

Markets in the West Workshop

Summary of Discussion Report-outs

April 9-10, 2019

Note: The bulleted lists below are a consolidated summary of the notes taken during report-outs of the discussions participants had during the workshop.

Discussion I: Today's Market Perspectives and Challenges

- Experiences: MISO, JEDI, PSCO JDA; MWTG; PJM OH; CAISO; UGP SPP
- Challenges:
 - Heavy on energy, low capacity
 - Markets complex – design matters
 - Partnership
 - Multiple Reliability Compliance Service providers in the West, problem? Not in east
 - WAPA: Limited benefits – renewables
 - Environmental limits on WAPA hydro are increasing
 - Tariff issues
 - Cost allocations
 - Bi-lateral trading challenges
 - Lack of liquidity
 - Uncertainty
 - Diversity of political and regulatory views
 - Renewable integration – challenge
 - Regulators – challenges
 - Cost shift – challenges
 - Transmission challenges
 - Time is ticking in West without market
 - Failed efforts not due to lack of knowledge
 - Liquidity
 - Transparency for WAPA customers
 - Protection of resources/FED contracts
- Significant benefits - Worthwhile
 - No market is perfect
 - Markets work well, transmission fought over
- More challenges:
 - Integration of renewables/carbon free
 - Market education/outreach needed
 - Regulations (state specific regulations in markets)
 - Governance
 - Integration of renewables
 - Seams issues
 - Diversity of states perspectives/goals



- Cost differential across states
- Give people a voice – governance to support
- Changing mix of generation and load
- Growing appetite for transmission and need to regionalize or leverage/maintain
- Governance – state – individual entity control – generators
- Cost recovery
- Appropriate representation at all levels (distributed utilities)
- Cost/benefit quantifiable
- Ensure right sizing and get what we need
- No Chu Memo approach (forced)
- Proactive approach – prepare and adjust as we learn
- Transmission cost shifts and associated regulatory challenges (PUCs)
- Start small (like EIM) – should be some transmission cost recovery
- Responsive governance
- Open process
- Size of footprint matters
- Protect the hydro value

Discussion II: Opportunities and Risks

- Need to Embrace Change is the West
- Overall Goal: Ways to approach transmission from baby step perspective
- Leverage wider generation & load diversity
- Economies of scale
- Lower customer costs
- Incremental approach to markets
- Regional approach to transmission planning
- Environmental regulations
- Market Design-LMP doesn't capture the true value
- WAPA generators in one market and the customers in another
- We are all interconnected – as neighbors make decisions there are collateral impact
- Renewable energy integration (benefit & cost)
- Governance structure > driving governance
 - Train = opportunity for those with less “clout”
 - If not at the table = Risk
- Transmission cost shift allocation
- Hold up evolution of markets in Western Area Power Administration Seams (Equity Not Reliability)
- Lost opportunity: Loss of control for market destiny
- Value of Hydro – reserve-opportunity & risk
- Lower prices
- Diverse resources
- Ensure small customers still have a voice



- Avoid the squeeze > don't get into UGP position
 - Where in constrained market & raise prices
 - Market design > 10 generators/competition
- Regional transmission planning in West – not currently aligned but needs to be
- “Which” why? Can participate in all? (do we have to choose one?)

Opportunities

- Expectations of a less than perfect market. Reflect on past
- Start small (EIM) show everyone small opportunities
- Optimize DC ties in the West
- Undiscovered transmission
- Wealth of experience in West
 - Energy costs up/rates up
 - State/regulations risk
- Increase Market access
- Contract / flow base opportunities
- Integrate renewables – Carbon
- Integrate new technologies
- New products: i.e. Frequency Reserve
- Larger reserve sharing pool
- Costs

Risks

- Long term risk to preference customer
- Risk to Federal Use Priority
- Transition: Winners & Losers (risk)
- New charges (risk)
- Price volatility
- Learning curve
- Loss of autonomy/control - Complexity (Risk)
- Customer costs go up
- If don't participate now forced to later (didn't help design)
- move too fast, get in wrong
- Costs not recoverable from PUC
- Risk of join – cost shift allocation
 - Costs
 - Cyber security
 - Employ – skill changes (risk of join)
 - Regulatory oversight (risk of join)
- Risk of no market participation
 - Integrate renewables
 - Liquidity – loss of partners (trading)



