



# **System Interfaces**

## Stakeholder Reference Guide

By SPP IT

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## REVISION HISTORY

DATE	AUTHOR	CHANGE DESCRIPTION
2025-01-29	SPP IT	Initial publication.  This reference guide replaces the following documents previously posted on SPP.org: <ul style="list-style-type: none"><li>• SPP External Technical Documents Inventory</li><li>• SPP User Interface Guide Inventory</li><li>• SPP Member Facing Technology Stack</li><li>• WEIS Technical Data Exchange Preview</li></ul>

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## Introduction

*The term “stakeholder” refers to all stakeholders, which may include market participants, members, customers, transmission owners/operators, transmission customers, meter agents, generators, load serving entities, vendors, etc.*

### About This Document

This guide provides information on the technical documentation available for the stakeholder-facing interfaces managed by SPP that allow for the exchange of data between stakeholders and SPP systems.

There are graphical user interfaces (UIs) and programmatic interfaces for SPP’s stakeholder-facing systems and applications. In most cases, both a UI and programmatic interface are provided for each system and generally support the same functions. However, some exceptions do exist, as user interfaces and/or programmatic interfaces are not required in all cases. For example, the Schedule Data API provides only API access while the Ratings Submission Tool offers only UI access.

*Any access or exchange of data outside of officially published SPP interface specifications is neither supported nor encouraged.*

### Terms & Conditions

SPP’s copyright, disclaimer, privacy policy, and acceptable use policy are available from the Terms & Conditions page on SPP.org.

*Home > Terms & Conditions*

### Acronyms

ACRONYM	DEFINITION
API	Application Programmatic Interface
FTP	File Transfer Protocol
HTTPS	Hypertext Transfer Protocol Secure
PMU	Phasor Measurement Unit
REST	Representational State Transfer
RTO	Regional Transmission Organization
SOAP	Simple Object Access Protocol
TCP/IP	Transmission Control Protocol/Internet Protocol
UAA	User Authorization and Authentication
UI	Browser-based User Interface

ACRONYM	DEFINITION
WEIS	Western Energy Imbalance Market Services
WITT	WECC Interchange Tool
WRC	Western Reliability Coordination services

## SPP System Interfaces

The following systems are available to stakeholders' exchanging information with SPP. For additional data exchange information, please refer to the documents described in the [Technical Documentation and User Guides](#) section of this document.

SYSTEM INTERFACE	INTERFACE TYPE	SERVICE
Automatic Generation Controls (AGC)	TCP/IP	RTO / WRC / WEIS
Credit Management System (CMS)	UI, API	RTO / WEIS
Credit Stacking System (CSS) - Z2	UI, API	RTO
Dispatcher Training Simulator (DTS)	UI	RTO / WRC
Engineering Data Submission Tool (EDST)	UI	RTO / WRC
Inter-Control Center Communications Protocol (ICCP)	TCP/IP	RTO / WRC / WEIS
ICCP Submission Tool (ICCPST)	UI	RTO / WRC / WEIS
Market Monitoring Portal (MMP)	UI	RTO / WEIS
Market System	UI, API	RTO / WEIS
Models On Demand (MOD)	UI	RTO / WEIS
Outage Management System (CROW)	UI, API	RTO / WEIS
Phasor Measurement Unit (PMU)	TCP/IP	WRC

SYSTEM INTERFACE	INTERFACE TYPE	SERVICE
Portal	UI	RTO / WRC / WEIS
Public Data (EADS)	FTP	RTO / WEIS
Request Management System (RMS)	UI	RTO / WRC / WEIS
Ratings Submission Tool	UI	RTO / WRC
Replicated Data Server (RDS)	UI	RTO / WRC
Schedule Data	API	RTO
Settlement Management System (SMS)	UI, API	RTO / WEIS
SmartQ	UI	RTO
Transmission Congestion Rights (TCR) Market	UI, API	RTO
Transmission Reporting & Communications (TRAC) TAGIT/SCERT	UI	RTO
Transoutage	UI	RTO
User Authorization and Authentication (UAA)	API	RTO / WRC / WEIS
West Load/Gen Forecast (PutSchedule)	API	RTO / WRC / WEIS
WIT Interchange Checkout (EIDE Data)	API	RTO / WRC

## Technology Stack

### User Interfaces

SPP User Interfaces (UIs) are compatible with the latest versions of the following browsers. Use of any other browser is not recommended or supported.

