

Summer Readiness Refresher Training for Scheduling Coordinators (SCs)

Today's Trainer

Dottie Vance
Customer Readiness
Trainer

Housekeeping



TRAINING MATERIALS

This presentation and recording will be posted on the ISO website in the Training Center. The recording is for informational and convenience purposes only. Any related transcriptions should not be reprinted without the ISO's permission.

Housekeeping



REMAIN MUTED

Keep yourself muted to minimize background noise



ASKING QUESTIONS

Unmute to ask verbal questions or write in the chat pod



RAISING HAND

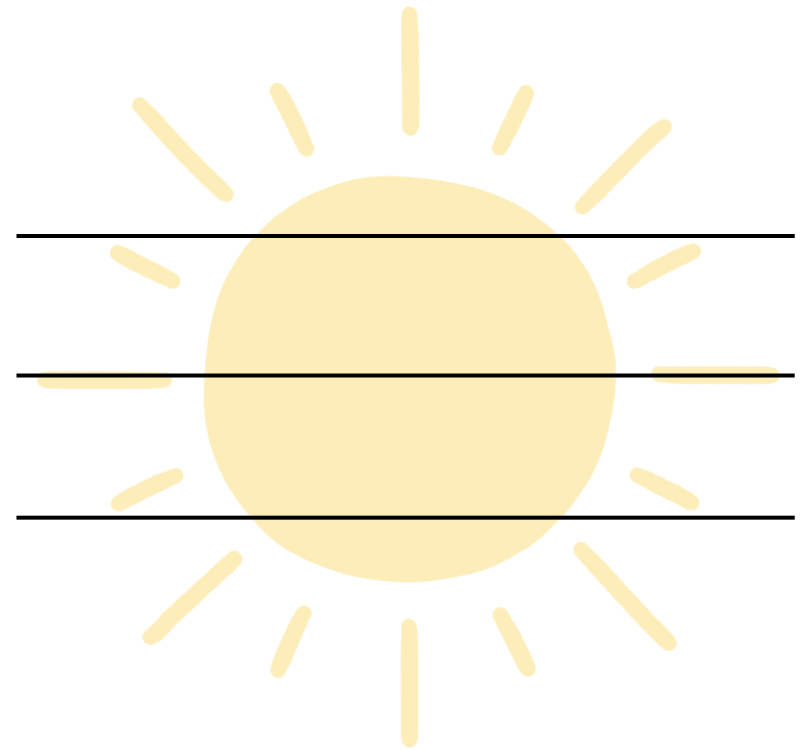
Raise your hand using WebEx interactivity tools

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QUESTION 1

Short Answer

What's ONE thing your organization does to prepare for summer?



Today's Agenda

01

Understand

Key Summer 2025 impacts and available resources

04

Assess

Impacts of High Priority Wheeling Exports

02

Review

CAISO Emergency Playbook, including roles and responsibilities

05

Identify & Verify

Communication methods and Scheduling Coordinator (SC) contact information

03

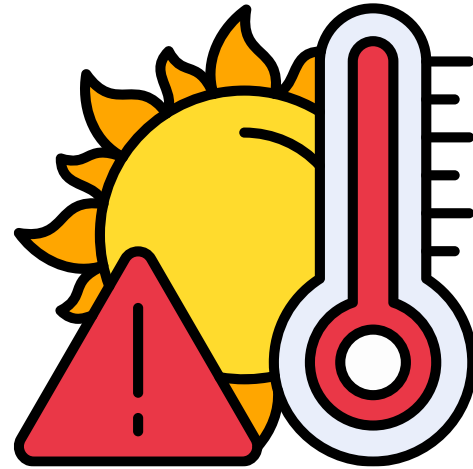
Explain

Energy Emergency Alert (EEA) notification levels

06

Summarize

Key takeaways and next steps



OVERVIEW OF SUMMER 2025

2025 Statistics

Peak demand
44,506 MW

Aug 21 at 6:07 p.m.

Previous year:
48,323 MW on Sep 5 at 4:59 p.m.

Based on 1-minute averages, and includes dynamic transfers.

New record
Peak demand served by renewables
25,744 MW

July 21 at 10:07 a.m.

Previous year:
20,612 MW (51.8%) on Aug 12 at 5:03 p.m.

This indicates the highest amount of renewables serving peak electricity demand on any given day.