- Resource cost
- Less efficient transmission expansion
- Regulatory environment is market based
- Diminishing Reliability
- Complex Cost Allocations
- Develop future Reserve sharing
- Hedging – price certainty

Goals:

- Continue exploring markets
 - Work together
 - Leverage Commonalities

West changes (what to change in West)

- Transparency – West change
- Market is necessary
- Change from independent approach to collaborative
- Use under-utilized assets
- Transmission tough nut to crack
- If not at table then you are on menu – engage early
- Define clear objectives
- Ensure stakeholder transparency

Discussion III: Key Roles and Missing Links

WAPA opportunities: Transparency, Communication, Coordination transmission – some thought WAPA should provide small entities – Don’t have same resources / education

- Transparency
- Integration of renewables
- WAPA Role – integrate all WAPA systems
- Start small – (Challenge – learn from the past)
- WAPA owns wires but no load or gen
- Diverse opinions on level of input – some customers want to just join WAPA figure out rest
- Company roles: Evaluate benefit and risk to customers, evaluate market options – pros & cons
- Lessons learned What it means to join EIM
- Actively engage and advocate on behalf
- Give voice to “small fish”
- Engage owners of DC ties
- WAPA role: White paper how WAPA Helpful
- How do WAPA resources help you meet State goals (RPS)
- Market participation – all active engage – ISO/RTO
- Take input from participants
- PMAs – role to coordinate with customers and get folks to table – include all



- Need for education – WAPA facilitate or Coordinate
- Need to include NGOs; State stakeholders (not just regulators)
- Customer association: Opportunity
- Generating Agencies included
- Transparency – Need & Responsibility & role for all avoid NDAs if possible
- ISO/RTO: Seek input; listen; propose next steps; propose steps to match where people are
- All: Seek to collaborate to solve problems
- From Customer up *not* WAPA down
- Incremental Approach to markets
- BOR – BOR different set of priorities and Power Market not high
- Recognize federal role in market
- Small entities different role for WAPA than large entities
- Preference power issues – CAISO – SWPA power – focus on what can do
- Priority use power customers – first on for transmission
- AEPCO – key role
- SRP – Low cost customers – EIM but open
- CAP – congestion pumping load
- Ensure boards comfortable
- XCEL – open to markets
- HOPI Tribe – renewable develop
- Protect Customer interest
- Studies coincide regulation
- Protect Value of Hydro power
- Look for new ways to compromise
- Keep Customers informed
- Missing = no Mandate; tribal participation
- Look at contracts – can they be updated
- UGP Lessons learned to join markets
- MWTG WAPA updated website with information – good job keeping people informed
- Regulators missing – played a key role in shutting down MWTG so they need to be educated
- State legislators education
- Small entities need a seat at the table – everyone involved
- SPP: Facilitate expansion existing and potential new members; provide related services
- WAPA role: facilitate flow of info; elevate concerns to right customers; contract nuances; involved with leadership but not solely (alone); maintain grandfathered obligations; engage DOE; customer forums
- Companies: support customers
- WAPA: seek widespread buy in; facilitate education and input
- Missing: PUC, State
- Inclusive – Involve people at right time – involve when needed – but not all the whole time
- WAPA facilitator
- COMM – cultural changes within organizations



- Education (regulators; use customers; employee)
- Handle how portrayed in media – get in front of message
- Continue to reassess
- Discussions around viable alternatives – as information changes reassess
- Benefit studies – right info; RPS changes – how to incorporate; often lag behind regulation

Discussion IV: Bright Ideas for the Future

- Energy Imbalance Market
- Common Transmission System is still needed
- Incremental step to get here
- Could Transmission Planning/Regional Expansion
- Should be cost savings
- Real Time and Day Ahead Coverage
- Transparent
- Broader Day Ahead Market
- Integration between wholesale and behind meter
- Integrate storage- battery and pump
- Non-wire alternatives
- West = EIM taking away bilateral traders, need to lay the foundation now
- Common Tariffs
- Dispatch savings
- What will energy/environmental policies be
- Technologies
- Success = Everyone involved
- One centralized market
- Lots of industry change still coming
- Transitional issues – end bilateral trade (old contracts/new skills)
- Non Market – NPP/ACE scheduling/Joint dispatch/AGI
- Agreements need flexibility for markets

