

# **CRSP Crosswalk of the Pseudo-Tie Proposal**



**Western Area  
Power Administration**

June 29, 2023

## **CRSP SPP RTO West Evaluation Considerations**

Western Area Power Administration (WAPA) is committed to fostering long-term relationships with our customers, Native American Tribes, and stakeholders and working through issues as they arise. Colorado River Storage Project (CRSP) customers outside of the proposed Southwest Power Pool (SPP) Regional Transmission Organization (RTO) West footprint have identified concerns and a potential solution-proposal in conjunction with WAPA CRSP potentially joining SPP RTO West.

In early 2023, WAPA began directly discussing possible technical solutions to address the concerns from the CRSP customers. While reviewing the comments received during the current WAPA SPP RTO West *Federal Register* notice public process, published on April 28, 2023, WAPA continued to consider these concerns. This analysis paper captures WAPA’s ongoing evaluation of possible technical solutions and summarizes the evaluation of potential scenarios.

In addition to the comments received during the public process, WAPA has heard from customers previously about future market changes and developments and how those may impact operations now and in the future. WAPA is committed to helping its customers with ensuring the value of the hydropower resources. It is fully expected WAPA will continue to work closely with its customers, as it has in the past, on developing solutions to preserve the sustainability of public power.

### **WAPA Objectives in this Analysis**

1. WAPA understands customers’ perspectives on the business needs to be addressed.
2. WAPA and customers are both clear on what success looks like for them.
3. WAPA addresses customers’ comments related to CRSP joining the SPP RTO West.
4. WAPA will evaluate the pros and cons of various proposed options.

Customer Request	Scenario 1: Status Quo – No SPP RTO West for CRSP	Scenario 2: Proposed SPP RTO West with WAPA Terms & Conditions
<p>“Joining an organized market should not make a WAPA-provided resource less valuable for a customer who is located outside of a market footprint... to ensure the benefits provided under the Firm Electric Service (FES) contracts are delivered regardless of the customer’s location.”</p> <p>Customers need to be sure “certain benefits would be available, including:</p> <ol style="list-style-type: none"> <li>Resource capacity attributes to meet resource sufficiency requirements in an imbalance market (e.g., EIM, EDAM).</li> <li>Resource capacity attributes to satisfy future capacity reliability requirements.</li> <li>Resource capacity attributes (limited by generation resource templates) to meet additional ancillary obligation requirements in an RTO.</li> <li>Opportunity to optimize transmission congestion revenue rights for the project – to help support congestion spreads between the load and generation.”</li> </ol>	<p>Delivery of contracted FES to meet delivery obligations.</p> <ul style="list-style-type: none"> <li>A set amount of hourly capacity and energy are provided to customers at specific delivery points.</li> <li>CRSP Energy Management and Marketing Office (EMMO) markets, schedules, and bids CRSP resources (and makes purchases or sales) to meet customer schedules.</li> <li>Majority of CRSP resources are registered as Non-Dispatchable in SPP Western Energy Imbalance Service (WEIS).</li> <li>CRSP is in the Western Area Colorado Missouri (WACM) Balancing Authority (BA).</li> <li>All transmission rights are held by CRSP, which has obligation to deliver at the point of delivery identified in customer FES contracts.</li> </ul>	<p>WAPA negotiated a Federal Service Exemption (FSE) when the UGP region joined SPP in 2015. This exemption would apply to RM and CRSP, and CRSP also negotiated provisions extending FSE treatments for certain purchase power transactions. The FSE exempts WAPA from certain market charges (congestion, marginal losses, and certain regional capital costs).</p> <p>Under RTO participation, the following items would be the same as today:</p> <ul style="list-style-type: none"> <li>FES products from WAPA would not change, and all CRSP obligations to customers would continue to be provided. CRSP assures full delivery benefits of existing FES contracts.</li> <li>CRSP continues its mission of delivering cost-based federal hydropower, with a set amount of hourly capacity and energy provided to customers at specific delivery points as today.</li> <li>CRSP EMMO merchant would still market, schedule, and offer CRSP resources (and make purchases or sales) to meet customer schedules.</li> </ul> <p>Under RTO participation, the following items would be different from today:</p> <ul style="list-style-type: none"> <li>SPP would be the BA rather than WACM.</li> <li>CRSP would continue to reserve CRSP transmission from itself to make FES deliveries but through SPP.</li> </ul>
	<p>Pros of Scenario 1: Providing the same service as CRSP always has.</p>	<p>Pros of Scenario 2: Supports customer needs (a) and (b) in column 1 by providing the same service as CRSP always has.</p>
	<p>Cons of Scenario 1: Delays an opportunity for RTO participation and continues the reliance on bilateral market. Potentially CRSP would need to find another BA, assuming WAPA’s Rocky Mountain (RM) and Upper Great Plains (UGP) regions could move forward with RTO.</p>	<p>Cons of Scenario 2: Customer needs (c) and (d) in column 1 cannot be met within existing marketing plan/contracts, regardless of RTO participation.</p>
	<p>Implementation requirements of Scenario 1: no requirements</p>	<p>Implementation requirements of Scenario 2: The SPP Tariff would need to be revised to include the CRSP negotiated terms. Estimated project duration: 2-2.5 years</p>

