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## **Transmission Operations and Planning Working Group Flip Charts, DSW/CRSP session in Phoenix**

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Agenda for the Breakout tailored to DSW/CRSP

Page 1

### Planning

- What drives planning
- Capturing risk
- Order 1000, WestConnect participation
- Responsibility for VER issues
- Collaboration and cooperation
- Carbon impact

Page 2

### Cost Impacts

- Given need to maintain reliability
- Greater use of existing system
- Avoiding duplication of resources T&G
- EIM
- Transparency of B/C
- Keeping costs as low as possible
- Beneficiary pays/receives
- Can costs be assigned (tools)

Page 3

### Centralizing Dispatch

- Consolidation of western BA
- Western functions
- OCP, Ops review
- Services

Page 4

### Consolidation of Western BA

- VER
- Centralizing dispatch
- Security
- Loss of local control, knowledge

Coordination Issues

- Sit. Awareness

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- Reliability responsibility

## First Area of Focus: Consolidation of BAs Issues

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### Consolidation of BAs

- WACM
- Loveland/Phoenix
  - Back-up okay
  - Controlling a remote area not
- Does growth make consolidation problematic
- Customer service implications

Page 6

- Difference in resources by region → specialization has benefits
- Geographic diversity of resources has benefits (reliability)
- Consolidating BA issue is beyond just backing up each other
- Some customer service problems emerging

Page 7

- Does centralizing take rights from area of origin?
- There are communications issues related to dispatching remote resources for local need
- Further consolidation beyond L/P requires care
- Consolidation requires robust transmission to achieve resource sharing benefits

Page 8

- Two different share groups b/c they can't currently share
- Transparent – show how much \$ saved by consolidation
- Consolidation may require additional staff; will they be there?

Page 9

- What does Western need to do to demonstrate benefits?
  - Look at SPP, showed benefits
  - At Midwest, large amount of RE resources integrated
  - EIM w/in CIASO, benefits?
- Incremental biz cases needed
- Need to minimize unintended consequences

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- Starting point is important
  - PJM change was incremental for them

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- Transmission issues in West different from east
- CA took their step knowing they would incur some cost
- DSW resource issues different
- What's the rush?
- Is the need overwhelming for EIM?

Page 11

- Desert Star effort
  - WestConnect, costs incurred
- Will EIM add benefit to West Connect
- Pay attention to seams
- Incremental acceptable if it results in a categorical change

## Second Area of Focus: Planning

Page 12

### Planning

- Drivers/Gaps
  - IRPs, public policy goals
  - Load or reliability
  - Conservation, efficiency, costs
  - Customer/service requests
  - Externalities
  - Assumptions/Inputs
  - Coordination/Outputs
  - Bottom up vs top down
  - Optimization
  - 10+ year horizons
  - Tribal liaison

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- WECC/WestConnect VERs
  - TIP RRTT
  - Learned from BPA
    - Dynamically sink
  - Reserves/metrics
  - Best practices, manage risks
  - Market dislocations, smart study
  - Harmonization

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- Planning and cost allocation

### Third Focus Area: Cost Impacts

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#### Cost Impacts

- EIM
  - Range of B/Cs
  - Moving Targets, e.g. 15 min. scheduling, ADI, reliability-based control;. DSS → new baseline=?
  - Scope/participants
  - Δ Start ups
  - Other benefits, “plumbing” opportunities
  - Why should WAPA be in market given its charter?
  - CAISO increased costs
  - WAPA alone makes little sense
  - Don’t assume benefits and participation
  - Who has rights to resources?
  - How will it operate? Protocols

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- EIM (cont.)
  - Create revenue opportunity
  - Hydro resources are not available to a market
  - Bid based markets don’t reflect marginal costs studied
- WestTrans Oasis/Portal
  - Status
  - Availability
  - +CAISO?

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#### Planning

- Coordinated planning happening and needed
- Does western have a planning role
  - Lower level
    - Q. authority?
    - Q. policy
- Tribal liaison
- Beneficiary pays

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#### Fourth Area of Focus: Operations

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##### Operations

- Consolidation op. functions
  - Current is good
  - Additional may be merited
  - Must be addressed
    - Security
    - Local ctrl.
    - Local knowledge
    - Customer serv.
- Coordinate w/ other BAs
- Consol. Of western's BAs controversial

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##### Cost Impacts

- EIM – better, updated data
  - Present topology
  - Determine granularity
  - Decision pt.
    - Go
    - No Go
- Buy-in on methodology
- Transparent

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## Design of Transmission Services Breakout Flip Charts, Phoenix Workshop

### Start with views from 5 individuals

#### Page 1

##### First Speaker's View

- Integrated Grid
- What should WAPA provide
- Pancaked rates
- Move power across state lines like gas

##### Second Speaker's View

- AZ strong on EE
- Hold W customers harmless
  - No increase or shift of benefit
- Don't want PACNW problem so 1 size doesn't fit all

#### Page 2

- Worried about potential EIM
  - Only one option/rate impacts
- EU stakeholder group – utilities handling well
- Don't Hamper economic recovery

##### Third Speaker's View

- CRSP is a project/DSW is an office
- Utilities doing EE/DR/EV
- Preeminent issue is beneficiary pays – don't want cross subsidies

#### Page 3

- CRSP DOI vs DOE
  - Ops & flex impacts on integration
  - Purpose → water delivery
  - Integrating RE may not be consistent with CRSP purpose
  - How achieve purpose if change ops?
- MW lost at Glen Canyon Dam → ESA
- RE integration not just T issue
  - Need to include Corps
- June 29 comments to IRP
- Mar 09 comments on TIP

