


ATTACHMENT 8

 <b>CALIFORNIA ISO</b> <small>California Independent System Operator</small>	<b>ISO OPERATING PROCEDURES</b>	Procedure No.	E-504
		Version Number	2.4
<b>Alert, Warning, Emergency Notices</b>		Version Date	5/27/99
		Effective Date	5/28/99

## I INTRODUCTION

This Procedure describes the process for notifications as required by the ISO Tariff during periods when an Operating Reserve shortage is imminent or exists. It also depicts the appropriate notifications to others, including regulatory agencies, as appropriate. This procedure will be implemented by the Independent System Operator (ISO) and is intended to stimulate the market thereby avoiding progression to more severe actions, including the Electrical Emergency Plan (refer to ISO Operating Procedure E-508).

An operating capacity deficiency exists when the resources are inadequate to meet the Load Demand. Operating Reserve is the margin of operating capacity above that required to meet the Demand. This margin is necessary to maintain reliability and as protection against the loss of capacity. An Operating Reserve deficiency is oftentimes foreseeable in the Day-Ahead or Hour-Ahead markets and, if not corrected, may require significant ISO intervention in the real-time operation.

The elements of this Procedure are based on the need to:

- Determine necessary action during a shortage of Operating Reserve,
- Notify Market Participants of a forecast shortage to stimulate availability of additional resources,
- Relieve the adverse impact of a shortage in Operating Reserve and thereby avoid implementation of Electrical Emergency Plans (i.e., to curtail Demand).

## II PARTIES OR AREAS AFFECTED


The ISO Shift Manager will coordinate implementation of this Procedure for Alerts and Warnings.

In the event that an Emergency Notice must be issued, the ISO Emergency Response Team will be assembled as per ISO Operating Procedure E-507. That team is comprised of the following personnel:

- Executive in Charge
- Shift Manager
- Public Information Coordinator
- Emergency Response Coordinator

Alert, Warning, and Emergency Notices are sent to all Market Participants simultaneously by issuing notices through the WEnet system and/or by E-mail to the "Market Status" distribution list. Emergency Notices are further available to all interested parties by posting this information on the ISO Home Page.

Participating Transmission Owners each maintain a single point of contact with the ISO through their power grid operations centers. These are the "Transmission Operation Center," for Pacific Gas & Electric, and the "Grid

 <b>CALIFORNIA ISO</b> <small>California Independent System Operator</small>	<b>ISO OPERATING PROCEDURES</b>	Procedure No.	E-504
		Version Number	2.4
<b>Alert, Warning, Emergency Notices</b>		Version Date	5/27/99
		Effective Date	5/28/99

Control Center” for each of San Diego Gas & Electric and Southern California Edison. Hereinafter these centers will be referred to as the PTO Control Centers. Notices of Alert, Warning, and Emergency are sent to PTOs to keep them updated of system conditions as reliability may be affected.

During a shortage in Operating Reserve, close coordination and effective communications will be required between ISO and the PTO Control Centers.

### III REFERENCES

- ISO Operating Procedure E-506 – UDC Interruptible Service
- ISO Operating Procedure E-507 – Emergency Response Team Procedure
- ISO Operating Procedure E-508 – Electrical Emergency Plan
- ISO Operating Procedure N-703 – Event Reporting and Notifications
- ISO Operating Procedure G-201 – Operating Reserve
- ISO Tariff – Dispatch Protocol
- ISO Tariff – Ancillary Services Requirements Protocol
- UDC Electrical Emergency Plans
- WSCC Minimum Operating Reliability Criteria

### IV POLICY


The **ISO Minimum Operating Reserve** will be maintained as described in the Western Systems Coordinating Council (WSCC) Minimum Operating Reliability Criteria (MORC). Forecast deficiencies of Operating Reserve warrant the issuance by the ISO of a System Alert or a System Warning. Such notices are made in an effort to avoid more severe actions such as the implementation of Electrical Emergency Plans, (i.e., involuntarily curtailment of Demand). In extreme cases where Demand curtailment and/or market intervention is anticipated, it may be necessary for the ISO to issue a notice of an Emergency. An Emergency Notice issued by the ISO will be notice to the Market Participants that the ISO Electrical Emergency Plan is being implemented as per ISO Operating Procedure E-508.

### V DEFINITIONS

Unless the context otherwise indicates, any word or expression defined in the Master Definitions Supplement to the ISO Tariff and capitalized herein shall have the same meaning where used in this procedure.