New record
Solar peak
21,774 MW

July 30 at 11:56 a.m.

Previous year:
19,650 MW on Aug 23 at 12:10 p.m.

Wind peak
6,313 MW

April 17 at 10:39 p.m.

Previous year:
6,322 MW on May 15 at 10 p.m.

Peak net imports
11,078 MW

Dec 16 at 3:30 a.m.

Previous year:
9,566 MW on July 3 at 2:52 a.m.

Peak net exports
7,380 MW

June 12 at 3:30 p.m.

Previous year:
Began reporting exports data in Jan 2025.

New record
Added storage capacity
4,789 MW

Previous year:
3,950 MW

Total storage capacity:
15,861 MW

Western Energy Imbalance Market (WEIM)

Gross benefits:
\$1.62 billion

Previous year:
\$1.57 billion

Total gross benefits:
\$8.24 billion

Visit [WEIM](#)

ISO's GHG savings:
110,516 mTCO₂

Previous year:
117,466 mTCO₂

ISO's total GHG savings:
1,153,550 mTCO₂

See [ISO GHG emissions tracking reports](#)



1 MW

900 homes

100 MW

90,000 homes

20,000 MW

18,000,000 homes

48,000 MW

43,200,000 homes

Prepare for summer operations

Summer Loads and Resources Assessment

evaluates expected 2025 summer supply and demand conditions for the California Independent System Operator (ISO) balancing authority area (BAA)

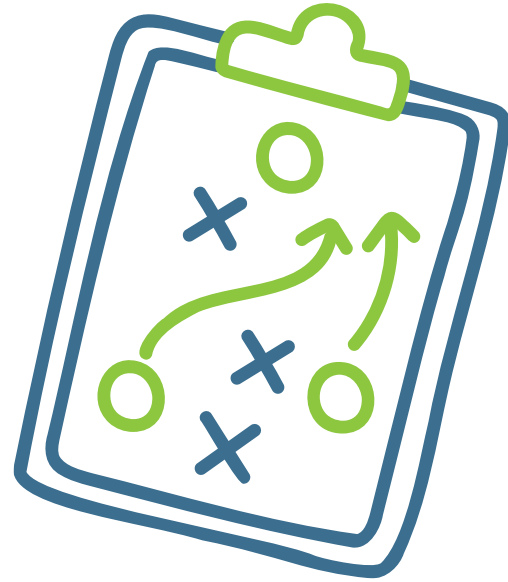
This document indicates continued improvement in resource availability for the upcoming summer driven by accelerated resource development



2025 SUMMER LOADS AND RESOURCES ASSESSMENT

May 5, 2025





CAISO EMERGENCY PLAYBOOK

Emergency Playbook: 4 – 7 days out

Operational Assessments

- **Monitoring** demand forecast 7 days out
- **Assessing** resource adequacy, system conditions, weather, and other potential grid impacts,
- **Planning** for any next possible steps



Operational Coordination with External Entities

Pending actual/potential system conditions, **coordination with:**

- Governor's Office (GO)
- Heads up to Long-start strategic reserve resource scheduling coordinators (LS-SRR SCs)
- Water agencies
- Consider the need for Department of Energy (DOE) 202c orders

Public & Customer Communications

CAISO may issue a **high temperature heads up** via:

- CAISO website
- CAISO social media



Emergency Playbook: 1-4 Days Out

Operational Assessments

Reviews and validates the most current information on actual and potential

- System conditions
- Resource adequacy
- Weather
- Other potential factors impacting the grid



Operational Coordination with External Entities

Initiate communication to:

- Water agencies, Neighboring Balancing Areas, LS-SRR SCs, ELRP Board, Utilities, RC West, and Regulatory Agencies.

Coordinate the following:

- Requests for DOE 202c Orders
- Emergency supply above approved permit and/or Generator Interconnection Agreement (GIA)
- GO Proclamation of a State of Emergency and/or GO Executive Orders
- WEIM entities can opt in for Assistance Energy Transfers (AETs)

Public & Customer Communications

CAISO may issue **Restricted Maintenance Operations (RMO)** via:

- ISO Today mobile app
- Market Notification System (MNS)
- Email
- Today's Outlook

Also publicly posted:

- DOE Orders
- GO Proclamations and Orders

Emergency Playbook: 1 Day Out

Operational Assessments

Reviews and validates

Day Ahead Market results and the most current information on actual and potential