#### Page 4

##### Fourth Speaker's view

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- Concern comments/direction w/o understanding what utilities doing
- Needs regional integration not yet defined – Status of deal in framework for EIM
- U purpose – hydro power delivery
  - Use ROWs for upgrades
  - Expend carefully only
- Dynamic sched/reliability controls intra-hour
- Need and timing of integration tools
- What are W customers' integration needs?
  - Some resovices (?) don't need T Tools to integrate
- Costs borne by service users
- Do market assessment like BPA

### Begin Open Discussion of Issues Identified

#### Page 5

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- Western built for purpose different than what talking about now
  - Less hydro/less coal
  - How leverage infrastructure we have?
  - Enable use of T while protect Pref customers
  - Incremental tariffs?
- 
- Great T system/very few hours T constrained => use it better
  - EIM cost savings to Pref Customers see by WGA Western needs to understand what is benefit and cost
  - More robust IRP – Western covers mountain states through customer IRPs

#### Page 6

- EIM study out
- Is EIM part of low hanging fruit? Prob not so focus on what is
- Order 764 VERS rule first → statutory directive limits on W ability to participate in EIM
- Concern EIM will not be optional and will turn into RTO

#### Page 7

- Dynamic Scheduling
- Cost shifts between projects
- What role do you want W to play?
  - Statutory authority
  - Process timing unrealistic to support full collaboration
- Who should lead discussion?
  - DOE? FERC?
- If W innovates will it be challenged at FERC

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#### Page 8

- What services do W customers need?
  - Survey?
- Continued refinement confusing → what is target?
- Power customers want different things
  - Different perspectives than T-only customers
  - T-only may want more radical change

#### Page 9

- Interconnection Queue Process – can be more efficient?
- ROW # survey – what ROW could do more or be used to do more?
  - E.g. Casa Grande to Desert Basin
  - W needs to solicit info from customer on upgrade potential
  - Smaller projects no big multi-state efforts
- ID in 10-yr CIP ↔ DOE help to get W appropriations for upgrades
- CIP not funded vs OMB

#### Page 10

- Pancaking
  - Not a way to eliminate pancake w/o RTO – don't want RTO
- Projects have different costs so different rates
  - Marginal revenue coverage approach?
  - \$ reduces rev requirement for other customers
- Cost recovery from customers that benefit
- 4 corners 245-500 order 858 discussion reminiscent of
- Customer group found cost shifts unacceptable in prior case DSW projects

#### Page 11

- More leadership on budget
  - PVED5
  - Developed rate assure beneficiary paid for facilities/financing via TIP
  - Stand-alone charge – greater use of this technique??
  - *Was this a unique case or can apply elsewhere?*
- P.13 BPA marginal rate in last tier. W doesn't have tiered rates
- One PMA's solution may not/does not fit all → BPAs does fit W

#### Page 12

- Feasible to do combo? complicated
- Single rate for W?
- Separate into T-only cust rate vs. power customers
- Vs W's core mission
- Power customers don't experience pancaked rates
- Statutory issue? Not as long as each project is financially segregated

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- Dog projects or intertie projects
- Preference customers have to cover the other benefit
- RevReq – way to compensate the preference customers

#### Page 13

- Preference customers “off the list” list items
- No EV incentives on that issue or EE (but not agreement)
- Help no end users b/c utilities handling utility level issue
- Have adopted some that hurt in IRP standards
- Could W bal areas be combined operationally? (not just rates)
- Reliability economies of scale and no low hanging fruit
- Right projects being considered under TIP?
- Scenario analysis: order 764/EIM (may not be substitutes) needs in order to implement any → vs standalone

#### Page 14

- How will W comply with Order 764?
- Scheduling/regulation services
- Needs and tools to support integration
- EIM and other tools in scenario analysis
- Integration
- What are problems (what problem trying to solve? How could W be used?) in W footprint?
- Use utility IRPs more robustly and utility RE requests
- W doesn't have obligation to meet load growth
- How use W to help utilities implement changes (buy RE)?
- How to use existing assets more efficiently?
- Some projects need W to coordinate with other/additional balancing authorities or ISOs

#### Page 15

- Consistent with existing law or change it
  - Consistent vs authorized
- Go to congress/DOE recognizes sale of federal hydropower vs sale of T
  - W mission?
- How far can W go? Without shifting costs or needing statute changes?
- Q: does W have authority to discount T rates < cost?
  - Discounts as incremental revenue vs lost revenue

#### Page 16

- Fundamental principles preference customer concerned about
  - Customers way more willing to talk if concern is recognized
- Room for improvement vs loftier goals

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- More disagreement on loftier goals
- Reminder preference customers don't equal T-only customers. They have different concerns
- Unrevealed ideas need to be revealed / DOE says are none just brainstorming ideas to stimulate discussion

Page 17

- Read ahead p 10
- DOE policy objections for renewable resources
- Q. what are they?
  - Jack says reference is to Secretary's Memo
- Q: will DOE fund costs to study?
  - Ratepayers vs appropriation (which customers?)
- To pursue further, combined DOE/W should ID funding source

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## New Transmission Authorities Breakout Flip Charts, DSW/CRSP workshop in Phoenix

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### Introductory Overview

#### Page 1

- About 1222
- Current process
- Possible revisions
  - Evaluation criteria
- Concerns
  - Recommendations
- Recommendations overall
- Transparency and feedback
- Project in your areas?

