

# Energy Imbalance Services in the West

CRSP Management Center

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# Energy Imbalance Service

- Discussions on the SPP WEIS today only pertain to LAP, CRSP, and the WACM BA

# Energy Imbalance Service

- Energy Imbalance Service is not a Day 2 market
- CRSP is not evaluating a Day 2 Market

# What is Energy Imbalance Service

- EI Service provides:
  - The difference between a generation schedule and the generation meter
  - The difference between a load forecast and the load meter
  - Energy imbalances currently managed by BAs under their OATT (outside of market based EI)
    - BAs can use their own generation or contracted generation to resolve imbalances in real time

# Why is Energy Imbalance Service important to WAPA

**Critical for continued  
BA operations**

# Why is Energy Imbalance Service important to CRSP?

- Could reduce or avoid the further use of LAP and CRSP resources to balance the WACM BA
- CRSP cannot provide more resources to the BA
- CRSP resources should be operated primarily to the benefit of CRSP customers

# What Energy Imbalance Service is Not

- El Service does not provide:
  - Significant firming purchases for FES
  - Market opportunities for large volumes of surplus sales; day ahead and real time bilateral markets continue to provide market resources for expected balancing needs

# Energy Imbalance Service Characteristics

- Resource offers are voluntary
- Geographical diversity
- Low barriers to entry/exit
- Member assets continue to be utilized for balancing and bilateral markets
- Dispatch efficiency and savings for EI
- Transmission system fully utilized

# CRSP MC is looking at Energy Imbalance Service to:

- Reduce BA reliance on CRSP generator assets
- Support reliability on the CRSP system for all customers
- Keep pace with industry changes affecting WAPA's ability to accomplish its mission

# Statement of Principles

- Consistent with sound business principles
- Maintain reliable delivery of power and transmission to all customers
- CRSP resource participation will be voluntary
- No cost shifts

# Anticipated Costs

- Start-up
  - SPP infrastructure
  - Generation offer and shadow settlement software modules
- On-going
  - SPP administration – WEIS run by SPP, not through BA

# Cost Shift Issues

- Avoiding cost shift to customers outside of BA
- Seeking agreement from participants
- Must have agreement to consider membership - currently negotiating

# Send comments or concerns to:

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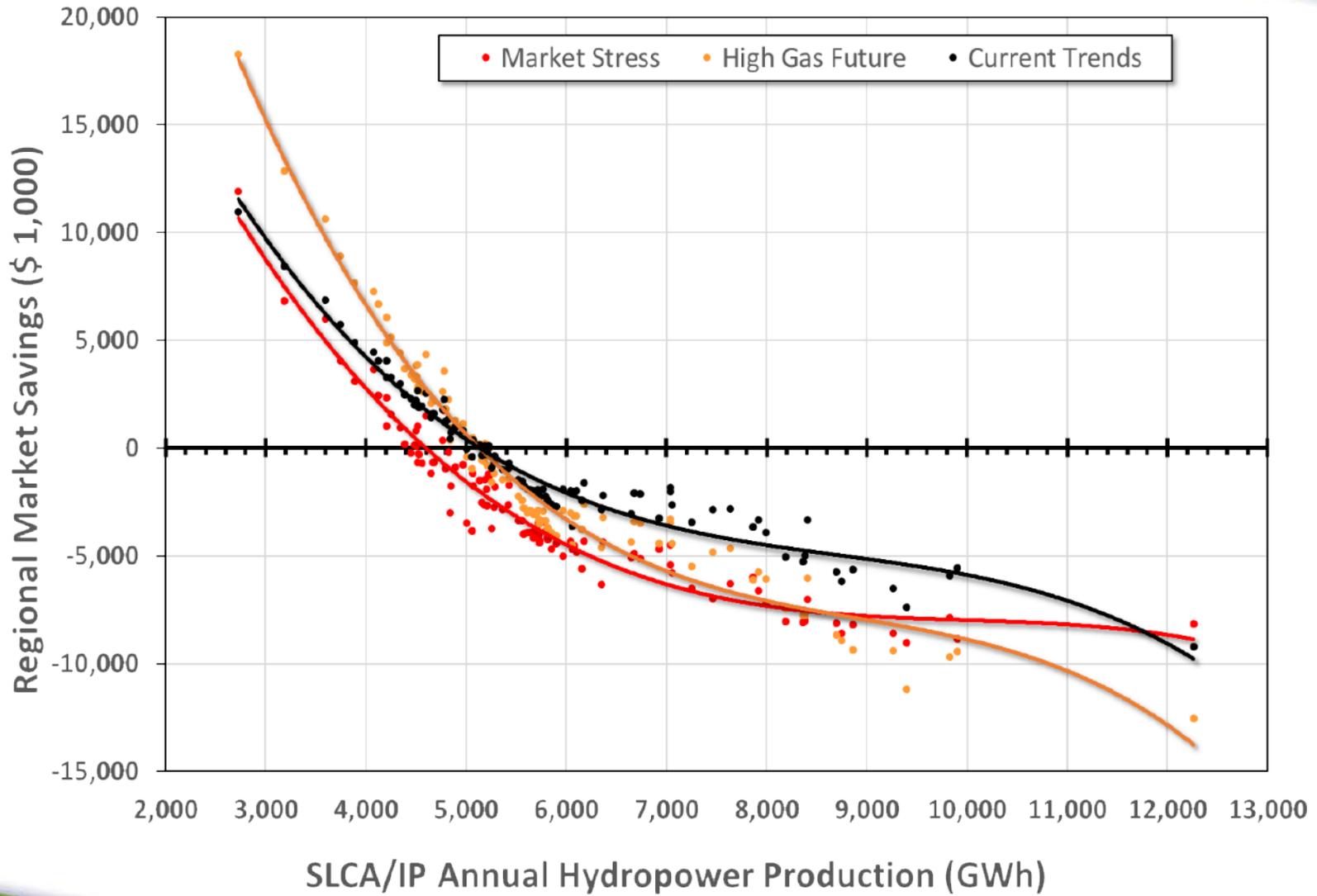