- System conditions
- Resource adequacy
- Weather
- Other potential factors impacting the grid

Operational Coordination with External Entities

Operational coordination with:

- Utilities
- Neighboring BAs
- Emergency Load Reduction Program (ELRP) Board
- RC West



Public & Customer Communications

CAISO may issue **Flex Alert** and/or **EEA Watch notice** via:

- ISO Today mobile app
- MNS
- Email
- News release
- Daily Briefing notice
- Social media
- FlexAlert.org

Emergency Playbook: Operating Day

Operational Assessments

Reviews and validates the most current information on actual and potential

- System conditions
- Resource adequacy
- Weather
- Other potential factors impacting the grid



Operational Coordination with External Entities

CAISO may issue **Restricted Maintenance Operations (RMO)** via:

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- Email
- Today's Outlook

Also publicly posted:

- DOE Orders
- GO Proclamations and Orders

Public & Customer Communications

CAISO may issue **Flex Alert and/or EEA Watch notice** via:

- ISO Today mobile app, MNS, Email, News release, Daily Briefing notice, Social media, and/or FlexAlert.org

De-escalate/ all-clear notices issued via:

- ISO Today mobile app, MNS, Email, Today's Outlook, and Social Media

What Questions Do You Have?



Unmute yourself

or



Raise your hand



ENERGY EMERGENCY ALERTS (EEA)

Energy Emergency Alert (EAA) Levels

Emergency Alert Levels
Flex Alert
Restricted Maintenance Operations
Transmission Emergency
EEA Watch
EEA 1
EEA 2
EEA 3 – (Preparing for Potential Rotating Outages)*
EEA 3 – Firm Load Interruption*

Emergency Notification Levels

Please note: If an SC knows that their resource will have a difficult time starting up, please communicate with the ISO as soon as possible (*e.g., starting in advance to the event*).

Notifications Levels	BA What is happening?	What's Needed?	By When?
Flex Alert	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	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	Declared for events threatening or limiting transmission grid capability (line or equipment). Most often a local transmission limitation but could have wider system impact. 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)

Energy Emergency Alert Notification Levels

NERC EEA Levels	BA What is happening?	RC Confirm/ Translate	What's Needed?	By When?
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
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
EEA 2	The BA is no longer able to provide its expected energy requirements and is energy deficient	Load management procedures in effect	Additional bids, incremental dispatch, incrementally reduce exports, emergency assistance, evaluate transmission limitations	Issued in real time – current/ next hour(s)

Energy Emergency Alert Notification Levels (cont.)

NERC EEA Levels	BA What is happening?	RC Confirm/ Translate	What's Needed?	By When?
<p>EEA 3 <i>(Prepare for Potential Rotating Outages)</i></p>	<p>Counting armed firm load as non-spin contingency reserves</p>	<p>BA unable to maintain CR, firm load interruption is imminent</p>	<p>Emergency assistance, evaluate transmission limitations</p>	<p>Issued in real time - current/ next hour(s)</p>
<p>EEA 3 – Firm Load Interruption <i>(Ordering Rotating Outages)</i></p>	<p>Unable to maintain CR, manual load shedding is starting/ in progress</p>	<p>Unable to maintain CR, firm load interruption is in progress</p>	<p>Receive firm load shed operating instructions (rotating outages) via blast call.</p>	<p>Issued in real time – “w/ in 10 minutes” current/ next hour(s)</p>

Energy Emergency Alert Notification Levels (cont.)

How do EEAs levels end?	Can there be several EEAs?
<p>When an EEA is issued, that EEA level stays in effect until it is either:</p> <ul style="list-style-type: none">• Cancelled (<i>manual action by CAISO operator</i>) or• Terminated (<i>when the time for the EEA ends</i>) <p>EEA 0 - Termination</p> <ul style="list-style-type: none">• When the energy deficient BA can meet its load and operating reserve requirements, it will request to terminate the EEA	<p>Yes! You can have more than one EEA in effect at any given time.</p> <p><u>Please note exception:</u> Only one EEA Watch should be in effect at any time</p>

Emergency Notifications

Link: <https://www.caiso.com/Documents/Emergency-Notifications-Fact-Sheet.pdf>

Energy shortages can be caused by persistent high heat, equipment failure, weather events, or natural disasters, such as wildfires. When electricity supply is tight, the California ISO uses an alert system to keep the public informed. The ISO recently transitioned to a series of notifications that match the North American Electric Reliability Corporation's (NERC) Energy Emergency Alert (EEA) system to be consistent with alerts used by the RC West and other balancing authorities in the Western Electricity Coordinating Council (WECC). [Learn more about EEAs.](#)

● Flex Alert

A Flex Alert is a call to consumers to voluntarily conserve electricity when the ISO anticipates energy supply may not meet high electricity demand. Reducing energy use during a Flex Alert can prevent more dire measures, such as moving into EEA notifications, emergency procedures, and even [rotating power outages](#). Visit the ISO's [Flex Alert](#) website for energy conservation tips and to sign up for notifications.