### Scenario 3: Pseudo-Tie Customer Proposal

#### Scenario descriptions:

- Move the existing CRSP hydropower deliveries of the CRSP Southern Division Customers into the Western Area Lower Colorado (WALC) BA via a pseudo-tie per the North American Electric Reliability Corporation's (NERC's) definition.
- CRSP generation would reside in the SPP footprint, but a portion of CRSP generation would be pseudo-tied into WALC.
- WALC would be responsible for bidding and settling per Energy Imbalance Market (EIM) requirements.
- The CRSP generation in the SPP RTO would be included in the SPP RTO Reserve Sharing Group and the portion of CRSP pseudo-tied would be included in WALC's Reserve Sharing Group, for the purpose of generation reserve responsibility.

**Pros of Scenario 3:** Meets customer objectives (a) and (b) in column 1 on page 2. Provides customer reassurance to protect CRSP deliveries.

**Cons of Scenario 3:** Customer needs (c) and (d) in column 1 cannot be met within existing marketing plan/contracts, regardless of RTO participation. This is a substantive operational change for CRSP to set up with the WALC BA and would require additional discussions with SPP.\*

#### High-level Implementation requirements of Scenario 3:

- Develop CRSP Implementation Plan in coordination with other WAPA regions, SPP, and other RTO West participants.
- Update energy accounting procedures between CRSP and WAPA's Desert Southwest (DSW) region. CRSP hourly scheduling rules would still apply.
- CRSP EMMO would create a daily pseudo-tie tag to DSW EMMO, and WALC would be the source for daily tag for CRSP Southern Division customers for participation in the California Independent System Operator (CAISO) EIM.
- Complete new EIM Resource Implementation Process. A Full Network Model will need to be modified for EIM and SPP.
- CRSP, RM, and DSW software will be modified to add/remove resources to include new allocation calculations, new Supervisory Control and Data Acquisition (SCADA) nodes, settlement locations, and testing.
- DSW and RM settlements would require a process to capture the financial gains and losses from the markets. There would be a marginal increase to the on-going markets software cost.
- WAPA would strive to follow cost causation principles and minimize cost shifts for this implementation.

Estimated project duration: 2-2.5 years; same duration as implementing SPP RTO Scenario 2.

The pseudo-tie solution is only applicable if CRSP joins the SPP RTO and would not be implemented if CRSP does not enter the SPP RTO. The solution would not be the same as pre-CRSP reconfiguration of 2013.

## Other Ideas Considered but Not Recommended for CRSP SPP RTO Participation

<b><i>New WAPA policy for Resource Adequacy (RA) and Resource Sufficiency (RS) (In process now)</i></b>	<b><i>Increased Glen Canyon Flexibility (Considered but not recommended)</i></b>	<b><i>Dynamic Transfer using a Dynamic Schedule as defined by NERC (Considered but not recommended)</i></b>	<b><i>Bifurcate the CRSP system North and South (Considered but not recommended)</i></b>	<b><i>Giving Customers Transmission Rights (Considered but not recommended)</i></b>
<p><i>WAPA is exploring an option where a portion of customer Contract Rate of Delivery (CROD) may be used for RA and RS calculations. RA and RS frameworks are actively being designed/finalized for markets. WAPA is committed to following the development of these programs.</i></p> <p><i>WAPA is exploring a new Policy, Guideline, and Procedures document to set forth how RA can or cannot be provided within the existing structure of the various marketing plans and contract requirements.</i></p>	<p><i>Access to increased flexibility at Glen Canyon and other CRSP units (i.e., intra-hour scheduling changes).</i></p> <p><i>Currently, CRSP requires customers to schedule at hourly increments on a day-ahead basis. This allows water schedules and releases to be programmed, within constraint boundaries, and for necessary purchases to be made in the market to augment hydropower generation to match customer schedules.</i></p>	<p><i>Customers outside the footprint would have their FES dynamically transferred to WALC by a dynamic type of tag, then scheduled by DSW to the customer by a normal type of tag in accordance with the CRSP Scheduling, Accounting, and Billing Procedures (SABP). Obligations to abide by existing annual, seasonal, monthly, and daily scheduling communications from customers to CRSP would not change.</i></p> <p><i>CRSP would continue to own the transmission path. All of CRSP generation would still reside within the SPP Proposed Footprint. All CRSP generation is included in the SPP RTO Reserves Sharing Group.</i></p>	<p><i>Bifurcate CRSP from Glen Canyon Dam South to WALC. CRSP system North would join SPP RTO.</i></p> <p><i>DSW would be responsible for bidding and settling per EIM requirements.</i></p> <p><i>Glen Canyon generation would reside in the WALC BA. A portion of Glen Canyon generation would be pseudo-tied into the SPP RTO.</i></p> <p><i>The CRSP generation in the SPP RTO would be included in the SPP RTO Reserve Sharing Group and the remaining portion of Glen Canyon generation would be in WALC's Southern Reserve Sharing Group.</i></p>	<p><i>WAPA would allow customers the ability to schedule a portion of CRSP transmission up to CROD.</i></p> <p><i>CRSP would reserve firm PTP rights from 345-kilovolt GC to PPK.</i></p> <p><i>CRSP could potentially assign customers Network Integration Transmission Service like contracts, and customers could use the transmission paths in the SPP Market.</i></p>
<p><i>Pros: Meets customer request and needs (a) and (b) in column 1 on page 2.</i></p>	<p><i>Pros: All customers would appreciate greater flexibility and intra-hour scheduling.</i></p>	<p><i>Pros: Meets customer objectives (a) and (b) in column 1 on page 2. Provides customer reassurance to protect CRSP deliveries.</i></p>	<p><i>Pros: Meets customer objectives (a) and (b) in column 1 on page 2. Provides customer reassurance to protect CRSP deliveries.</i></p>	<p><i>Pros: Meets customer need (d) and provides customers with access to congestion rights.</i></p>
<p><i>Cons: Risks will be assessed as WAPA develops the RA policy.</i></p>	<p><i>Cons: This is far beyond the scope of WAPA and power customers. This is a broad and long-term consideration and would require Department of Interior (DOI) changes.</i></p>	<p><i>Cons: Dynamic schedule is not as useful as the pseudo-tie.</i></p>	<p><i>Cons: This is a substantive change to the proposed RTO market footprint.</i></p>	<p><i>Cons: Would need fundamental marketing plan change. It is inconsistent with WAPA's OATT and potentially conflicts with Reclamation Law.</i></p>