#### Page 2

#### Process Info Needed

- Flow chart w/ steps and timing and quick feedback
- Responsibility matrix and points of contact
- Costs (estimate and staff rates)
  - Pre-AFA
  - AFA
  - Development
- What happens after?
  - Ownership + involvement
- Milestones/objective stds
- DOE/PMA nexus/approvals and guidelines
- Geographic eligibility – “states” v. “service territory”
- Ownership (“participate in ownership”) and operations and handling post agreement if any assets are non-profitable

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## Concerns and Ideas for Addressing Concerns

Page 3

### Concerns

Cost allocation of unfunded costs  
Risk to customers  
Preference customers

- Benefits + costs
- Want no liability for unviable projects

Check existing interconnection process + interaction  
Objective analysis despite benefit WAPA (esp. TIP)

### How to Address

Separate projects to keep preference customers insulated

### Suggestion

- Ongoing discussions like this in future years
- Presentations/meeting/update

Page 4

- Eligibility
  - Corridors or demand for capacity
- Process
  - Decision pts + public input + WAPA customers
    - Like this?
    - Arizona Corporation Commission's Biennial Transmission Assessment
  - Need process flow diagram
    - Timing
    - Responsibility matrix
    - POC/stage
    - Costs to get to agreement
    - AFA costs
      - Our staff cost/rate
    - What then
- Evaluation + (intent behind language) + intended info, e.g. financial viability

Page 5

- Who interested?
- How work for new + upgraded?
- No \$ benefit to 3<sup>rd</sup> party
- Benefits to
  - Developers
  - Western
  - Customers
- Public input
  - Everyone or impacted parties?

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- Via NEPA
- Side note
  - Navajo generation station
  - Aging infrastructure
  - Capital funding

## Evaluation Discussion

Page 6

### Evaluation

- Public interest
- Renewable facilitation power
- Benefits/impacts in each state including economic + environmental
  - Add Western + customers
- Technical (engineering, electrical, geog)
  - Active planning participation (WECC, 1000) in process too?
- Financial viability
  - Whole life of project
  - Consistent w/ no taxpayer funding
  - Customers w/long term contracts
  - TSAs, PPAs, Usage Contracts

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**DOE/Western Joint Outreach Team (JOT)**  
**Phoenix Stakeholder Workshop Notes**  
**July 24, 2012**

**Morning Introductions** –Introduction to the JOT, purpose/challenges of the Chu memo, and the agenda for the day. Some highlights included and emphasis on the Tribes who are approximately 10% of Western’s customers. Also, there were lessons learned in the workshops held in the UGP region such as how water heater storage of energy is a valuable storage device in UGP and pending federal regulations would phase out water heaters > 55 gallons. UGP session feedback also indicated need to clarify some terminology such as “centralization of dispatch”; it does not mean “how to centralize dispatch over the entire western interconnection”, but rather to see what opportunities there might be. The workshop intends to capture the diversity of views on the issues in the memo, and Western is also seeking comment on how the communication processes are going. After the introduction the stakeholders were invited to ask questions. A paraphrase of the questions and responses is as follows:

Q: The pre-read material seems to suggest that the focus of the workshop is on Western’s “leadership” in industry restructuring, but the presentation given this morning seems to focus the workshop on how to get Western involved in the industry restructuring that is already going on. Which one is it?

A: Perhaps the term “leadership” needs some more definition. We are looking for comments on where Western is already taking part and where does Western need to become more involved.

Q: Who is paying for these workshops?

A: Western is picking up the cost. It is estimated that the total will be around \$90-100K and that cost will be distributed fairly across all the regions.

Q: Will the costs be covered under Western’s program direction authority?

A: Yes.

Q: Where do we discuss the legal authorities and concerns of the Chu memo (there is not a specific breakout session dealing with legal authorities)?

A: You can bring up legal authority questions in each breakout group as they apply to that topic.

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Q: Will these workshops be used as an EIS?

A: There are not specific plans to use these workshops for that purpose at this time, but that is possibly one recommendation or result that could come out of it.

Q: The pre-read material and agenda for the workshop seems to corral stakeholders into discussing certain issues that are already predetermined by DOE. Where do we voice comments on whether this workshop process is even needed or an appropriate action at this time?

A: You can provide comments in the breakout sessions. Also note that these workshops and the pre-read material is more of a brainstorming forum. It is okay to bring up issues not discussed in the pre-read material.

Q: Is there an opportunity to see the outcome from all the workshop sessions?

A: We are creating a blog based on the input received at each of these workshops which will be available at the Defining the Future webpage. Transcripts from the listening sessions will also be made available on this webpage, and there is to be a wrap-up webinar after all the workshops are completed.

Q: Since the pre-read materials have changed since they were posted on the webpage, stakeholders might not be prepared for the today's meeting. Will there be another iteration to provide comments? Can you post the previous drafts so that we can see the changes that were made?

A: We should clarify that the pre-read materials have not changed. The only thing that has been changed is the presentation based on the comments received from the last session. We can post each version of the presentation on the webpage so that you can see the evolution through the workshops.

Q: What is the role of DOE in these workshops?

A: Each of the PMAs are under the DOE. The topics discussed in these workshops are topics that the electric industry must respond to as a whole. Therefore DOE needs to ensure that the PMAs are coordinated and consistent when addressing these issues.