● Restricted Maintenance Operations

When high demand is anticipated, the ISO will caution utilities and transmission operators to avoid taking grid assets offline for routine maintenance to assure that all generators and transmission lines are available.

● Transmission Emergency

Declared for any event threatening or limiting transmission grid capability, including line or equipment overloads or outages.

To learn more about emergency notifications, go to [ISO System Emergency procedures](#).

To monitor grid conditions, visit [Today's Outlook](#) and download the [ISO Today mobile app](#).

● Energy Emergency Alert Watch (EEA Watch)

Analysis shows all available resources are committed or forecasted to be in use, and energy deficiencies are expected. This notice can be issued the day before the projected shortfall or if a sudden event occurs. Consumers are encouraged to conserve energy.

● Energy Emergency Alert 1 (EEA 1)

Real-time analysis shows all resources are in use or committed for use, and energy deficiencies are expected. Consumers are encouraged to conserve energy.

● Energy Emergency Alert 2 (EEA 2)

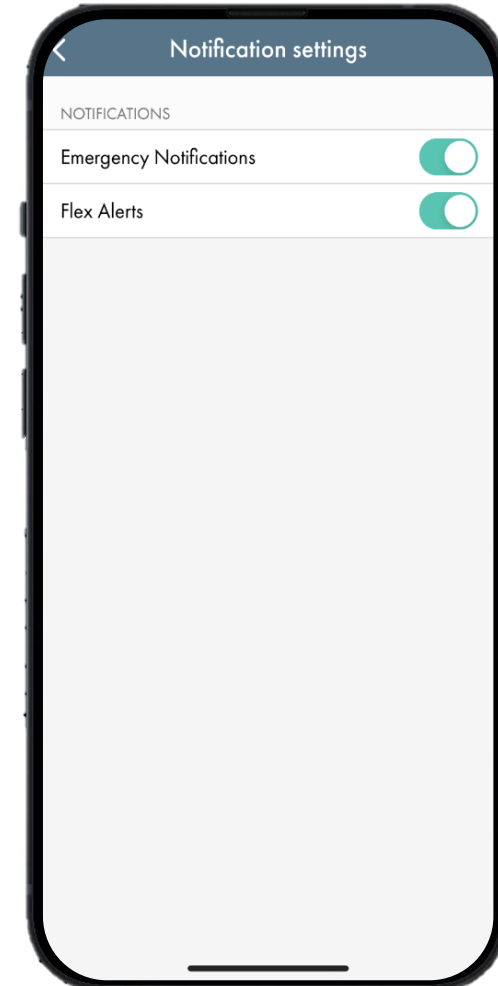
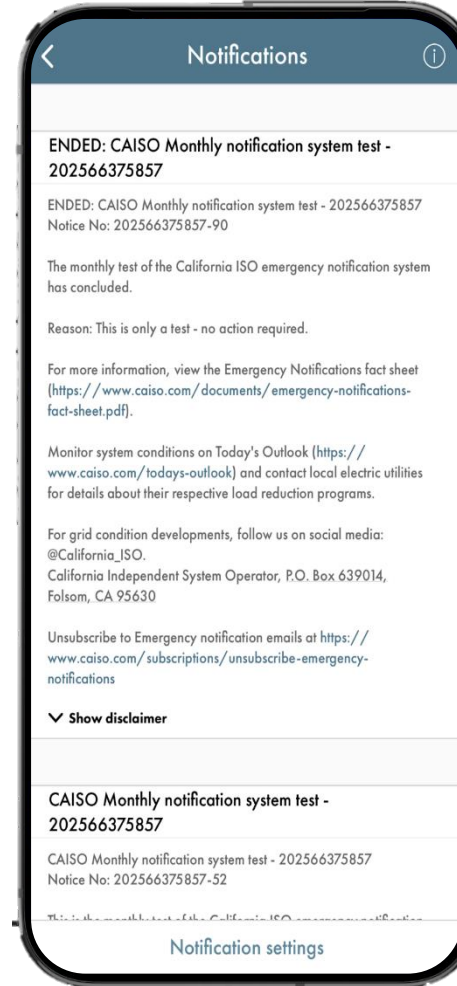
ISO requests emergency energy from all resources and has activated emergency energy programs. Consumers are urged to conserve energy to help preserve grid reliability.

