Guidelines for Sending Messages across RC Seams

8300EXT00008

Version 1.0

Effective: February 16, 2023

Approved By: Brian Strickland Digitally signed by Brian Strickland DN: cn=Brian Strickland, o=Southwest Power Pool, ou=Operations, email=BStrickland@spp.org, c=US Date: 2023.02.16 14:21:04 -06'00'	
SME Signature (Brian Strickland)	Date

Approved By: Cody Parker Digitally signed by Cody Parker DN: cn=Cody Parker, o=Southwest Power Pool, ou=Operations, email=cparker@spp.org, c=US Date: 2023.02.16 14:22:37 -06'00'	
Business Owner Signature (Cody Parker)	Date

SPP Southwest Power Pool

Revision History

Date/Version Number	Author	Change Description	Comments
02/16/23 Version 1.0	Brian Strickland, Cody Parker, Derek Hawkins	Initial document created from 8300QREF00008 v1.0. Deleted Gridforce as an RC. Removed Peak RC from Supporting Information and Periodic Review Procedure. Updated Supporting Information section to include link to CAISO document and added a note that this information has been shared with the public. Updated WECC-WIDE Messaging section to include comment regarding WECC also receiving this information. Internal updates don't require review by other RCs; deleted Periodic Review Procedure section. In Transmission Emergency definition, clarified that "Fires" is "BES-threatening wildfires."	

Audience

☐ BA Analyst	☐ OAPS	☐ SE
☐ BC	☐ OIT	☐ Seams and AFC
☐ DA	☐ Ops Eng & Analysis Support	☐ SS
☐ East RC	☐ Ops Mgmt	☐ System Operations
☐ EMS MDI	☐ Ops Planning	☐ Tariff Support
☐ FC	☐ OST	☐ Tech Analyst
☐ Market Support/Analysis	☐ QA Analyst	☐ TI Analyst
☐ Model Coordination	☐ RTBM	☐ WEIS
☒ EXTERNAL	☐ RTP	☐ West RC

Table of Contents

Revision History **2**
Audience **3**
Background **5**
Responsibilities **5**
SCOPE/Applicability **5**
Background 5
Scope 6
Applicability 6
Messaging Guidelines **7**
WECC-WIDE Messaging 7
Regional Messaging 12
Questions and Comments 12
Supporting Information **12**
Operationally Affected Parties 12

Background

This document is to provide guidance to applicable functional entities on expectations for sending messages across the RC seams in the Western Interconnection.

Responsibilities

All of the following entities who have access to the California ISO RC West (RC West) GMS and the SPP R-Comm messaging tools have responsibilities for sending reliability messages via the GMS tool in accordance with these guidelines.

- Balancing Authorities (BA)
- Transmission Operators (TOP)
- Reliability Coordinators (RC)

SCOPE/Applicability

Background

There are four Reliability Coordinators (RCs) operating in the Western Interconnection. Those four Reliability Coordinators are:

- Alberta Electric System Operator (AESO)
- British Columbia Hydro (BC Hydro)
- California Independent System Operators (RC West)
- Southwest Power Pool (SPP)

Several of the RCs, AESO, BC Hydro, and RC West (along with their member entities), have agreed to use the same messaging platform, an application called Grid Messaging System (GMS). SPP uses a custom messaging application called the Reliability Communication Tool (R- Comm). An interface has been created by RC West and SPP whereby both messaging tools (GMS and R-Comm) communicate with each other. RC West and SPP have also created a communication protocol whereby neighboring BA/TOP entities that lie across the RC West/SPP West RC seam may send messages to each other using GMS and R-Comm.

Scope

This document focuses on providing guidance on the types of messages that will be sent across the RC West and SPP West RC seam. This document also discusses the process of including the SPP West RC as a recipient on messages that could impact the reliability of the Western Interconnection and provides guidance on how BAs and TOPs that lie on the RC West/SPP West RC seam can send messages to a neighboring BA/TOP that may reside in a neighboring RC's footprint with the messaging applications available to them.

Applicability

This document is applicable to all BAs and TOPs who fall under the following RC footprints, and who may need to send a message to provide information on the reliability of the Western Interconnect:

- AESO RC
- BC Hydro RC
- RC West
- SPP West RC

Messaging Guidelines

WECC-WIDE Messaging

There are 20 types of messages that all BAs, TOPs and RCs in the Western Interconnection use to send WECC-Wide reliability messages. The RC-RC Messaging Working Group created templates of these WECC-Wide message types. GMS Users, R-Comm users, and WECC's System Awareness Group are recipients of these 20 types of messages, additionally, GMS or R-Comm Users are able to send WECC-Wide messages, with the exception of GMD and Time Error Correction messages.

Only RCs are able send GMD and Time Error Correction messages. WECC-Wide messages are outgoing informational messages only. There is no functionality to acknowledge, comment or respond to any message sent using a WECC-Wide Template. The 20 WECC-Wide messages are listed in the table below:

Type of Message	**Definition of the type of message** When that message should be sent
EEA	**Emergency Energy Alert** Send EEA to notify everyone in the Western Interconnection of capacity emergencies.
Evacuation	**Evacuation** Send Evacuation messages to notify everyone in the Western Interconnection that an entity has evacuated (or returned to) its primary control center.
Forced Outage	**Forced Outage** Send Forced Outage to notify everyone in the Western Interconnection that a forced outage has occurred that could cause a transmission emergency, insecure operating state or impact to the IROL.