**Electric System Planning and Operations Breakout Session** – Introductions of stakeholders was given around the room. Certain stakeholders called upon to give brief prepared presentations. A summary of their comments is as follows:

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Speaker 1 – Voiced that there were concerns with some of the issues in the Chu memo but hopes that that a positive relationship will continue with Western and commends Western on the developments that it already has in action. He cautioned that Western needs to extract the full value of each directive before moving on to the next. Western is already performing many of the initiatives in the memo under its mandatory obligations as a transmission owner and operator. There is a great need for public involvement and process when addressing the initiatives in the memo. Leadership needs to be clearly defined so that Western does not take a role where it gets out ahead of industry or takes a different direction than others with regard to these initiatives. Coordinated operations and NERC standards are mandated and therefore a high priority. Western should not act as a sink for all Variable Energy Resources (VER) connected to its balancing authority. WECC has not approved an Energy Imbalance Market (EIM) tool and the cost of such a tool is still uncertain. Western cannot make assumptions that this is complete. In summary, Western needs to be at the leading edge of the initiatives described in the memo, but Western should not go beyond the rest of industry in implementing them.

Speaker 2 – Leadership roles in markets and operations can be helpful, but is Western really the best entity to take on this leadership? Rate payers should not bear costs if they don't get a benefit, and Western's structure has always provided for cost based rates where the beneficiary of services pays. In many areas of the memo Western is already successful, such as in grid upgrades, NERC Reliability Standards, and Transmission Planning.

Speaker 3 – This memo is an opportunity to collaborate, and the initiatives might not increase customer costs. The electric grid is the largest machine ever developed, but it may not be an efficient machine. He supports the Chu memo, and Western is a key part of the grid that needs to keep pace with these initiatives. The improvements in the memo are not a deviation from the core mission of Western. Order No. 1000, variable energy integration, cyber security protection are concerns that Western must address regardless. Western needs to be methodical in implementing these directives across the grid. Increased situational awareness is greatly needed which is supported by the outcome of the September 8<sup>th</sup> blackout. New rate structures will save everyone money. Preference power customers have done the nation a great service by paying off federal debt and they will still have access to federal power for many years to come. Upgrading the grid helps to connect renewables and carry out national goals. Both wind and solar energy have tremendous opportunities in creating jobs and bolstering the economy.

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Speaker 4 – Planning and operations depends on a complete understanding of the system, open communication between operators, and cost pairs. He placed extra emphasis on communication between operators. Western has done a great job in these areas already. Local expertise needs to be relied upon rather than the top of a hierarchy dictating changes when they have not even been in a control room.

Speaker 5 – Some of the discussions dealing with the memo initiatives are similar to the discussion heard years ago, when FERC was issuing Order No. 888. There was a much different system back then. He indicated that he is working through other avenues to treat the problem of the top down approach coming from the DOE and that is not his concern for the workshop today. The focus here could be on how to bring more access to more customers. Western has been, and should be, involved in transmission planning, especially in implementing Order No. 1000. It is important for Western to be involved with developer project such as the SunZia project. Under sec. 1222 of the Energy Policy Act, Western is authorized to take part in these projects.

Speaker 6 – Western needs a balanced approach to conservation and development. He is happy to hear that Western is taking a leadership role and pushes for more leadership in planning efforts. This does not necessarily mean that Western should be ahead of the rest of industry, but they should be taking a role in these efforts. Western needs to look at new corridors and use collaborative efforts to use these opportunities to integrate transmission and generation. Western needs to review the BLM statement on sec. 368 corridors. The Sonoran Mohave Renewables Transmission (SMRT) project was good, and Western needs to talk about transmission line locations even before technical planning studies are complete. Western is not alone and there are smaller efforts out there that can be used as support. Taking part in project specific issues is good, such as role as NEPA co-lead on projects and Rapid Response Planning Group.

Speaker 7 – Western and industry need an opportunity for real experts to perform studies and analysis to determine what initiatives are actually needed instead of this cramped and dictated top down process that is going on. Western may need new congressional authorities to achieve this involvement. A real cost/benefit analysis is needed with regard to these initiatives. National processes and objectives can create costs for small utilities that simply have a focus on keeping the lights on affordably. Many small utilities are making affordable choices in taking federal power and Secretary Chu has suggested theoretical changes which differ from Western's traditional mission.

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Next the group jointly discussed what issues should be covered during the remainder of the breakout session. The topics included:

- Planning
  - Need to look at the renewable metric and whether the reserve levels in the west necessitate the need for planning)
  - Order No. 1000 Compliance issues
  - Who has responsibility in addressing Variable Energy Resource (VER) issues?
  - Collaborating on Planning
  - Western's role in carbon emissions
  - Where to integrate Balancing Authority Areas (BAAs)
- Centralizing Dispatch / Energy Imbalance Market (EIM)
  - (There is not much controversy on consolidation of the Operations/Transmission Services of the RMR/DSW regions, but combining WAPA regions into one BAA may be a controversial issue)
  - Security, especially due to lack of communications
  - Costs associated with EIM, beneficiary pays, tools used to make cost assignment
  - Need to maintain reliability
- Coordination Issues
  - Process issue – transparency of the cost/benefit analysis

Next, each of the topics bulleted above was discussed in greater detail. A summary of the discussion is below:

Consolidation/Centralization of dispatch – Question asked: Beyond consolidating balancing authorities and transmission services, what other areas and courses of action are needed to pursue gains? Responses:

- Ok with having WALC and WACM back each other up, but don't want to see switching orders and such come from Loveland; you lose familiarity with the system and local knowledge
- SWTC would not support total consolidation of balancing authority areas. It seems like customer service has been watered down with the consolidation already in place.
- Consolidation of balancing authority areas would be good. Industry has not seen control problems with this. In international examples in Europe consolidation has proved beneficial

