



AWE to NERC EEA Training

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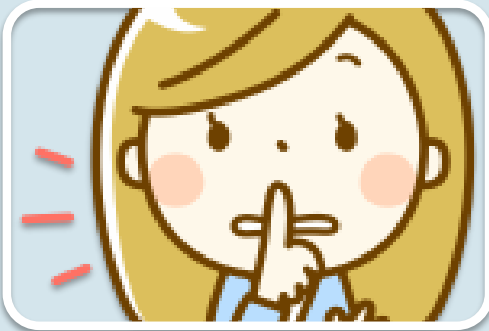
Customer Readiness Manager

April 20, 2022

Updated 4/20/2022

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Housekeeping



Make sure to keep yourself muted unless you have a question



If you have a question, you may either ask over the phone or in the chat



If you want to ask a question, you can virtually “raise your hand” in WebEx

Agenda

In this training, we will:

- Review the ISO's responsibility with regards to emergency notices
- Discuss the current AWE process and how it is changing
- Walkthrough the new NERC EEA notification levels
- Looks at samples of NERC EEA notifications
- Review the process to subscribe/unsubscribe to notifications
- Discuss the resources you can use to get additional information



Poll Question



Are you familiar with the current California ISO AWE (Alerts, Warnings, Emergencies) notification levels?

- A. Oh yes, VERY familiar
- B. Yes, I get and use these pretty often
- C. I've seen/heard of them once or twice
- D. Sorry...what are AWEs?

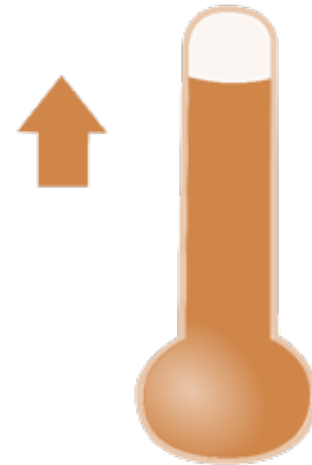
EMERGENCY NOTICES OVERVIEW

First Things First...

- This training reviews the changes from the AWE notification system to the NERC EEA notifications system
 - Assuming some knowledge of current AWE notification system
 - If not, see the Emergency Response CBT on the learning center
- This change will be implemented into production on **May 1, 2022**.

When Might Energy Shortages Occur?

- Energy shortages can be caused by:
 - Persistent high heat
 - Equipment failure
 - Weather events
 - Natural disasters, such as wildfires
- These events are most likely to occur during the summer months
- System emergency notifications about these shortages can be statewide or limited to a local area



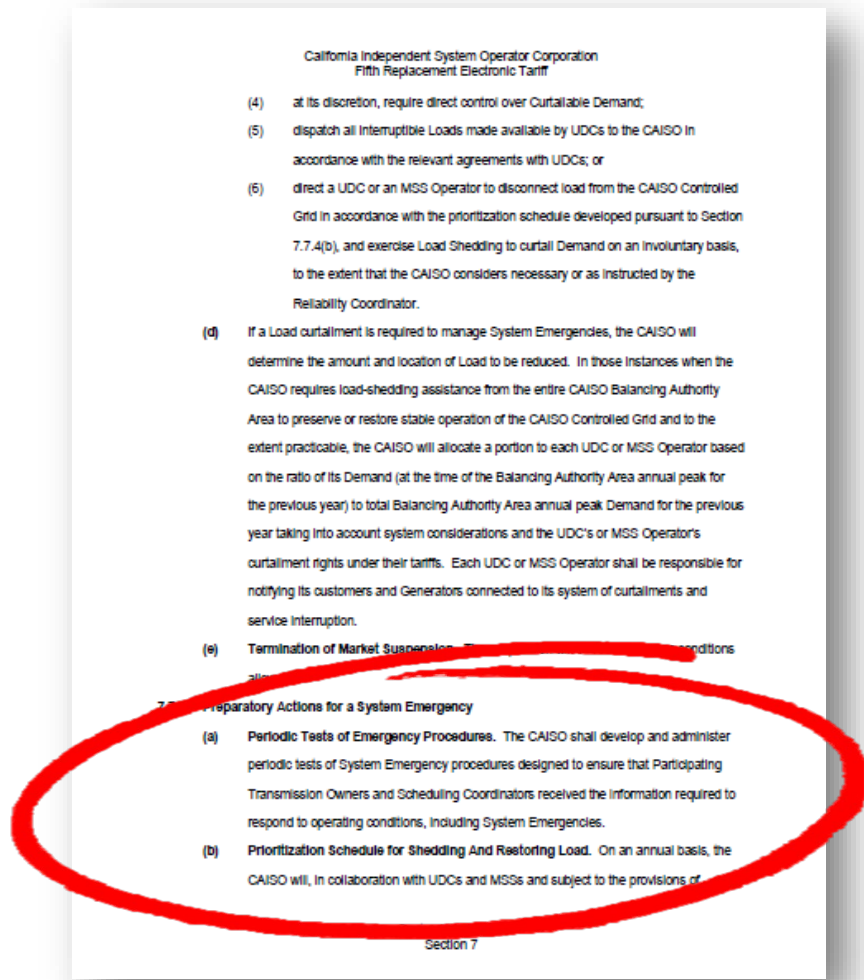
When Might Energy Shortages Occur?