● Energy Emergency Alert 3 (EEA 3) – Preparing for rotating power outages

The grid operator is unable to meet minimum reliability reserve requirements and has declared the initial step of an EEA 3. Utilities have been alerted to prepare for outages, but rotating outages have not been ordered.

● Energy Emergency Alert 3 (EEA 3) – Ordering rotating power outages

The grid operator has ordered utilities to begin rotating power outages to protect grid reliability. The final step of an EEA 3 is declared when electricity supply is not sufficient to meet demand and required reserves are unable to be maintained.



QUESTION 2

True or False

A Flex Alert is the same thing as a Restricted Maintenance Operation

What Questions Do You Have?



Unmute yourself

or

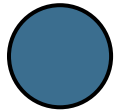


Raise your hand



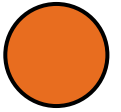
HIGH PRIORITY EXPORTS

High Priority Export Background



2021 Policy

- CAISO adopted a policy (*with stakeholder input*) that requires exports from the CAISO Balancing Authority (BA) to be supported by a non-CAISO BA Resource Adequacy (RA) resource.



What this means for users

- Identify and link a non-CAISO RA resource to your export
- Your export will receive equal priority to the CAISO load
- Applies to both: Integrated Forward Market (IFM) & Real-Time Market (RTM)



Why it matters

- Ensures exports are reliable and backed by real capacity
- Prevents unsupported exports from competing with CAISO demand
- Supports overall market reliability and fairness



Export priorities are effectuated in the RTM via scheduling run prices (34.12.1)

SCHEDULING RUN PRIORITY	SOFT ENERGY BID CAP (27.4.3.2)	HARD ENERGY BID CAP (27.4.3.3)
<ul style="list-style-type: none"> • CAISO System Demand Forecast • Priority Wheeling Through Exports (<i>Self-Scheduled</i>) • Resource Adequacy–Backed Exports: <ul style="list-style-type: none"> ◦ Explicitly identified in RA Plans and linked to Supply Plans • Real-Time Market Export Self-Schedules: <ul style="list-style-type: none"> ◦ Supported by non-RA or non-RUC generation 	\$1450	\$2900
<ul style="list-style-type: none"> • RUC Export Self-Schedules at Scheduling Points not backed by non-RA generation • Non-Priority Wheeling Through Export Self-Schedules in RUC 	\$1250	\$2500
<ul style="list-style-type: none"> • RTM Export Self-Schedules at Scheduling Points not backed by: <ul style="list-style-type: none"> ◦ Non-Resource Adequacy generation, or ◦ Non-RUC capacity • Non-Priority Wheeling Through Export Self-Schedules in the Real-Time Market 	\$1150	\$2300
<ul style="list-style-type: none"> • Contingency-Only Operating Reserves <ul style="list-style-type: none"> ◦ Included only when activated by the CAISO Operator to provide Energy, as indicated by: <ul style="list-style-type: none"> ▪ An active Contingency Flag, and ▪ A declared Contingency Condition 	\$1000	\$2000

SIBR Update: Self-Scheduled Export Priority (Effective May 1, 2026)



What's Changing

Hour-ahead scheduling run (HASP) will no longer lower the priority of DA-PT self-scheduled exports when the supporting unit's commitment in RUC is insufficient



Who is Impacted

All resources, including long-start resources



Validation Approach

Self-scheduled exports will be validated based on the supporting units eligible export capacity (EEC), which includes:

- Real-Time Market (RTM) energy bids
- RUC availability bids
- Demonstrated resource availability in the market



Requirements

SCs must still, for both the supporting resource and export;

- Meet tariff section 30.5.1 requirements
- Have sufficient eligible export capacity



Additional Resources for High Priority Exports

Transmission Service and Market Scheduling Priorities – Daily Process
[Training](#) | [Video](#)

Transmission Service and Market Scheduling Priorities – Monthly Process
[Training](#) | [Video](#)

Transmission Service and Market Scheduling Priorities – Resale Process
[Training](#) | [Video](#)

FAQ for Export Schedules and the Scheduling Priority Rules
[Knowledge Article](#)

Priorities for Export Bids in the Day-Ahead and Real-Time Markets
[Knowledge Article](#)

Scheduling Priorities and Export Schedules Overview
[Knowledge Article](#)

What Questions Do You Have?