Morrow Point Dam

**The following slides will answer the 20 questions submitted to CRSP from the Colorado River Commission.**

# Economic study-costs/benefits of participating in the SPP EIS

- CRSP studied production cost benefits during Mountain West effort  
[https://www.wapa.gov/About/keytopics/Documents/LAP-CRSP\\_Production-Cost-Study.pdf](https://www.wapa.gov/About/keytopics/Documents/LAP-CRSP_Production-Cost-Study.pdf)
- Production cost benefits in a full day 2 market are limited or non-existent
- With limited or no participating resources, no benefits expected at this time
- Limited generation flexibility due to water releases and environmental constraints



# CRSP costs/benefits for EIS absent full market participation

- Previous study for full day 2 SPP market assumed Mountain West Participants:
  - Xcel, WAPA-LAP, WAPA-CRSP, BEPC, BHPL, CSU, PRPA, TSGT
- Benefits assumed to be less in EIS with fewer participants
- CRSP assumes EIS benefits would result from reduced and/or no additional regulation/flex reserve requirements in future
- CRSP may analyze limited resource offer participation in the future
- Provides tools to manage BA in the short term

# CRSP participation in EIS governance

## CRSP would participate/vote as a market participant

- Significant input and authority over administration through executive committee to
  - Approve or reject proposed amendments to the WEIS Tariff
  - Establish detailed WEIS Market Protocols to support the filed tariff
  - Provide consultation to SPP in determining the administrative rate charged to participants of the WEIS market
  - Recommend proposed amendments to the Western Joint Dispatch Agreement (WJDA)

# SPP tariffs and EIS agreements

- WAPA will provide Tariff and EIS (JDA) documents made available by SPP to any CRSP customer if requested
- All documents are still under development

# Seams Issues

- No impacts to Firm Electric Service schedules from CRSP generation to customers in any BA
- FES allocations are fixed schedules – incur no EI
- No seams impacts identified
- No timing constraints different from WECC tagging deadlines – no impact to WRP schedules
- CRSP currently schedules to FES customers within PACE BA, a member of the Western EIM – no seams or FES schedule impacts

# Metering and Telecommunication Costs

- Meters replaced as part of on-going maintenance cycles meet market protocols
- All plants but GC meet protocols. GC partially done-replacing meters as each transformer is replaced
- No significant capital investment will be needed  
Communication points and SCADA programming likely needed for data from WACM BA to SPP

