interconnection tie line, contact the SC to review and decide if work should continue or stop.
Wire Service Provider (WSP) and Wire Owners (WOs) that are responsible for implementing firm load curtailment procedures: AltaLink Control Center (WSP for FortisAlberta) * <ul style="list-style-type: none"> • ATCO Electric System Control Center* • ENMAX Control Center* • EPCOR Control Center* • Red Deer Electric Control Center* • Lethbridge Electric Control Center* • Fort Nelson (BC Hydro NCC Distribution Desk Dispatcher) 	Phone calls	Review internal firm load curtailment procedure if necessary. If the SC subsequently issues a firm load directive to curtail firm load, the WSPs and WOs must curtail the requested amount of firm load within 10 minutes. If a WSP is to implement firm load curtailment procedures on behalf of a WO, the WSP is responsible to inform the WO of the energy emergency alerts. The SC will not make a separate call to the WO(s) that the WSP represents.

Note:

- * This party belongs to both the TFO and WSP/WO categories. The SC will make only one notification to this party for each energy emergency alert. The party must fulfill its responsibilities listed under both categories.

Table 2

Parties to be issued firm load directives and their responsibilities

Parties	Communication Method	Responsibilities of Parties
Wire Service Provider (WSP) and Wire Owners (WOs) that are responsible for implementing firm load curtailment procedures: <ul style="list-style-type: none"> • AltaLink Control Center (WSP for FortisAlberta) • ATCO Electric System Control Center • ENMAX Control Center • EPCOR Control Center • Red Deer Electric Control Center • Lethbridge Electric Control Center • Fort Nelson (BC Hydro NCC Distribution Desk Dispatcher) 	Phone calls	For a firm load directive to curtail firm load: <ul style="list-style-type: none"> • Curtail the requested amount of firm load within 10 minutes and notify the SC when it is completed. For a firm load directive to restore firm load: <ul style="list-style-type: none"> • Restore the amount of firm load as directed by the SC and notify the SC when it is completed.

7. Revision History

Issued	Description
2009-	2009-02-19
2009-02-19	Supersedes 2006-11-13
2006-07-11	Supersedes 2003-07-28
2003-07-28	Revised to ISO Operating Policies and Procedures