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- Confusion exists here in the consolidation – Western consolidated RMR/DSW functions but did not consolidate the balancing authorities. Consolidating balancing authorities across Western would lead to customer service problems.
- Where do revenues and resources go if you consolidate balancing authority areas?
- Local issues are a real item. Staff resources and communications need consideration. The CaISO did not eliminate PGE, SCE, and SDG&E control centers. There are concerns with who should have issued directives in the Sep. 8<sup>th</sup> blackout.
- Need to consider that the sharing of resources and reserves is only possible with transmission availability. The current reserve sharing groups exist because they can't cross boundaries.
- Western needs to tell us how much money was saved in the consolidation that has taken place; we're still not really sure. There is a matter of transparency.
- Are you looking at the whole picture? Do you have enough engineers and human resources for the long term or is the consolidation taking place for short term savings?
- Should Western lead a cost/benefit analysis with respect to consolidation?
- You need to consider where you are. PJM used incremental changes to get to where they are. You need to consider the cost of the systems and implementation to get you to the next step. The costs in California were shown to increase.
- What is the rush for consolidation? Why not look at incremental changes and benefits from each increment? The WECC EIM studies show only about 1% savings compared to the total market – that is relatively small, so why rush?
- DOE needs to understand that there have been excruciating studies on LMP, SMD, RTOs, etc. within the west. WestConnect was a result of some of this. You can't just jump into this.
- The stakeholders at this workshop need to understand that the argument for incremental changes may not find favor with DOE heads and policy maker though. They will need to understand where we are going.

Planning – Stakeholders were guided by the following questions and gave the following responses:

- What drives planning now and what could Western be doing to drive planning?
  - Public policy goals and assessment of what you need is the drive.
  - Beginning is actually determining what resources are needed
  - You plan for two things: Load growth and Reliability. Your method might consider IRP.

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- Small electric rate increases drastically increase agricultural water cost. Arizona has lost much of its agricultural business to Mexico in the last few years. The rates need to be kept low.
- Transmission infrastructure is expensive but it is developed through open processes that are very transparent. What do you need and what can you do? How much is it going to cost? Western does not have load growth so their planning is limited more to reliability or generation and other utilities asking for transmission.
- Has the operating environment of Western changed? What is the influence of drought and other factors on load and costs? These are fundamental questions to Western planning.
- Need to plan for the way the load is today and the planning is laid out through the NERC standards.
- Should Western play a role in the assumptions used behind planning such as climate change? What should Western's role be in the coordination of plans?
  - Start with the LSEs and incorporate their needs into your policy. It should be a bottom up process. There can be more coordination at the Western level to make sure the right plans are brought in to address LSE needs.
  - You need to make sure you are looking ahead ten years and are not just planning for today.
  - There are 23 Tribes just in Arizona. Western needs to understand and treat the Tribal governments just like foreign governments. Western must be prepared for cultural differences in dealing with the Tribes. How do you say "Megawatt" in O'odham? Western needs a full time tribal liaison.
  - Individual utilities throw their ideas into a Western bucket and Western integrates them to come up with an integrated 10 year plan. That is what is happening. There should not be a Western top-down approach where Western is telling the local levels what they need to plan for.
  - Western coordinates its plans with stakeholders annually and the process is working well.
- What should Western's involvement be in WestConnect and WECC? Are there currently gaps?
  - Participants stated much praise for Western engagement in these activities and Order No. 1000 implementation. Western has good leadership role in TEPPC as well.
- What is Western's responsibility in VER issues?

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- Western has already utilized authorities for borrowing authority and other responsibilities
- One thing different in DSW/RMR compared to the Northwest is that the Northwest got an earlier start than us on this issue. Dynamically scheduling at the sink of VER could limit the amount that Western has to absorb and lessen the risk.
- Western has done a good job and done all they can do. There may have to be a thinning out in the next couple years as projects need to be in the ground to get ARRA tax credits. Watch the northwest and other regions to make decisions. Prepare for technology changes in making decisions.
- Consider the economic downturn and possibility of Son Onofre not coming back, the cost of compliance with RPS in California. Build what you really need.
- VER markets in California are impressive but that does nothing in Arizona. Interstate markets are a mess and it is better to build VER in California. No one wants to fix the Southwest Powerlink outage. Western has already looked at SMRT studies and considered improvements to this area, but beneficiaries did not want to pay. You can't get Western to fix an overall market issue.
- Perhaps an EIM could improve issues between California and Arizona.
- There is a relationship between planning and cost allocation. They need to be taken together.

Cost impacts – What are the potential increments/reductions that could come from an EIM?

- A lot of studies have been done on EIM with High/low cost, high/low benefit. However, intra-hour (15 min.) scheduling Order has come out. We will need to re-look at the EIM studies because they were based on a five minute redispatch. Western is already participating in Reliability Based Control field trial and Area Diversity Interchange. We need to figure out where all these other initiative are going before EIM.
- It depends on the participants and start-up costs (CaISO and SPP experienced drastically different start-up costs when establishing a market). You need to put the infrastructure in place before an EIM is feasible. Is it useful for Western to have an EIM due to its large size? Secretary Chu encouraged participation in an EIM but did not require it.
- Customers do not want to see their resources which are contractually committed to them sold into a market. There are also concerns with increased costs due to an EIM as seen in California.
- If Western were to take on an EIM on its own then this would be a dislocation with other utilities in its region. There is a fallacy in pushing Western to take on the task of

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implementing an EIM. If there is a benefit then the other balancing authorities in the interconnection would put it together.