- Emergency notifications may be issued a day in advance or on the day of the event in real-time
 - Depending on the severity of the situation

Current AWE Levels	Timing
Flex Alert	Ideally issued in advance
Restricted Maintenance Operations	Issued in real time or in advance
Transmission Emergency	Issued in real time
Alert	Issued in advance – day ahead by 1500
Warning	Issued in real time
Stage 1	Issued in real time
Stage 2	Issued in real time
Stage 3	Issued in real time

The Responsibility of the California ISO

- The tariff requires the ISO to ensure procedures are in place to notify market participants and the public of potential energy shortages when electricity supplies get tight.
 - Outlined in tariff section 7.7.4



AWE to NERC EEA

- The ISO used AWE notifications (Alerts, Warnings, and Emergencies) to signal activation of system emergency procedures
 - AWE notifications have been in place since 1998
- On **May 1, 2022**, the ISO is changing its messaging system to align with **NERC's EEA** (Energy Emergency Alert) designations



Why Make the Change?

The California ISO is making this change in order to:

- Align our emergency levels with the NERC standards
- Align our emergency levels with Reliability Coordinators and neighboring Balancing Authority procedures
- Ensure that we are all using the same “language” during shortages



Current AWE Levels to Future Emergency Levels

Current AWE Levels	Future Emergency Levels
Flex Alert	Flex Alert
Restricted Maintenance Operations	Restricted Maintenance Operations
Transmission Emergency	Transmission Emergency
Alert	EEA Watch
Warning	EEA 1
Warning – triggering DR programs	EEA 2
Stage 1	
Stage 2	EEA 3/EEA 3 – Firm Load Interruption
Stage 3	

Non-EEAs Levels

AWE Levels	NERC EEA Levels	BA What is happening?	What's Needed?	By When?
Flex Alert	N/A	Potential energy shortages or gas curtailments, ongoing grid issue (fire, natural disaster), variable or uncertain temperature forecast, cloud cover, etc.	Public awareness to reduce the demand for energy by voluntary means	Ideally issued in advance – day ahead
Restricted Maintenance Operations	N/A	Actual or potential impacts to balancing and/or transmission operations	Reschedule planned work to keep equipment and resources in service if outages could threaten grid reliability	Give advanced notice (1 day+) if possible
Transmission Emergency	N/A	Could be system wide or could be local transmission limitation DR/interruptible/non-firm load dispatched-off	Load management procedures may be in effect in impacted area Additional bids, incremental dispatch, emergency assistance, evaluate transmission limitations	Issued in real time – current/ next hour(s)

NERC EEA Levels Explained

AWE Levels	NERC EEA Levels	BA What is happening?	RC Confirm/ Translate	What's Needed?	By When?
Alert	EEA Watch	<u>Day ahead</u> analysis is forecasting one or more hours energy deficient	All available generation projected to be in use	Additional bids, incremental dispatch	Issued in advance – day ahead by 1500
Warning	EEA 1	<u>Real time</u> analysis is forecasting one or more hours energy deficient	All available generation in or projected to be in use	Be prepared for dispatch of DR resources	Issued in real time, ideally hours ahead
Warning – dispatched RDRR	EEA 2	DR/ interruptible/ non-firm load dispatched-off	Load management procedures in effect	Additional bids, incremental dispatch, emergency assistance, evaluate transmission limitations (TTC/ SOL)	Issued in real time – current/ next hour(s)

NERC EEA Levels Explained cont.