An **Alert Notice** may be issued by the ISO when, in the Day-Ahead Market, the Operating Reserve is forecast to be less than the MORC Minimum. An Alert is issued to the Market Participants to stimulate the market to provide additional resources, thereby avoiding progression to a Warning.

A **Warning Notice** may be issued by the ISO when, in the Hour-Ahead market (i.e., after 2200 each day for the next day), reserve is forecast to be marginal or less than the MORC Minimum. Similar to an Alert, the Warning is

 <b>CALIFORNIA ISO</b> <small>California Independent System Operator</small>	<b>ISO OPERATING PROCEDURES</b>	Procedure No.	E-504
		Version Number	2.4
<b>Alert, Warning, Emergency Notices</b>		Version Date	5/27/99
		Effective Date	5/28/99

issued to the Market Participants to stimulate the market to provide additional resources, thereby avoiding progression to an Emergency. However, a Warning is different from an Alert in that for reliability purposes (i.e., to maximize assurance of adequate Operating Reserve), a Warning enables the ISO to secure resources outside of the competitive market.

An **Emergency Notice** may be issued by the ISO at any time it is clear that an Operating Reserve shortfall is unavoidable, or when in real-time operations, the Operating Reserve is forecast to be less than the ISO minimum. Refer to ISO Operating Procedure E-508 – Electrical Emergency Plan.

The **ISO Electrical Emergency Plan** (refer to ISO Operating Procedure E-508) details the action to be taken to preclude successive decline in system conditions. The specific action outlined in each stage of the ISO Electrical Emergency Plan is based on the nature and expected duration of the emergency and is designed to provide minimum adverse impact on End-Use Customers. Refer to ISO Operating Procedure E-508.

## VI RESPONSIBILITIES

Upon issuing a Notice of an Alert, Warning, or Emergency, at the direction of the Shift Manager, the ISO will notify:

- Operations and Communications
- PTO Control Centers (who will notify UDCs within their respective areas )
- All Market Participants

Each PTO and UDC will complete their designated notification in accordance with their procedures. When each PTO Control Center is assured all notifications have been completed, they will report to the ISO.


If it is determined by the ISO Shift Manager that an Emergency Notice is warranted, the ISO will implement ISO Operating Procedure E-508 (i.e., the ISO Electrical Emergency Plan) and will assure notifications are made as described in that Procedure.

## VII PROCEDURE

The Procedure is divided into three (3) Phases (i.e., Alert, Warning, and Emergency). Should it become necessary in the implementation of this Procedure to bypass the Alert or Warning phases to immediately proceed to issuing an Emergency Notice, the action items under the bypassed phases will be implemented as appropriate.

### 1. ALERT PHASE

An Alert Notice may be issued by the ISO, as directed by the Shift Manager when, in the Day-Ahead market, Operating Reserve,

 <b>CALIFORNIA ISO</b> <small>California Independent System Operator</small>	<b>ISO OPERATING PROCEDURES</b>	Procedure No.	E-504
		Version Number	2.4
<b>Alert, Warning, Emergency Notices</b>		Version Date	5/27/99
		Effective Date	5/28/99

including all Ancillary Services and RMR availability, is forecast to be less than minimum.

**1.1. ISO Internal Notification**

The ISO, as directed by the Shift Manager will notify the following:

- Director of Grid Operations
- Vice President, Operations
- Director of Communications
- Chief Executive Officer.

**1.2. Market Participant and PTO Notification**

The ISO will give simultaneous notification of the Alert to all Market Participants and to all PTO Control Centers, who in turn will notify UDCs within their operational areas.

**1.3. Resource Procurement**

The ISO will secure resources, as appropriate, made available in the Market as prompted by the Alert Notice.

**2. WARNING PHASE**

A Warning Notice may be issued by the ISO, as directed by the Shift Manager, when, in the Hour-Ahead Market (i.e., from 2200 of the previous day to two hours in advance of the Operating Hour), Operating Reserve is forecast by the ISO Grid Resource Coordinator (GRC) to be less than the minimum requirement.

**2.1. ISO Internal Notification**

The ISO will notify the following:


- Director of Grid Operations,
- Vice President, Operations,
- Director of Communications,
- Chief Executive Officer.

**2.2. Market Participant and PTO Notification**

The ISO GRC, under the direction of the Shift Manager, will give simultaneous notification of the Warning to all Market Participants and to all PTO Control Centers, who in turn will notify UDCs within their operational areas.