- WECC and NREL studies are flawed and Western has made the mistake by assuming there are benefits associated with an EIM. You can't sell customer power that is already committed and become at risk for increasing costs.
- The question of implementing an EIM is similar to the ancillary service tariffs mandated when Order No. 888 was put together. There is a need to see where the imbalance is going and those who own will find a way to the market. It is an opportunity to be paid for the services that are currently being provided without compensation.
- Western needs to be cautious and go slow in implementing an EIM. Would like to see Western be deliberate and support cost concerns. Also, it would be good to see hydro as part of these imbalance markets.
- EIM could create a Western revenue by earning on services not normally paid for.
- An analysis that starts today is needed to assess the benefits of an EIM. Western and others need to do the research before moving in.
- Current EIM studies are cost based and not price based. Therefore they do not yield meaningful results.

As a final comment on increased need for coordination, one participant voiced idea to use WestTrans current functionality to share line status and generation availability, which could address communication concerns associated with the Sep. 8<sup>th</sup> blackout.

**New Transmission Authorities Breakout Session** – Introductions of stakeholders was given around the room. A summary of their comments is as follows:

The facilitator opened the discussion by providing a general overview of Sec. 1222 of EPAct 05 before going into a more detailed review of the program's processes and evaluation criteria.

**Questions:**

- Why TIP was taken off the agenda as part of the discussion.
- What was the original intent of 1222? It was established as a 3<sup>rd</sup> party funding tool to upgrade existing and create new facilities.
- Is the under utilization of the program reflective of a staffing or training issue with Western?

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- Is there a shortage of transmission in the Southwest?
- What are the benefits to Western and its customers of 1222 if the Navajo Generation is taken down or other cheaper sources are taken down?
- What's the relationship of 1222 and/or TIP to section 368 federal corridors?
- Will OMB continue to deny capital budget request?

Comments:

- It's disturbing that 1222 isn't more widely utilized.
- There were seven 1222 applications in review when the Recovery Act was introduced. All seven applicants withdrew from 1222 and applied under TIP.
- 1222 is not being used because the third party has to provide all the money. There is no monetary value to writing the check and Western owning part of the system. TIP is real and Western and DOE share in the risk. The evaluation process is important but there is no history to base it on and that makes it less attractive.
- The TBU ("Transmission business unit") staff lock into FERC 890 and state that they don't know how to handle any other type service arrangement. Staff training could be an issue with the lack of 1222 utilization.
- Finds it concerning that 65% of Western's DSW system is over 40 years old and the number of wood poles. There is a problem with financing being focused solely on customer financing.
- Section 1813 of EPAct addresses Indian Reservations. Need to talk about inter play problems.

The group was asked to comment on the current 1222 process and evaluation criteria. The eligibility requirements are set by statute and therefore were not discussed. The comment was made that since there has been no real experience with 1222 it will be necessary to start the process from scratch and there needs to be clear distinctions between TIP, 1222 and FERC Order 890. Additionally, the geographical footprint of each program needs to be clarified. The group asked for ongoing coordination, possibly a steering committee to ensure that views are going to continually be taken into consideration and ongoing feedback provided.

Process

- Improvement ideas include:
  - Treat like a bank giving financing
  - Develop a process flow diagram

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- Advise applicant of expected time lines
- Develop a responsibility chart that identifies specifically who does what and who is responsible for what decisions
- Provide clear guidelines on what constitutes a good application
- Develop early screening go / no go decision points
- Concerns:
  - Cost allocation / rate making. Uncertain what the Statute language referencing allocation of cost means.
  - Will existing customers be exposed to being allocated costs without having input into the process?
  - Those designated as potential beneficiaries should have a right to be heard.
  - Will cost shifts be addressed in the process?
  - Reference was made to prior attempts by Arizona Power Authority to provide funding to Western that was limited by the flow of funds to and from Treasury.
  - It is frustrating negotiating the nexus between WAPA, SWPA and DOE.
  - Applicants have waited two years to hear back on applications and the review process has changed multiple times. Uncertain who has authority and willingness to make decisions.
- Questions
  - What can Western do with regards to joint ownership of a system
  - Interpret the statute as it relates to joint ownership
  - Can Western jointly own an asset
  - What does the Statutes reference to 'states' mean or does Western's involvement stop at the end of its territory
  - What happens at the end of a projects life
  - What happens to the asset, etc at the end of the initial 1222 contract

#### Evaluation

- Improvement ideas included identifying:
  - Better explanation of intent behind the program
  - What are the key objectives e.g. financial viability
  - How does a customer demonstrate financial viability
  - What are the pre advance funding agreement (AFA) costs / range
  - What are the AFA costs / range

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- What happens at point of signing the agreement? And who gets what assets?
- Consider adding the benefits and impacts to both Western and its customers
- Compare evaluation criteria of 1222 to TIP evaluation criteria and use the same factors
- Concerns:
  - Concern that preference customers will have a say in a financing application in a 1222 funding agreement even when the expectation is they won't be impacted.
  - Preference customers should not be a part of the evaluation process if they are not impacted by the project, but should have a say if they are impacted.
  - Assurances are wanted that the facility isn't being built with the hope that subscribers will later come, but that customers already exist for the entire repayment period
  - Concern that evaluation of proposed projects are objective regardless of impact to Western
- Questions:
  - Will financial viability be reviewed over a period of time, such as at each stage of the process or the life of the line or will it be limited to the start up and contract periods.
  - Will people want the product? It should be that there are customers on contract to repay the cost of the project over the amortization period.
  - What is FERC's role in this? It would be the same as with Path 15 and MATL in which the rates went to FERC.
  - Would I have to do an interconnection process twice if I use 1222? What about OATT. Is there assurance that if you go one way you don't have to apply both.
- Clarify policy differences between TIP and 1222 to better define ownership and liability.
- Develop time tables for Western to process applications
- Provide some guidance on terms
  - Technical viability
  - Financial viability
- Have a public process that allows customers and other stakeholders to comment

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- TEPPC (WECC's Transmission Expansion Planning Policy Committee) is too diverse, the thinking is more Western focused
- Have active participation on planning forums like WECC, WestConnect, etc. for framing what should/should not move forward.