AWE Levels	NERC EEA Levels	BA What is happening?	RC Confirm/ Translate	What's Needed?	By When?
Stage 1	EEA 2	All available UDC/MSS energy	Load management procedures in effect, able to maintain contingency reserves	Additional bids, incremental dispatch, incrementally reduce exports, emergency assistance, evaluate transmission limitations	Issued in real time - current/ next hour(s)
Stage 2	EEA 3	Counting armed firm load as non-spin contingency reserves	BA unable to maintain CR, firm load interruption is imminent	Emergency assistance, evaluate transmission limitations	Issued in real time - current/ next hour(s)
Stage 3	EEA 3	Unable to maintain CR, manual load shedding is starting/ in progress	Unable to maintain CR, firm load interruption is in progress		Issued in real time – “w/ in 10 minutes” current/ next hour(s)

Main Takeaways

- **Warning = EEA 1, RDRR dispatch = EEA2**
 - EEA1 = Corresponds to what covered in an AWE “Warning”
 - EEA 2 = Aligned with dispatch of RDRR programs (as always) and AWE Stage 1
 - CAISO enforces but customers may dispatch before this level
- **Stage 2 and Stage 3 combined into EEA 3**
 - Stage 2 (AWE) = Arming firm load as non-spin contingencies
 - Stage 3 (AWE) = Firm load shed is eminent
 - Combined into EEA 3, but blast call (and load interruption notification) is only done when load shed is required


Questions

EMERGENCY NOTICES

ISO Communication Methods

The ISO Communications Method document houses information on all of the ways that we send out emergency notification information





ISO communication methods

The ISO offers various communications methods to keep you informed of system events. The following communication methods are available.

- **Daily Briefing** is a summary of the day's notices; see [Daily Briefing](#).
- **Twitter**; follow the ISO via the following handles
 - [@ISO_Notices](#): all ISO notices
 - [@California_ISO](#): primary channel for grid warnings
 - [@FlexAlert](#): Conservation tips and Flex Alert notifications when a grid warning or emergency notice is issued
- **MNS** – Market notification system; system operating status
 - Publicly via [OASIS](#), click "System Operating Method"
 - By [registering for MNS service](#)
 - In CIDI tool, upper right corner of home page (requires login)
 - In the [Market Participant Portal](#) (restricted access)
- **GMS** – Grid messaging system. Messages sent to all balancing authorities' operational staff.
- **Customer service emails**, primary contacts are designated for each scheduling coordinator, congestion management, transmission operators, public information officers, and Emergency Services as provided to their account managers.
- **Emergency alerts** (formerly AWE - Alerts, warnings and notices). If you want to receive emergency alerts (EA), open your account and add to the distribution list. EA notifications are also published to the ISO Today website.
- **System status update e-mails**. This is an operations distribution list only, those registered for this list only, those registered for this list only, those registered for this list only. To be added to this list, please email [iso@caliso.com](#) for addition* requesting to be added.

Day-ahead Warnings are sent through

- Notices (Daily Briefing)
- MNS
- Customer service email to all primary contacts
- System status update e-mail sent at 3:00 p.m.

Energy Emergency Alert (EEA) Watch are sent through

- Twitter
- GMS
- EA e-mail and ISO Today mobile app

EEA 1 notifications are sent through

- Notices (Daily Briefing)
- MNS
- EA e-mail and ISO Today mobile app

EEA 2 notifications are sent through

- Notices (Daily Briefing)
- MNS
- EA e-mail and ISO Today mobile app

EEA 3 notifications are sent through

- Notices (Daily Briefing)
- MNS
- EA e-mail and ISO Today mobile app
- Twitter

Energy Emergency Alert (EEA) Watch are sent through

- MNS
- System status update e-mail sent at 8:00 a.m., 10:00 a.m., 12:00 p.m. and then hourly until warning has ended
- Twitter
- GMS
- System status update e-mail hourly from time EEA 1 is called until event has ended
- Twitter
- GMS
- System status update e-mail hourly from issuing EEA 2 until event has ended
- GMS
- System status update e-mail hourly from issuing EEA 2 until event has ended
- load serving entity blast call – a single call to all load serving entities

Cancellation or downgrading of events will have the same communication method as the original issuance.