**\*SPP grandfathers existing metering in EIS**

# Additional FTEs for EIS participation

- WAPA's Organizational Approach to Markets (OAM) initiative aligned departments so WAPA could enter markets efficiently:
  - Identified areas where FTE can be reassigned to cover staffing requirements without adding additional FTEs for market participation

# CRSP generation in EIS

- WAPA's generating resources are obligated for firm electric service
- Blue Mesa and Morrow Point may have limited participation in EIS after implementation if low risk and benefit to all customers
- CRSP's generation resources need to abide by environmental restrictions and water release schedules, and customer schedules. Market participation secondary to these priorities
- Resource offers are voluntary – even if offers are made SPP has no control over generators – CRSP/BOR retains

# CRSP Generation Assets – Economic Benefits

- Limited purchase and sale opportunities for purchase power and excess sales
  - Bulk of transactions continue in day ahead and hour ahead bilateral markets
  - Daily water release criteria and elevation restrictions for Blue Mesa and Morrow point severely limits EIS offers
- CRSP participation intended to balance forecast error on generation/load and reduce BA reliance on CRSP generator assets
  - Mechanism for the BA to leverage market assets to support the required energy imbalance service (ancillary service schedule 4 and 9 of the OATT tariff)

# Transmission Revenue Impacts

- Transmission must be acquired to balance each market participant before the start of the hour
- The EIS uses actual transmission available regardless of OASIS reservations
- Existing CRSP network service agreements will continue to charge on metered load regardless of EIS resources dispatched to load
- EI/GI service today under tariff uses actual transmission available

# CRSP Business Practice Impacts to Customers From WAPA Submitting Load and Generation Forecasts to WEIS

- No impacts to Firm Electric Service schedules from CRSP generation to customers
- Fixed FES schedules are not affected by the energy imbalance operations within the WACM BA
- Generation schedules submitted to BA as today through automated software
- WACM already provides forecasts to RC
- No timing constraints different from WECC tagging deadlines – no impact to WRP schedules

# Anticipated Transmission Constraints Subject to High LMPs (Congestion)

- Any area with existing congestion would be a likely candidate for high LMP prices (actual not scheduled)
- Varies with generation dispatch configuration
- CRSP FES schedules not impacted
- CRSP has low EI subject to LMPs

# Allocation of CRSP Charges/Credits for GI/EI

- CRSP project incurs charge/credit for any EI/GI as today
- No single CRSP customer would incur for FES schedules as today

# Cost/Benefits

## Western EIM vs. WEIS

- CRSP anticipated little benefits from either as main purpose is to reduce use of generation assets by BA and support reliability
- Costs comparison can be made using data from SN Western EIM analysis – CRSP and SN similar water project size

# Number of Participants Western EIM vs. WEIS Further Comparison

- Little benefit to CRSP in either – minimal EI/GI
- Currently one market available at this time
- Another EI service option could change current rate of participation
- WAPA supports unique situation of different projects – SN actively analyzing Western EIM

# Decision Drivers and Participation in Multiple Energy Imbalance Services

- As an integral part of the WACM BA, CRSP has a responsibility to support BA solutions and reliability on the CRSP system to deliver FES to all customers
- Balance the interests of **all** its customers – committed to preventing any cost shifts that may occur between external customers and those within WACM
- Participation in two different markets would require separating CRSP generators and transmission among different BAs – Duplicative costs would be incurred

# Excess CAISO Energy in the EIM Further Analysis

- Ability to purchase excess energy from CAISO through the Western EIM would be limited because of existing constraints on generation
- Increasing RPS standards will lead to more surplus/deficit across the West
- WACM BA currently has interconnection requests for ~4,000 MWs of capacity – majority renewables

# Governance – Western EIM vs. CAISO

## Still a Factor?

- In the long run – day 2 markets on horizon
- Several failed attempts of CAISO to end CA state control – no guarantees
- Member-driven board preferable – competition could provide
- SPP RTO already member-driven governance

# Next Steps

- Decision Points
  - Cost mitigation required
  - Customer support
  - BA requirements
- Customer Meetings
- Deadline September 3, 2019