**Design of Transmission Services Breakout Session** - Introductions were made and select stakeholders were asked to give a brief initial statement to the group. The statements expressed the need to:

- Eliminate or curtail pancaking while ensuring that initiatives do not cause one customer group to subsidize another
- Facilitate inter-state transmission
- Hold preference customers harmless for the planned initiatives
- Recognize that sub-regional differences might inhibit a single solution
- Avoid harming the economic recovery
- Ensure the beneficiary pays

Initial statements also communicated concerns that:

- EIM might be too premature to implement at this time
- Load serving entities are already working on renewables, efficiency and electric vehicles
- Renewables might be in conflict with the water mission of certain Federal projects
- Federal generators were not designed for the wear and tear that renewables might cause
- The initiatives are a top-down process from Washington D.C.
- DOE is taking action without a clear understanding of the legal authorities
- Action may be taken before the costs and benefits are clearly understood
- The expansion of Western's mission may occur without a public process

Certain stakeholders recommended in their initial statements that:

- The Army Corp of Engineers and the Bureau of Reclamation be involved in the process
- The JOT should consider facilitating hydro-related renewables such as pumped storage
- Western survey their customers to determine what they need, where planned resources are located and how much additional transmission is needed

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- Western analyze the transmission queue and determine which projects are likely to move forward and how to facilitate those projects without harming existing customers
- Western consider how the use of valuable transmission right-of-ways can be leveraged to upgrade transmission lines

The group then decided that for the purposes of their discussions they would differentiate between preference customers and others described as “transmission customers”. These two sets of customers often have different goals and perspectives; although, it was recognized that the preference customers are also users of the transmission system.

Rather than directed discussions, the group decided to engage in open, free-form discussions which are summarized by topic below. Unless noted, the views stated below are the views of individuals and should not be assumed to be views that represent consensus or majority opinions:

- Energy efficiency and electric vehicles are being addressed by load serving entities and are not relevant to a wholesale provider like Western
- The elements of Secretary Chu’s memo are not new to the industry
- Western’s transmission system was originally built to transmit the hydro-product. As coal based generation and hydro decreases, it may be a good time to consider changes to accommodate other generation sources
  - Need to keep preference customers whole while leveraging the transmission system
  - Could consider incremental tariffs
  - There may only be a few hours in which transmission on certain paths is constrained, so need to consider tools to increase efficiency of the system
  - EIM is a big step forward and worth consideration although the benefits vary by transmission provider [EIM was tabled until later in the discussions]
  - Western could roll-up IRP information
- Western/DOE should consider lower hanging fruit, meaning less controversial initiatives that would benefit the transmission system
- The generating agencies should be involved in this process

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- Western needs to look at the variable energy rule(s) (VERs) established under FERC Order 764 and consider how that will be implemented
- The Federal projects are already too constrained by hydrology and environmental concerns to provide much support to renewables
- Expansion of Western:
  - Need to consider whether it has sufficient legal authority to engage in these initiatives, specifically, can the Federal projects be used to benefit the open market or must they be used for the preference customers
  - An expansion may require new legislation
  - Need to consider how far Western can go without shifting costs to existing customers or needing new legislation
- Western/DOE could also consider dynamically scheduling wind, dynamic line ratings, and consolidation of Western's 3 BA's
- BA Consolidation:
  - Concern for the preference customers because Western's power systems are separate and distinct
  - Might save money but would require study work
  - Physical limitations between the BA's might limit consolidation benefits
- This process is moving too quickly – determining Western's role in the future of the industry during a three or four hour meeting is not realistic.
- Western is already in sync with the electrical industry and has continually changed to be responsive to FERC Orders
  - Need to consider why Western should be an industry leader when so much of the change is driven by FERC
  - Need to recognize that if Western pushes the industry's boundaries, they may be challenged
- Western should survey their customers to determine what services are needed and to better understand the needs of preference and transmission customers

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- The interconnection process could be streamlined to be less burdensome
- It may be beneficial to inventory Western's right-of-way and look for opportunities for new generation – similar to the Bureau's efforts
- Funding:
  - The entire group agreed that Western needs more funding and that DOE should work on that problem
  - OMB wants more customer funding, but that funding should only be used for items applicable to preference customers
  - There is a disconnect between OMB and DOE in regard to funding needs
  - DOE needs to provide funding for the initiatives – the last Glenn Canyon EIS was \$120 million so study work could be costly
  - SAIC is being funded by DOE, Aspen is being funded by Western
  - The JOT should identify the funding source to be used for each initiative it recommends
- Pancaking:
  - Not sure how to solve without an RTO
  - Westconnect price experiment for un-pancaking non-firm transmission has been unsuccessful
  - To eliminate pancaking, Western should consider accepting a lower transmission charge for unused transmission capacity – some revenue is better than none
  - Revenue shortfalls from un-pancaking would be the responsibility of preference customers and a lesser charge appears to violate the principle that the beneficiary pays
  - DSW previously investigated un-pancaking but the customers found the cost shifts unacceptable. DSW has not revisited un-pancaking, but Western as a whole has.
  - Pancaking is not a problem that affects most preference customers
  - Western does not have a statutory prohibition for combining project rates; however, the projects must still be kept financially separate
  - The Intertie was a project that had two rates combined and it resulted in a significant rate increase - preference customers are sensitive to changes in rates
  - Western offer discounts like other transmission providers, but those discounts would be applicable to all service on the discounted path