	Twitter	MNS	GMS	EA notification	Notice	Customer service email	System status update email	Blast call
Restricted Maintenance Operations		X	X	X				
Flex Alert (day ahead)	X			X	X			
Flex Alert (day of)	X			X	X			
EEA Watch (day of)	X	X	X	X	X		X	
EEA 1	X	X	X	X	X		X	
EEA 2	X	X	X	X	X		X	
EEA 3	X	X	X	X	X		X	X
All clear	X	X	X	X	X	X		

California Independent System Operator
www.caliso.com | 250 Outcropping Way, Folsom, CA 95630 | 916.351.4400 | ISO PUBLIC © Copyright 2022 | CS/202/03/2022

Notification Methods

	Twitter	MNS	GMS	EA notification	Notice	Customer service email	System status update email	Blast call
Restricted Maintenance Operations		X	X	X				
Flex Alert (day ahead)	X			X	X			
Flex Alert (day of)	X			X	X			
EEA Watch (day of)	X	X	X	X	X		X	
EEA 1	X	X	X	X	X		X	
EEA 2	X	X	X	X	X		X	
EEA 3	X	X	X	X	X		X	X
All clear	X	X	X	X	X	X		

<http://www.caiso.com/Documents/ISOCommunicationMethods.pdf>

Email Notification Samples

Test environment :: CAISO EEA Watch Notice - Message (Plain Text)

File Message Acrobat Tell me what you want to do...

Copy to SharePoint - Delete Reply Reply All Forward AWE to EEA To Manager Team Email Move Mark Unread Categorize Translate Zoom Report Phish -

OnePlaceMail Delete Respond Quick Steps Move Tags Editing Zoom PhishAlar...

Wed 3/23/2022 8:44 AM

awe_presummertesting@caiso.com

Test environment :: CAISO EEA Watch Notice

To [redacted]

We removed extra line breaks from this message.

CAISO EEA Watch NOTICE [202202615]

The California ISO has issued an Energy Emergency Alert (EEA) Watch Notice

Reason:
TEST TEST TEST

CAISO is forecasting an energy deficiency, with all available resources in use

Conservation efforts are encouraged during this time, and energy market participants are encouraged to offer additional supplemental energy and ancillary service bids. During this time, participating customers may be directed by utilities to use generators approved for emergencies, or to reduce load following the protocols of each utility's programs.

For more information, view the CAISO System Emergency fact sheet (<http://www.caiso.com/Documents/SystemAlertsWarningsandEmergenciesFactSheet.pdf>)

Monitor system conditions on Today's Outlook (<http://www.caiso.com/TodaysOutlook/Pages/default.aspx>) and contact local electric utilities for details about their respective load reduction programs.

Notice issued at: 03/23/2022 08:44

----- DISCLAIMER -----

Test environment :: CAISO EEA 2 Notice - Message (Plain Text)

File Message Acrobat Tell me what you want to do...

Copy to SharePoint - Delete Reply Reply All Forward AWE to EEA To Manager Team Email Move Mark Unread Categorize Translate Zoom Report Phish -

OnePlaceMail Delete Respond Quick Steps Move Tags Editing Zoom PhishAlar...

Wed 3/23/2022 9:29 AM

awe_presummertesting@caiso.com

Test environment :: CAISO EEA 2 Notice

To [redacted]

We removed extra line breaks from this message.

CAISO EEA 2 NOTICE [202202617]

The California ISO has issued an Energy Emergency Alert (EEA) 2 Notice for the CAISO Grid, effective 03/23/2022 16:00 through 03/23/2022 21:00.

Reason:
TEST TEST TEST

CAISO is forecasting an energy deficiency, with all available resources in use or forecasted to be in use, for the specified time period.