<p><b>New WAPA policy for Resource Adequacy (RA) and Resource Sufficiency (RS) (In process)</b></p> <p><b>Implementation requirements:</b></p> <p>Develop WAPA policies that provide fair treatment to assign RA to customers, update SABP, and develop an agreement/contract implementation plan with customers.</p> <p>Estimated project duration: 1 year – 1.5 years</p>	<p><b>Increased Glen Canyon Flexibility (Considered but not recommended)</b></p> <p><b>Implementation requirements:</b></p> <p>Long term coordination efforts between the Department of Energy (DOE), Multiple DOI agencies (Bureau of Reclamation, Park Service, Fish and Wildlife, US Geological Survey), states, tribes, water users, non-governmental organizations, and the public.</p> <p>The Grand Canyon Protection Act of 1992 and the Long-Term Environmental Program Environmental Impact Statement would need to be revised to increase Glen Canyon operational flexibilities.</p> <p>Estimated project duration: 15-20 years</p>	<p><b>Dynamic Transfer using a Dynamic Schedule (Considered but not recommended)</b></p> <p><b>Implementation requirement:</b></p> <p>Develop CRSP Implementation Plan in coordination with other regions, update accounting procedure.</p> <p>RM and DSW software would be modified to add/remove resources to include new allocation calculations, new SCADA nodes, settlement locations, and testing.</p> <p>RM settlements would require process updates, which would increase on-going annual markets' software costs.</p> <p>CRSP would have to create a daily tag.</p> <p>Estimated project duration: 1 year – 1.5 years</p>	<p><b>Bifurcate the CRSP system North and South (Considered but not recommended)</b></p> <p><b>Implementation requirements:</b></p> <p>Would likely require new modeling of RTO West. New discussions with SPP and other participants would be required. Might stop RTO efforts while footprint is remodeled and examined.</p> <p>Develop CRSP Implementation Plan in coordination with other regions, update accounting procedure.</p> <p>Would need to functionally "un-do" much of the CRSP consolidation efforts completed a decade ago.</p> <p>Estimated project duration: 3-5 years</p>	<p><b>Giving Customers Transmission Rights (Considered but not recommended)</b></p> <p><b>Implementation requirements:</b></p> <p>Would likely require new modeling of RTO West. New discussions with SPP and other participants would be required. Might stop RTO efforts while footprint is remodeled and examined.</p> <p>Develop CRSP plan to review current transmission requirements for delivering FES, define customer transmission allocation based on long term Customer Displacement Power (CDP) requirements, identify specific path requirements, and define hedging rights for customer.</p> <p>Would have to likely reopen the marketing plan and develop long term project management plan.</p> <p>Estimated project duration: 5-7 years assuming reopening marketing plan.</p>
---	---	---	---	---

\* An incomplete draft of this paper was inadvertently and briefly posted to WAPA's website on Friday, 6.23.23. This document is the final and complete crosswalk document that indicates all items considered by WAPA.