- Chrome
- Firefox

## Programmatic Interfaces

SPP utilizes SOAP and REST-based web services over HTTPS for programmatic interactions. Most of these services require two-factor authentication. SPP also supports the use of TCP/IP for interfacing with AGC, ICCP, and PMU as well as FTP for the programmatic retrieval of Public Data.

## System Updates and Maintenance

All hardware and software updates as well as maintenance performed on stakeholder-facing SPP systems are published to the [Change Calendar](#) on the SPP Portal. Any change that requires stakeholders to implement system and/or process changes is also reviewed in the Change User Forum.

Additional information on the Change User Forum may be found on the Change User Forum page on SPP.org.

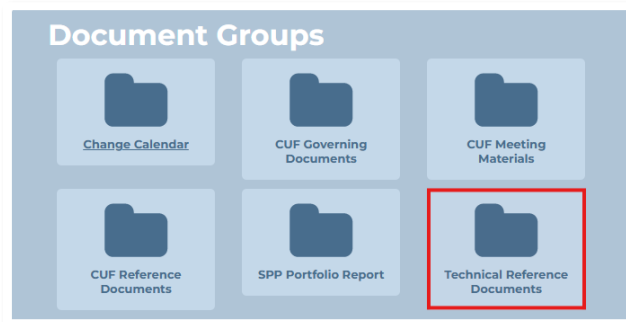
*Stakeholder Groups > User Forums > Change User Forum*

## Technical Documentation and User Guides

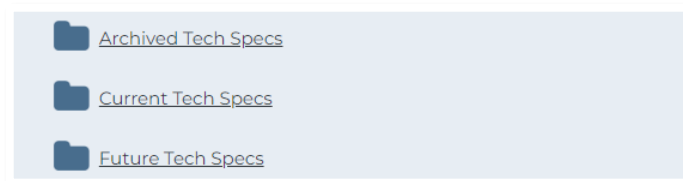
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This section provides information on the technical documentation and user guides available to stakeholders. Unless otherwise specified, all system documents are housed within the Technical Reference Documents section of the Change User Forum page on SPP.org.

*Stakeholder Groups > User Forums > Change User Forum > Technical Reference Documents*



To facilitate the publication of incremental versions of SPP system documentation, the following folder structure is typically utilized.



The **Current** folder contains documentation for current production versions of system interfaces. The **Future** folder includes documentation for soon-to-be-production versions and the **Archived** folder holds retired versions of the documents.

### General Technical Specifications

The following documentation is applicable to multiple SPP systems. The “subfolder” column specifies the subdirectory that this documentation is stored within the following location on SPP.org.

*Stakeholder Groups > User Forums > Change User Forum > CUF Reference Documents > Technical Reference Documents*

DOCUMENT	DESCRIPTION	SUBFOLDER	SERVICE
Marketplace External Stakeholder Data Points	Provides an inventory of data points per system and information on the methods used for exchange of the data.		RTO
SPP Connectivity Specifications	Describes the connectivity requirements and details such as certificate information and URLs for SPP environments.	<i>Technical Specifications &gt; Tech Specs</i>	RTO / WRC / WEIS
SPP Public Data Access	Reference guide for accessing public data via the SPP Portal and FTP.	<i>Technical Specifications &gt; Public Data</i>	RTO / WEIS
Two-Factor Authentication Technical Specifications	Details the authentication factors required for accessing SPP systems.	<i>Technical Specifications &gt; Tech Specs</i>	RTO / WEIS
UAA Specifications	Defines SPP’s user authorization and authentication API specifications.	<i>Technical Specifications &gt; Tech Specs</i>	RTO / WEIS
WEIS External Stakeholder Data Points	Provides an inventory of data points per system and information on the methods used for exchange of the data.		WEIS



## System-Specific Technical Specifications

The following documentation is posted on SPP.org in the **Tech Specs** directory unless otherwise noted.