Conservation efforts are encouraged during this time, and energy market participants are encouraged to offer additional supplemental energy and ancillary service bids. During this time, participating customers may be directed by utilities to use generators approved for emergencies, or to reduce load following the protocols of each utility's programs.

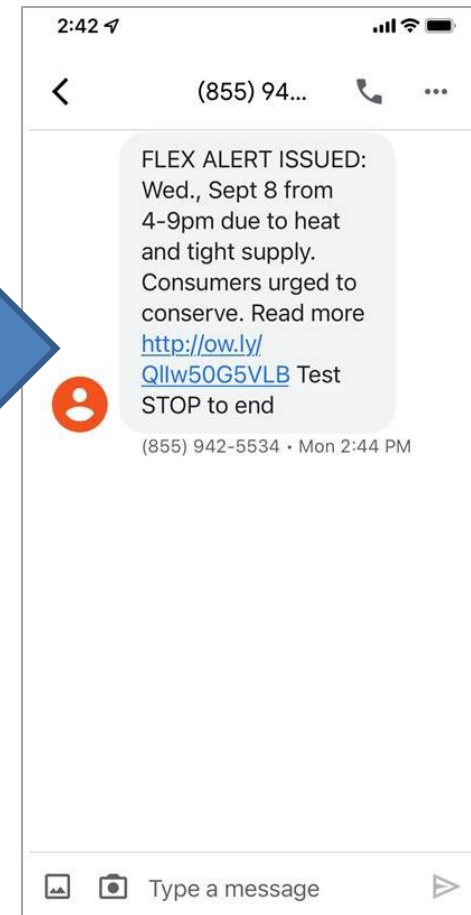
To preserve grid reliability, CAISO dispatch of emergency demand response programs may be necessary during this time. Subsequently, CAISO may request Utility Distribution Companies and Metered Subsystems to voluntarily reduce electricity use.

For more information, view the CAISO System Emergency fact sheet (<http://www.caiso.com/Documents/SystemAlertsWarningsandEmergenciesFactSheet.pdf>)

Monitor system conditions on Today's Outlook (<http://www.caiso.com/TodaysOutlook/Pages/default.aspx>) and contact local electric utilities for details about their respective load reduction programs.

Phone Notifications

Phone alerts and the CAISO Today app will be update to reflect the new EEA notifications levels as of May 1,2022.



SUBSCRIBING TO EA NOTIFICATIONS

EA Notification Distribution List

- CAISO will be updating the AWE/EA notification distribution list
- CAISO will send an email notification to all contacts in the AWE/EA notification distribution list **tomorrow afternoon (4/21)**