Unmute yourself

or



Raise your hand



COMMUNICATION METHODS AND CONTACT VERIFICATION REQUEST

Notification Methods

Link: <https://www.caiso.com/subscriptions>

	X (formerly Twitter)	GMS	Emergency notification, MNS, Today's Outlook, ISO Today mobile app	Notice	Customer service email	System status update email	Blast call
Restricted Maintenance Operations		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	
EEA 1	X	X	X	X		X	
EEA 2	X	X	X	X		X	
EEA 3	X	X	X	X		X	X
All clear	X	X	X	X	X		

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

Subscribing and Unsubscribing

- If you **would like to be added** to the EA notification distribution list:
 - Self subscription is available! Check it out here:
<https://www.caiso.com/subscriptions/subscription-emergency>
- If you **would like to be removed** from the EA notification distribution list:
 - At the bottom of each notification level, there is an opt out link users can select.



Make sure you check your junk/trash folders in case the notification emails ends up in those folders!

Annual Confirmation of Contacts in May

Effective May 2026

Scheduling Coordinators will need to verify that their contact information is accurate in the [Customer Inquiry, Dispute and Information \(CIDI\)](#) application.

Automatic Notification

Automated notification emails will be sent on **May 1** to each contact list's Primary Contacts and User Access Administrators (UAAs), indicating the list is **due for review by June 1**.

Reminder Emails

If confirmation is not completed, reminder emails will be sent on **May 15** and **May 25**



Helpful Resource

Please refer to the [Contact List Desk Guide](#) (page 11).



What Questions Do You Have?



Unmute yourself

or



Raise your hand



QUESTION 3

Multiple Choice

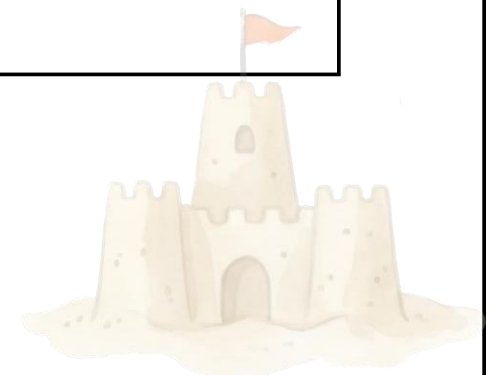
Where do SCs need to verify their contact information?

A: CIDI

B: VIA EMAIL

C: THEY DON'T

D: AIM





WRAP UP



Additional Resources

Resource operations readiness – performance expectations

[Training](#) | [Video](#)

Resource operations readiness – battery performance expectations

[Training](#) | [Video](#)

Resource operations readiness – managing interconnections

[Training](#) | [Video](#)

Summer Readiness 2025 Training

[Training](#) | [Video](#)

Additional Resources – Operational Procedures

NERC Standards (<https://www.nerc.com/pa/Stand/Pages/ReliabilityStandards.aspx>)

- [COM-002-4 - Operating Personnel Communications Protocol](#)
- [EOP-011-4 – Emergency Operations](#)
- [EOP-012-2 – Extreme Cold Weather Preparedness and Operations](#)
- [TOP-002-5 – Operations Planning](#)

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 – Load Shed Calculation Guideline](#)
- [4100 – System Operations Emergency Plan](#)
- [4120 – Gas Transmission Pipeline System Limitations or Outages](#)



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Takes 3-5 minutes to complete

Helps us improve future training

Link: <https://www.surveymonkey.com/r/caisocoursesurvey>

Instructor Dottie
Training course Other: Summer Readiness

Thank you for your participation!



For clarification on anything presented in this training, send an email to:
CustomerReadiness@caiso.com

For other questions or stakeholder specific questions or concerns use one of these methods:

- Submit a [CIDI ticket](#)
- Contact your Scheduling Coordinator
- Use the “[Contact us](#)” page on caiso.com to submit questions