*Stakeholder Groups > User Forums > Change User Forum > CUF Reference Documents > Technical Reference Documents > Technical Specifications > Tech Specs*

SYSTEM	DOCUMENT	DESCRIPTION	SERVICE
AGC	AGC Integration Guide	<p>Technical specifications for the Automatic Generation Controls. This document is password protected. Please submit a ticket via <a href="#">RMS</a> to request the password.</p> <p><b>Note: This guide is available at the following location on SPP.org.</b></p> <p><i>Stakeholder Groups &gt; User Forums &gt; Change User Forum &gt; CUF Reference Documents &gt; Technical Reference Documents &gt; AGC Integration Guide</i></p>	RTO / WRC
CMS	Credit Limit Report API Specifications	Technical specifications for the Credit Limit Report API.	RTO
CROW	SPP CROW Outage Management Service API XML Specifications	Technical specifications for the CROW API.	RTO / WRC
CROW	CROW Access Request Instructions and CROW Access Request Form	<p>Instructions and form for requesting access to CROW.</p> <p><b>Note: This documentation is available at the following location on SPP.org.</b></p> <p><i>SPP Documents &gt; Operations &gt; Outage Coordination</i></p>	RTO / WRC
CSS	Credit Stacking System – Report Definitions	Reference guide for the Credit Stacking System reports.	RTO

SYSTEM	DOCUMENT	DESCRIPTION	SERVICE
CSS	Credit Stacking System – Output Detail XML	Schema definition and sample files for the Credit Stacking System output detail XML.	RTO
CSS	Credit Stacking System – SPP Settlements Daily XML	Sample XML files for Credit Stacking System settlements daily results.	RTO
ICCP	ICCP Handbook	<p>Technical ICCP documentation for data exchanged between power system control centers. This document is password protected. Please submit a ticket via <a href="#">RMS</a> to request the password.</p> <p><b>Note: This guide is available at the following location on SPP.org.</b></p> <p><i>Stakeholder Groups &gt; User Forums &gt; Change User Forum &gt; CUF Reference Documents &gt; Technical Reference Documents &gt; ICCP Handbook</i></p>	RTO / WRC / WEIS
Market	Marketplace Markets Web Service	Data Exchange Guide and associated WSDLs, XSDs, and Specifications for SPP Integrated Marketplace API web and notification services.	RTO
Market	WEIS Markets Web Service	Data Exchange Guide and associated WSDLs, XSDs, and Specifications for SPP WEIS Market API web and notification services.	WEIS

SYSTEM	DOCUMENT	DESCRIPTION	SERVICE
PMU	SPP PMU Communication Handbook	<p>Defines the practices, conventions, and fundamental parameters required for PMU data to be exchanged with SPP.</p> <p><b>Note: This guide is available at the following location on SPP.org.</b></p> <p><i>Stakeholder Groups &gt; User Forums &gt; Change User Forum &gt; CUF Reference Documents &gt; Technical Reference Documents &gt; PMU Handbook</i></p>	RTO / WRC / WEIS
Schedule Data	Schedule Data API Specifications	Technical specifications for the Schedule Data API.	RTO
SMS	Settlement Management System API XML Specifications	Settlement Management System Web Services Data Exchange Guide, WSDLs, XSDs, and sample files for Market and Transmission Settlements.	RTO
SMS	WEIS Settlement Management System API XML Specifications	Settlement Management System Web Services Data Exchange Guide, WSDLs, XSDs, and sample files for WEIS Market Settlements.	WEIS
TCR Market	TCR API Specification Public Auction Result Download XSD	Technical specifications for the TCR Market APIs.	RTO
West Load/Gen Forecast	SPP EIDE Put Schedule Consuming Service API XML Specifications	Technical specifications for the SPP EIDE Put Schedule API.	WRC