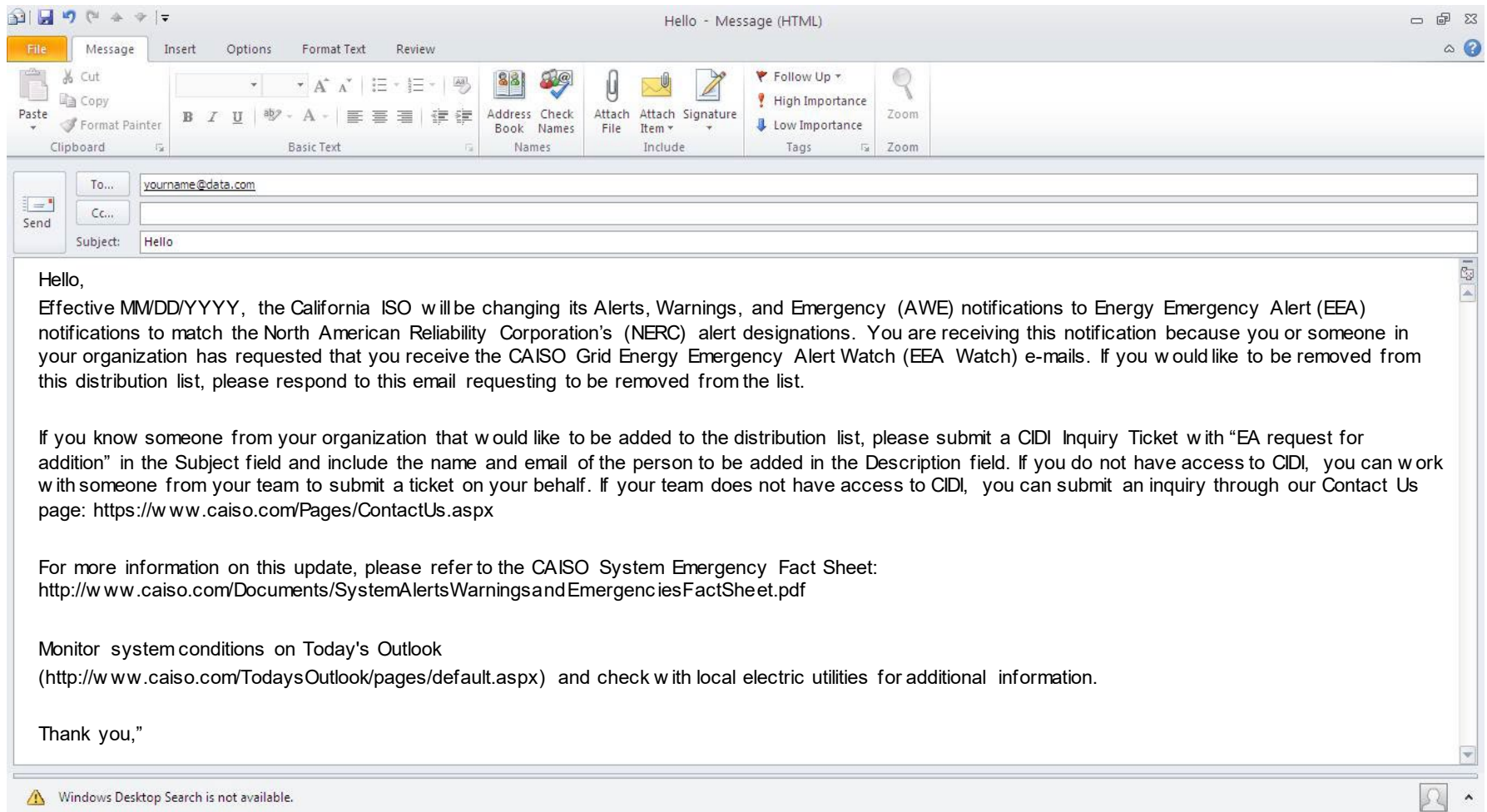


Subscribing and Unsubscribing

- If you receive the email notification and **would like to be removed** from the distribution list:
 - respond to the email requesting to be removed from the distribution list
- If you do not receive the email notification by 4/22 and **would like to be added** to the distribution list:
 - Submit a CIDI ticket with “EA request for addition” in the Subject field requesting to be added

Remember to check your junk and/or trash folders in case the notification email ends up in one of these folders!

Sample Email to Verify Distribution List



Access to CIDI - Yes

- If **you** do not have access to CIDI, please work with someone on your team who has access to submit a ticket

The screenshot displays the California ISO Help Center interface. At the top, there are navigation links for 'California ISO', 'Help Center', 'Knowledge Articles', 'Cases', 'Submit Inquiries, Access or Maintenance', and 'Submit Dispute'. A search bar is prominently featured with the text 'How can we help you?' and a search icon. Below the search bar, the page is divided into several sections: 'Knowledge articles' with a 'FEATURED' section and a 'TRENDING' list of five items; 'Recently viewed cases' with a list of case entries; 'Resources' with four categories: 'Technical support', 'Daily Briefing', 'Market Participant Portal', and 'Calendar'; and a footer section with 'QUICK LINKS', 'STAY INFORMED', 'RELATED WEBSITES', and 'STAY CONNECTED' (including social media icons).

Access to CIDI - No

California ISO

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Contact us

Our business hours are Monday through Friday from 8 a.m. to 5 p.m. To speak to a representative during business hours, please contact the department below that can best address your inquiry:

Customer Service (916) 608-7320	Human Resources (916) 608-7000
Media contact ISOMedia@caiso.com	Employment verification payroll@caiso.com
Finance and Accounting (916) 608-5937	Procurement isoprocurement@caiso.com
Tours & Speaker requests Visit our web page for details Currently offering virtual orientation only	System access or technical issues (916) 351-2309 or (888) 889-0450
	Service Desk for RC West participants only Local number: (916) 538-5722 Toll-free number: (833) 888-9378

Our Mailing Address
California ISO
P.O. Box 639014
Folsom, CA 95630

Folsom campus
250 Outcropping Way, 95630
Main telephone number: (916) 351-4400
Security telephone number: (916) 351-2303
Map

Use the form below to contact the ISO
A customer service specialist will respond to your inquiry.