10 Years:

- Outside Events/Tech Change
- Include efficiencies and work together
- BA consolidation
- Generation diversity
- Flow vs. contract path
- Duck curve changes
- Common Transmission System is still needed



Challenges:

- Aging Infrastructure
- Renewable efficiencies
- Load variations
- Reliability
- In 10 years consistency in the markets across west - same rules on seams
- Balance standardization/innovation
- Substantial RTO engagement
- Integrate changing mix – 4k MW coal offline in this region – what’s behind it?
- Can market evolve to standardize – phone bill example – need or tax driven?
- Who is filling ancillary services behind coal
- In 10 years market not talking approach to get there. Straight to RO hard – baby steps/be transitional/mitigate risks through governance structure

Non Market Option:

- Consolidation of BAs?
- Uncertainty – agree in 10 years optimize markets we are not in – do we join?
- Market options mean different things to different people
- WAPA/BOR/COE could be high price provider with renewables – markets more important
- Transmission equal access maintained
- Transmission built for customers not providers
- Goal of market – dispatch on carbon impact, not price in future?
- Continued growth storage – funding? (Pump vs battery (Battery warranty leverage))
- Micro grids – how do we leverage – DC ties?
- Cyber Security- as we leverage technology – how do you protect? Gray area in market systems
- In 10 Years: Markets more diversified today and offer broader array of products
- Trend self-sufficiency of retail customers
- Transparent/member driven/limited barriers to enter/exit; predictable; understandable (market of future)
- Do markets need to be centralized? Retail micro-grid
- A single market or multiple decentralized markets?
- Markets Interim until something else?
- Elements of market of future -
- Definition of Utility
- Market structure
- Technology



Closing Session: Mapping out next steps

What were your Ah-Ha Moments?

- Don't let perfection get in the way of good
- Incremental phased approach
- Long on Energy, short on capacity – how to fix
- Been at this for 20-25 years – need to get it done!
- Markets just a group of people collaborating to bring value – how do we start?
- Is WAPA the facilitating organization?

What should be our Next Steps?

- Customer involved committee – broad involvement across the footprint
- Is WAPA looking for a single solution across the WAPA footprint?
 - WAPA wants to what's best to facilitate interest of customers
 - What brings value to you
- Perfect big WAPA footprint; good multiple options
- Shrunken group – just DSW to discuss
- Many components we've discussed – establish in regions working groups to discuss
 - i.e. DSW contract paths discussion – doesn't have to be market specific.
- WAPA wide or regions = yes
- How will water decisions impact path forward?
- WAPA has a role – large entity/many connections
 - Leadership role – how do we move forward
 - W/out direct leadership will continue to spin wheels
 - Problem will only get worse if we don't move forward
 - WAPA give leadership, customers
- All politics are local – need to start at the regions
- Look inside current construct – can WAPA help us address (renewable portfolio standards)
 - Not just binary market or not move scheduling closer to operational hours
- WAPA videos – compliment – great resource
- Continued education to customers
 - Risks to customers on costs
 - Benefit receive or forced
 - WAPA needs educated customers
- Perspective from SPP/CAISO how did this happen elsewhere?
 - CAISO
 - We don't "push" closer together.
 - Provide a proposal in response to PUC
 - Autonomy/local control tenant
 - WAPA role – 5 separate regions – diverse perspectives – looking forward to how WAPA solves it
 - SPP



- Issues with confidentiality – commercial and critical infrastructure info – need NDA.
- SPP Mission - helping facilitate members working together to keep the lights on today and into the future.
- SPP – independent – member driven
 - Board = safety valve to ensure independence
 - Vote – transmission owners & users vote separately and average >67%
- Biggest hurdle now = educations & what do they mean to organizations
- In SPP how is more important that what
 - Win-win-collaborate

We talked a lot about Transparency – what does it look like?

- Don't sign NDAs that prevent sharing commercial information with customers
 - Supports suspicion
- Start at the region level – can't get arms around anything larger
- Figure out agenda for next step – invite those in the room to participate
- Don't tell – involve (SMEs need to be in the room)
- Grass roots effort
- Negotiations in MWTG were confidential – if WAPA didn't sign NDAs, they wouldn't have been at the table. Still need to protect confidential information
- Direct impact at other nonparticipants – how do we then involve those impacted?