SYSTEM	DOCUMENT	DESCRIPTION	SERVICE
WIT Interchange Checkout	SPP EIDE Put Meter Service API XML Specifications	<p>Technical specifications for the SPP EIDE Put Meter API.</p> <p>The SPP specification is expected to be available in Q2 2025.</p> <p>EIDE Details can be found at:  <a href="https://devws.wit.oati.com/EIDEWS.asmx">https://devws.wit.oati.com/EIDEWS.asmx</a>.</p>	RTO / WRC

### Public Data Technical Specifications

The following documentation is posted on SPP.org in the **Public Data** subfolder.

*Stakeholder Groups > User Forums > Change User Forum > CUF Reference Documents > Technical Reference Documents > Technical Specifications > Public Data*

SYSTEM	DOCUMENT	DESCRIPTION	SERVICE
Market, Operations, TCR Market	SPP Markets Public Data Guide and Samples	Reference guide and sample files for SPP Integrated Marketplace Public Data offerings, including Real-Time Balancing Market, Day-Ahead Market, TCR Market, and operational data.	RTO
Market, Operations	SPP WEIS Public Data Guide	Reference guide and sample files for SPP WEIS Market Public Data offerings, including Real-Time Balancing Market and operational data.	WEIS
SMS	Settlements Public Data Guide	Reference guide for Settlements Public Data offerings such as Settlement calendars and rates.	RTO
SMS	WEIS Settlements Public Data Guide	Reference guide for WEIS Settlements Public Data offerings such as Settlement calendars and rates.	WEIS
Transoutage	Transoutage Specifications	This guide describes the download functionality and technical details to allow users to automate pulling this data.	RTO

## User Interface Guides

The following documentation is posted on SPP.org in the **User Interface Guides** subfolder unless otherwise noted.

*Stakeholder Groups > User Forums > Change User Forum > CUF Reference Documents > Technical Reference Documents > User Interface Guides*

SYSTEM	DOCUMENT	DESCRIPTION	SERVICE
CROW	CROW Web GUI Tutorial	Comprehensive tutorial explaining the procedure for entry of outages and managing existing outages in CROW.  <b>Note: This guide is available at the following location on SPP.org.</b>  <i>SPP Documents &gt; Operations &gt; Outage Coordination</i>	RTO / WRC
CSS	CSS User Interfaces Guide	Reference guide for Transmission Customers and Transmission Owners that describes how to view and download CSS Input Data and CSS Output Reports from the SPP Portal.	RTO
DTS	DTS User Guide	Reference guide is not publicly available. Please submit a ticket via <a href="#">RMS</a> to request additional information for this application.	RTO / WRC

SYSTEM	DOCUMENT	DESCRIPTION	SERVICE
EDST	EDST User Guide	<p>Reference guide describing how to use the Engineering Data Submission Tool (EDST) and manage data used for the transmission planning models, NERC reporting requirements, and SPP Tariff reporting requirements.</p> <p><b>Note: This guide is available at the following locations on SPP.org.</b></p> <p>Model Development - <i>SPP Documents &gt; Stakeholder Group Documents &gt; Model Development Advisory Group &gt; MDAG Reference Documents &gt; EDST MD Materials</i></p> <p>Resource Adequacy users - <i>SPP Documents &gt; Engineering &amp; Planning &gt; Resource Adequacy &gt; EDST Materials</i></p>	RTO
ICCPST	ICCPST	Reference guide is not publicly available. Please submit a ticket via <a href="#">RMS</a> to request additional information for this application.	RTO / WRC / WEIS
Market	Integrated Marketplace Market User Interface Guide	Reference guide for Market Participants that describes how to submit bids and offers, as well as view Market results, for the SPP Integrated Marketplace using the MUI in the SPP Portal.	RTO
Market	SPP WEIS Market User Interface Guide	Reference guide for Market Participants that describes how to submit bids and offers, as well as view Market results, for the SPP WEIS Market using the MUI in the SPP Portal.	WEIS
RDS	RDS User Guide	Reference guide is not publicly available. Please submit a ticket via <a href="#">RMS</a> to request additional information for this application.	RTO / WRC