Please review our [Tips for Asking Questions of the ISO](#) prior to submitting the form to find out how to get a timely and useful response. For questions related to retrieving data from OASIS, visit our [OASIS Frequently Asked Questions](#).

(required fields are indicated by *)

Name.*

Email Address.*

Verify Email Address.*

Subject.*
OASIS problem

Telephone:

Comment.*

If **your team** does not have access to CIDI, you can submit an inquiry on our **Contact Us** page

- Be sure to include “EA request for addition” and the name and email of the person to be added in the **Comment** field

ADDITIONAL RESOURCES

Additional Resources – Operational Procedures

NERC Standards

- [COM-002-4 - Operating Personnel Communications Protocol](#)
- [EOP-011-1 – Emergency Operations](#)

RC West Procedures

(<https://www.caiso.com/rules/Pages/OperatingProcedures/Default.aspx>)

- [RC0410 – System Emergencies](#)

CAISO BA Procedures

(<https://www.caiso.com/rules/Pages/OperatingProcedures/Default.aspx>)

- [4420 – System Emergency](#)
- [4410 – Emergency Assistance](#)
- [4510 – Load Management](#)
- [4510A](#)

Operational Procedures Location

Operational procedures can be found on www.caiso.com



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Operating procedures guide rules and policy implementation

Operating procedures implement the policies and authorities contained in the California ISO Tariff and business practice manuals. We provide public access to current versions of the operating procedures, which do not contain information that is system security sensitive, market sensitive or third party proprietary. Operating procedures are intended to guide ISO stakeholders regarding the implementation of rules and policies specified in the **California ISO Tariff**.

TERMS OF ACCESS

Actual ISO operations are based upon system conditions and prudent practice. System conditions may warrant deviation from written procedures. The Shift Manager will determine the need for such deviation. The ISO reserves the sole right to revise or edit these procedures in accordance with Operating Procedure 5510.

The following information is not available in this public posting of the ISO Operating Procedures due to security or confidentiality reasons: third party operating procedures and unit specific data is not being provided pending ISO and third party confidentiality review; names and phone numbers are excluded for privacy and security reasons; and emergency restoration procedures are not included due to security considerations.

Balancing Authority Area procedures

- ⊕ Operating procedures - 1000-2000 series - balancing area operations [\[PDF\]](#)
- ⊕ Operating procedures - 3000 series - transmission operations [\[PDF\]](#)
- ⊖ Operating procedures - 4000 series - emergency operations [\[PDF\]](#)
 - ⊕ 4100 - Adverse operating conditions [\[PDF\]](#)
 - ⊖ 4400 - Electric and capacity emergencies [\[PDF\]](#)
 - 4410 Emergency Assistance 9/25/2020 09:20
 - 4410D Emergency Assistance Resource IDs 11/04/2021 09:45
 - 4420 System Emergency 10/21/2021 10:28
 - 4420C System Emergency Notice Templates 8/20/2021 12:08
 - 4420E Allowable Transmission Maintenance Activities During Restricted Maintenance Operations 8/15/2021 10:47
 - ⊕ 4500 - Load management [\[PDF\]](#)

AWE to NERC EEA Learning Video

- The ISO has created a **short, 10 minute video** that reviews these changes
- We encourage you to watch and share within your organization!
- The training video can be found:
 - On the Learning Center
 - On the release page



Poll Question



How prepared do you feel for the changes from the AWE notification system to the NERC EEA notification system?

- A. Bring it on!
- B. I think I'm good to go...
- C. I want to go through the material a few more times
- D. Truthfully, I'm still a bit confused



Final Questions



Please take time to fill out our training evaluation!

For more detailed information on anything presented, please visit our website at:

www.caiso.com

Or email us at CustomerReadiness@caiso.com