Type of Message	**Definition of the type of message** When that message should be sent
Frequency Excursions	**Frequency Excursions** Send Frequency Excursion messages when the frequency passes a Frequency Trigger Level (+/- .068 Hz).
Informational	**Informational** Send Informational messages any time an entity has relevant information that would aid in the safe and reliable operation of the Western Interconnection.
Potential Open Loop	**Potential Open Loop** Send Potential Open Loop messages when a forced outage occurs on the 500 kV system, causing an entity to be a single Contingency away, or a RAS operation that could potentially cause an Open Loop condition. An Open Loop condition exists when the path on the West side of the Western Interconnection is open. Operating in an Open loop condition could potentially cause excessive unscheduled flow through the east side of the interconnection to serve load in the Southwest and southern California.

Type of Message	**Definition of the type of message** When that message should be sent
Open Loop	**Open Loop** Send Open Loop messages when a forced outage causes the Western Interconnection to operate under Open Loop conditions. An Open Loop condition exists when the path on the West side of the Western Interconnection is open. Operating in an Open Loop condition could potentially cause excessive unscheduled flow through the east side of the interconnection to serve load in the Southwest and southern California
RAS	**Remedial Action Scheme** Send Remedial Action Scheme messages to update the status of Remedial Action Schemes.
Restoration	**Restoration** Send Restoration messages to initiate and provide updates on the status of restoration operations when a RC or TOP restoration plan is utilized.
RMO	**Restricted Maintenance Operations** Send Restricted Maintenance Operations messages to declare and provide updates on conservative (or “no touch”) operations.
RSG	**Reserve Sharing Group** Send Reserve Sharing Group messages to declare the initiation of, and provide updates on, Reserve Sharing Group actions.

Type of Message	**Definition of the type of message** When that message should be sent
SOL/IROL	**System Operating Limits/Interconnection Reliability Operating Limits** Send System Operating Limits messages when potential or actual SOL exceedances could impact neighboring RCs. Interconnection Reliability Operating Limits messages will be sent to inform neighboring RCs of an IROL limit change, to provide an alert to neighboring RCs that we are approaching IROL limits, and to notify neighboring RCs of potential or actual IROL exceedance.
Suspected Sabotage	**Suspected Sabotage** Send Suspected Sabotage messages to inform the Western Interconnection of suspected physical or cyber sabotage.
Systems/Coms/Data	**Systems/Coms/Data** Send Systems/Coms/Data messages whenever the loss of a member entity's computer application, communication systems or ICCP data degrades situational awareness to a point that compromises an RC's wide area view.
Transmission Emergency	**Transmission Emergency Messages** Send Transmission Emergency messages when a Transmission Emergency could impact the reliability of the Western Interconnection. BES-threatening wildfires are classified as a Transmission Emergency.

Type of Message	**Definition of the type of message** When that message should be sent
USF	**Unscheduled Flow** Send Unscheduled Flow messages to declare the initiation of, and provide updates for, USF operations.
Voltage	**Voltage** Send Voltage messages on equipment 230 kV and above when voltage levels (either high or low) could impact the reliability of the Western Interconnection.
Weather	**Weather** Send Weather messages when extreme weather could threaten the reliability of the Western Interconnection.
GMD	**Geomagnetic Disturbances** Send Geomagnetic Disturbance messages when NOAA informs an RC in the Western Interconnection of a solar magnetic disturbance Warning, Alert, or Watch of a K-7 or higher.
Time Error Correction	**Time Error Correction** The Time Monitor (RC West) sends Time Error Correction messages when the Western Interconnection enters, exits or updates a time error correction.

Regional Messaging

RC West and SPP have come up with the concept of Regional Messaging to facilitate the sending of messages between BAs and TOPs that reside along the RC West/SPP West RC seam. SPP and RC West have created an interface between the R-Comm and GMS messaging tools and a common distribution list of all the BAs and TOPs that reside along the SPP West/RC West RC seam, used in conjunction with the R-Comm/GMS interface. BAs and TOPs that reside across the RC West/SPP West RC seam are able to send a reliability message to a neighboring BA or TOP across the RC West/SPP West RC seam by selecting the desired recipient from the distribution list. The R-Comm/GMS interface recognizes the recipient(s) selected from the distribution list and sends the message to the appropriate recipient(s) on either side of the RC West/SPP West RC seam.

The RC West RC monitors all messages that are sent or received via the GMS tool. Any messages that require confidentiality should not be sent or received by the GMS Tool.

Questions and Comments

SPP will work with each entity to address questions and requests for clarification, or to address issues related to the technical nature of the data. Send all inquiries on messaging to sppwestrc@spp.org.

Supporting Information

Operationally Affected Parties

A version of this document has been shared with the Public and AESO RC, BC Hydro RC, SPP West RC, all Western Interconnection BAs and TOPs and stored on the RC West website at https://www.caiso.com/Documents/RC0140.pdf. These operational entities will be given an opportunity to review and provide feedback prior to any changes that impact the WECC-Wide message types or associated templates.