SYSTEM	DOCUMENT	DESCRIPTION	SERVICE
RMS	RMS Job Aid	Reference guide that describes how to access and submit inquiries to SPP via RMS.  <b>Note: This guide is available at the following location on SPP.org.</b>  <i>Stakeholder Center &gt; Stakeholder Relations &gt; Request Management System</i>	RTO / WRC / WEIS
RST	Ratings Submission Tool User Interface Guide	Reference guide that describes how to access and submit line rating changes to SPP.	RTO / WRC
SmartQ	SmartQ DPA Tutorial	Reference guide that describes how to access and submit Delivery Point Addition (DPA) requests to SPP.  <b>Note: This guide is available at the following location on SPP.org.</b>  <i>SPP Documents &gt; Engineering &amp; Planning &gt; Tariff Studies &gt; Delivery Point Addition Studies</i>	RTO
SMS	Settlement User Interfaces Guide	This guide describes how to submit, and if applicable, approve input data, register for Settlement notifications, view meter reports, and Settlement results (e.g. invoices, statements) via UIs available in the SPP Portal.	RTO
SMS	WEIS Settlement User Interfaces Guide	This guide describes how to submit, register for event notifications, view meter reports, and WEIS Market Settlement results (e.g. invoices, statements) via UIs available in the SPP Portal.	WEIS
TCR Market	SPP TCR MUI User Manual	Provides Market Participants and Asset Owners with an introduction to SPP's TCR Market system and its user interfaces available in the SPP Portal.	RTO

SYSTEM	DOCUMENT	DESCRIPTION	SERVICE
TRAC/ TAGIT/SCERT	TRAC User Guide TRAC Data Dictionary	Reference guide describing how to use the Transmission Reporting & Communications (TRAC) Tool to facilitate project tracking, the SPP Transmission Expansion Plan (STEP), and issuance of notification to construct (NTC).  <b>Note: This guide is available at the following location on SPP.org.</b>  <i>SPP Documents &gt; Stakeholder Group Documents &gt; Project Cost Working Group &gt; PCWG Resource Documents</i>	RTO

### Data Validations

Many SPP systems validate stakeholder data submissions upon receipt. Any data that does not adhere to the defined business rules is rejected and a validation error returned to the submitter. The data validation rules for the Markets and Settlements systems are available on SPP.org in the **Business Rules Guides** folder.

*Stakeholder Groups > User Forums > Change User Forum > CUF Reference Documents > Technical Reference Documents > Business Rules Guides*

SYSTEM	DOCUMENT	DESCRIPTION	SERVICE
Market	Integrated Marketplace Market User Interface Business Validations	Defines the business validation rules associated with participant data submissions to the SPP Integrated Marketplace.	RTO
Market	Integrated Marketplace Resource Offer Roll Forward Guide	Describes how the submission of resource offer data will be carried forward and applied to future operating days in the SPP Integrated Marketplace.	RTO
Market	WEIS Market Resource Offer Roll Forward Guide	Describes how the submission of resource offer data will be carried forward and applied to future operating days in the SPP WEIS Market.	WEIS



SYSTEM	DOCUMENT	DESCRIPTION	SERVICE
Market	WEIS Market User Interface Business Validations	Defines the business validation rules associated with participant data submissions to the SPP WEIS Market.	WEIS
SMS	Settlement Member Data Exchange Validations	Defines the business validation rules associated with stakeholder data submissions to the SPP Markets and Transmission Settlement system.	RTO
SMS	WEIS Settlement Member Data Exchange Validations	Defines the business validation rules associated with stakeholder data submissions to the SPP WEIS Market Settlement system.	WEIS

## Technical Support

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To request additional information or receive technical support, please submit a ticket via the SPP Request Management System (RMS). Additional information on the SPP RMS may be found on the Stakeholder Relations page on SPP.org.

*Stakeholder Center > Stakeholder Relations*