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- The use of public dollars for these initiatives will also produce ancillary economic benefits. It was pointed out that PMA spending is repaid with interest by the customers so they are not truly public dollars.
- Western could consider using the IRP's to determine where load growth will occur. It was pointed out that Western does not build for load growth and that IRP's do not list the location of generation sources.
- ED5-Palo Verde Hub:
  - Western has used a “facilities use charge” mechanism to ensure the beneficiary pays
  - This may be a model for other initiatives although it was unique to TIP funding
- EIM:
  - The benefits of EIM must be considered instead of just focusing on the costs
  - Preference customers are ultimately responsible for the costs incurred by the projects
  - Recent cost/benefit studies are skewed because they have not considered the start-up costs of EIM
  - EIM is voluntary; however, some are concerned that it is the first step toward mandatory participation in an RTO. Others felt EIM terms and conditions could mitigate that concern.
  - Need to consider if EIM and Order 764 are mutually exclusive

**Plenary Session** - Upon completion of the breakout sessions, the stakeholders were regrouped with a few representatives from each breakout session giving a summary of the major issues they discussed.

**Electric System Planning and Operations** – Three representatives summarized discussion on Planning, Operations, and Cost impacts:

- Planning – There was more agreement and disagreement in these discussions. Coordinated planning is needed and is happening. Western is doing a good job. As to the question of whether Western should be getting involved in lower level distribution planning topics, there is some disagreement. There is an expectation that Western will come to Tribes to negotiate issues and there are many cultural barriers that impede this

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from happening. There is a large agreement that beneficiaries should bear the cost for any new implementations.

- Operations – The group had some difficulty separating the issue of control center consolidation verse balancing authority consolidation. There is more or less an agreement that the (DSW/RMR) control center consolidation is a good idea although a few concerns do exist such as having adequate staff redundancy, customer service, and loss of a local view. Overall there the theme was that there should not be monumental changes in Western’s operations. Western should improve (all other utilities should improve too) in the coordination of operations with other utilities. There was quite a bit of disagreement as to whether Western balancing authorities should become one.
- Cost Impacts – There is a large agreement that the beneficiary must pay. With respect to an EIM, there is much disagreement but many suggest that Western should be involved in an EIM. The cost/benefit analysis of an EIM needs to look at topology and needs a better determination of granularity. More debate is needed on this topic. A methodology for an EIM study needs to be better defined – many analyses used cost based dispatching in their study, but what happens when you go to a market based dispatching scenario? The EIM studies need more transparency, and perhaps existing study results can be used as a basis for new studies.

Comments received from the audience included a statement that the NREL study on an EIM was published today, and it indicates that an EIM would save APS customers roughly \$250 million alone – at what point do you stop studying an EIM and decide to move forward to implement? There was some debate as to whether these would be the actual benefits of an EIM. The presenters responded that some tools are already in place today such as the ACE Diversity Equation and more incremental changes are needed rather than a full blown implementation all at once. There are additional complications such as the need to move to a flow based (rather than contract path) approach before moving to an EIM. These complications will need to be worked out. Several participants questioned what resources Western is legally allowed to input into an EIM.

Design of Transmission Services – The group reported that they found disconnect on certain issues but found a lot of commonality in smaller issues. It is important to recognize that Western has preference customers and transmission customers. Western needs to communicate with both of them and get their input on how Western will implement FERC mandates (opposed to a top-down approach). Most participants don’t want Western to take part in integrated resources or electric vehicles. There is, however, a role for Western to take part in coordination with OMB to realize the need for investment in transmission. Western and DOE cannot jump into the conclusion that transmission needs to be built. Western should look at ways to incrementally

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build on what is already there. The group talked about reducing rate pancaking outside and inside of Western and they think Western should consider the issue further. ED5-PV is an example of how existing rules helps to get projects financed and built without going back to congress. The group discussed Order No. 764 on VERs and how to implement the mandates. There is much dissent on an EIM and the group feels that generator representatives really need to be in the room for an adequate discussion of an EIM. It is very important to get the generators involved. The group believes that Western should focus on the low hanging fruit and issues that can be accomplished in the short term.

New Transmission Authorities – The group talked extensively about Sec. 1222 of EPAct. The TIP program is a better business model that Sec. 1222 and was talked about because it goes hand-in-hand even though it was not explicit in the Chu memo. TIP does not have enough money. Western and SWPA do not have experience with sec. 1222 and the statue leads to ambiguity and confusion. Customers have a role to play under sec. 1222 and it was brought up whether the standards for sec. 1222 should be the same as TIP. The group talked about different cases. There is a learning curve to be applied to sec. 1222. Order No. 764 creates uncertainty. It is hard to define 1222 and TIP processes. The big difference between the two programs is that TIP is real money whereas sec. 1222 is a check written to Western so they have funds to participate in the project development. No sec. 1222 processes are complete and stakeholders need to see who runs the process. It relies heavily on financing and contributed funds when most participants have not had experience in financing. The group also indicated that the big concern of sec 1222 is that the secretary can allocate costs of new projects to entities that receive system benefits - where is the due process?

**Closing Remarks** – Closing remarks reiterated that the outcome and discussion of the workshop will be posted on the JOT webpage. A separate wrap-up webinar for the Tribes will be conducted. Western is accepting comments through August 17<sup>th</sup> and they can be submitted to the email address [JOT@wapa.gov](mailto:JOT@wapa.gov). The JOT will not start to draft the report before all the comments are submitted. Participant list (with affiliations and emails) of today's workshop can be emailed out to all participants in attendance.