**2.3. Resource Procurement**

The ISO will secure resources, as appropriate, made available in the Market as prompted by the Alert and Warning Notices. Additionally, the ISO will attempt to acquire, by any means (including by non-competitive process) additional resources in

 <b>CALIFORNIA ISO</b> <small>California Independent System Operator</small>	<b>ISO OPERATING PROCEDURES</b>	Procedure No.	E-504
		Version Number	2.4
<b>Alert, Warning, Emergency Notices</b>		Version Date	5/27/99
		Effective Date	5/28/99

amounts sufficient to maintain minimum Operating Reserve requirement in real-time operations.

**Note: There are no “Stages” for Alerts or Warnings. Stages are applicable to Emergency Notices only. The terms “Alert” or “Warning” must not be combined with “Stage” (e.g., “first stage alert”) because this may cause confusion and miscommunications, and could lead to inappropriate response.**

### 3. EMERGENCY PHASE

An Emergency Notice may be issued by the ISO in real-time when it is clear that an Operating Reserve shortfall (i.e., less than **MORC**) is unavoidable or exists in real-time and, in the judgment of the ISO Shift Manager, it is apparent that, left to market forces, the market will not make available sufficient additional resources to maintain minimum Operating Reserve. Refer to ISO Operating Procedures:

- E-507 – Emergency Response Team Procedure
- E-508 – Electrical Emergency Plan.

### 4. MESSAGES

#### 4.1. Alert Notification

##### SYSTEM ALERT NOTIFICATION

THE ISO DAY-AHEAD MARKET HAS FAILED TO PROVIDE ADEQUATE SCHEDULED ENERGY & CAPACITY FOR FORECAST LOADS ON (DATE/HOURS). A VERY ROUGH ESTIMATE PUTS THE SHORTFALL IN MEETING WSCC MORC OPERATING RESERVE REQUIREMENTS THROUGH MARKET SOURCES AT \_\_\_\_\_ MW ACROSS LOAD PEAK. SOME MARKET RESERVE SHORTFALL IS FORECAST FOR HOURS (HE) \_\_\_\_ TO \_\_\_\_.


THE FORECAST SHORTFALL IS DUE TO:

---

#### 4.2. Warning Notification

##### SYSTEM WARNING NOTIFICATION

THE ISO HOUR-AHEAD MARKET HAS FAILED TO PROVIDE ADEQUATE OPERATING RESERVES FOR FORECAST LOADS FOR HOURS \_\_\_\_ TO \_\_\_\_ ON (DATE). THE FORECAST SHORTFALL IN MEETING WSCC MORC OPERATING RESERVE REQUIREMENTS THROUGH MARKET SOURCES IS \_\_\_\_\_ MW ACROSS LOAD PEAK. SOME MARKET RESERVE SHORTFALL IS FORECAST FOR HOURS (HE) \_\_\_\_ TO \_\_\_\_.

 <b>CALIFORNIA ISO</b> <small>California Independent System Operator</small>	<b>ISO OPERATING PROCEDURES</b>	Procedure No.	E-504
		Version Number	2.4
<b>Alert, Warning, Emergency Notices</b>		Version Date	5/27/99
		Effective Date	5/28/99

THE FORECAST SHORTFALL IS DUE TO:

---

<b>Drafted By</b>	<b>Greg Van Pelt</b>	<b>3/11/99</b>
<b>Last Updated or Revised</b>		
<b>Reviewed By</b>	<b>Mike McQuay</b>	<b>5/21/99</b>
<b>Reviewed By – Director of Client Relations</b>		
<b>Approved By – Director of Operations Support &amp; Training</b>	<b>Trent Carlson</b>	<b>5/28/99</b>
<b>Approved By – Director of Market Operations</b>	<b>Ziad Alaywan</b>	<b>5/28/99</b>
<b>Approved By – Director of Scheduling</b>	<b>Spence Gerber</b>	<b>5/28/99</b>
<b>Approved By – Director of Grid Operations</b>	<b>Ed Riley</b>	<b>5/28/99</b>
<b>Approved By – Director of Engineering &amp; Maintenance</b>	<b>Jim Detmers</b>	<b>5/28/99</b>
<b>Approved By – Vice President of Operations</b>	<b>Kellan Fluckiger</b>	<b>5/28/99</b>