Transmission Operations and Planning Working Group Flip Charts, UGP session in Sioux Falls

Speaker statements and open discussion to set the Agenda

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Txm Operations and Planning

- Legal authority
- Impose costs without benefits
- Uncertainty
- Incentive in conflict w cost-based rates
- System not dilapidated/unreliable
- EIM details matter
- OATT rules, confidentiality
- Lead via working with neighbors
- Renewables
- Reliability/security
- Congestion?
- Regional planning
- Robust

2

- Supportive but cost concerned
- Lack of transmission
- Renewable potential for export
- Beneficiary pays
- IS works well
- Avoid cost shifts

- Help tribes with OATT, GI
- DOE support capital budget and O&M needs
- Continue regional collaboration locally
- Get specific
 - o Promote non-carbon based energy

- o Flexible, responsive robust grid
- Clarify hydro as base, peak, "supplemental"
- Funding to pay for plans
- o Corps of engineers and Bureau of Reclamation manage river
- o (Tribal) Trust responsibilities Art. 11 §6

4

- Energy storage capabilities and use of existing PS
- Reliable, low cost power supports ED and renewables
- PTC uncertainty

Sioux Falls TOPS Agenda based on Above Discussion

5

- 1. Why are we here?
- 2. Is more transmission needed? If "Yes", what's missing? What can Western and DOE do?
- 3. Optimizing use of existing system
 - a. EIM

Sioux Falls TOPS Key Ideas

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- 1. Diesel Generator (Rice Rule)
 - a. Em. Control Eq. (50 hrs./year)
 - b. 100 hr. for emergency
 - c. Lose revs, have to replace with other resources
 - d. Regional deference

7

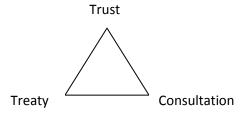
- 2. Water Heater
 - a. >55 outlawed in 2015
 - b. Replace with heat pump or heater
 - c. Load management
 - d. Minimize load, have a load at night

- 3. Transmission Funding Support from DOE
 - a. Non-reimbursable funds, projects

- b. engage broader stakeholder
- c. DOE lobby Congress for full appropriation
- 4. DOE get full appropriation for Western's core mission first
- 5. DOE support funding for incremental activities

9

6. Help tribes and others to get into the queue (help in navigating tariff process; Western and utilities; consultation process and treaty-government-to-government relationship)



10

7. Tribes would like to provide supplemental power; utilities take exception, not role of DOE. (disagreement over "cost"; would like to hold customers harmless -- National Energy Policy should support "highway system" concept. (Ag should help with co-op cost impact)

11

- 8. National Energy Policy should be clear
 - a. Clarify LT costs (including carbon cost)
 - b. Government fund to develop national grid if Energy Policy requires grid expansion
 - c. beneficiary/user pays
 - d. Western customers held harmless

12

e. Definition of beneficiary and definition of benefits and definition of costs complicated and views vary

13

9. Externalized costs should be included, "do no harm" should apply broadly. Address harm and do no further harm (disagreement)

- 10. Secretary memo, (should) identify gaps first then address
 - a. Many objectives are being met by Western and customers in UGP region

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- 11. Low cost and high reliability of service to customers should be paramount
- 12. Long-term planning
 - a. 7 generations ahead is Tribal view
 - b. carbon cost incorporated (range of \$0/ton to >\$100/ton (of CO2 emissions))
 - c. 10-year transmission plan, 50-year life cycle

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13. DOE Western responsibilities should be consistent with their legal authority

Transmission Operations and Planning Notes, UGP session in Sioux Falls

Transmission Operations and Planning breakout session:

WAPA has narrow role. Lowest possible rate/sound business practices, don't want WAPA to be a test bed, Don't blur responsibilities.

Western has facilitated significant wind development; Western treats all transmission customers appropriately. A lot of confidentiality can be frustrating, Western staff well respected and works well with customers, a lot of people want transmission, a lot of uses.

Western cost conscience of serving load.

Just want to pay for transmission that its Utility uses

Grateful for Process, new wind is cost effective.

Beneficiary should pay, find ways to improve process (transmission)

No problem with reliability, willing to pay for transmission that benefits however don't want to pay for others benefits (Minneapolis/Chicago)

Why are we here? Can DOE define modernizing?

What is the 21st grid? Will Western lead or respond to changes?

What is the overall policy? With all the regulations on distributed (diesel) generation.

Western doing what should be done, great partnerships that are working well.

Example given by participant of Western working with customer to bring 120 MW wind generation facility on line.

Another participant provided example of Western assisting customer with wind integration situation, tools to assist customers are there.

Don't feel the Tribes are getting a fair opportunity to get on the queue. Could have more assistance. Transmission easements are expiring on NA lands.

Would have been better if the Chu letter would have recognized/asked for input should not come from the top down.

DOE needs to work with Congress to fund current transmission program.

Need specifics, (Chu letter).

Carbon taxes are coming, WAPA supplemental power purchases need to be looked at.

What is DOE doing to secure funding?

Article 11 of 1868 Treaty was highlighted and the Treaty was given to the meeting facilitators.

Statement made that everyone in room would be hurt if renewable Production Tax Credits were not extended.

SPP energy imbalance market works well, produces substantial savings.

Supports 15 minute dispatch. Western bill crediting (end of month) may not work in weekly settlement markets.

National Energy policy needed.

DOE needs to lobby Congress for traditional support.

If you build they will come, be careful of what you ask.

Wants Congress to fund capital improvements instead of customers.

(Tribes) Could/Should get help from local utilities. Utility stated they would not get involved unless they have economic involvement in project.

Would take an exception to Western having to (mandate) purchase supplemental power from others/Tribes.

Tribes looking for ways to hold local providers harmless yet sell power locally/regionally.

Appreciate Tribes being sensitive to costs shifts.

A lot of discussion of beneficiary pays and user pays.

Many objections to Chu memos in this region.

Cost and reliability are both paramount.

Tribes want actions to consider 7 generations (considered approx 140 years).

Design of Transmission Services Working Group Flip Charts, UGP session in Sioux Falls

Slide 1

Design of Transmission Services Agenda

- DOE and Western Process
- Integration of VERS
- Rate Pancaking
- EV, EE and DR

Slide 2

DOE and Western Process

- Western is in the process continually of modernizing its grid
- Do no harm
- Consolidation of transmission systems is complicated and may cause problems
- Upper Great Plains IS (Integrated System) from JTS working well OATT in use
- Hold cost down for customers

Slide 3

(DOE and Western Process cont.)

- How many of system enhancements would go away if items in memo were implemented?
- Western customers should determine if enhancements are beneficial (Joint Planning)
- Upper Great Plains Region and the IS partners are currently evaluating joining ISO or RTO
- Each has its own perspective
- Western participants informing DOE of ongoing activities

Slide 4

(DOE and Western Process cont.)

- Changes need to make sense for each region, not Western wide
- DOE should recognize existing processes

- Look at unique aspects of each region and <u>subregion</u>¹
- Grid here is working but incremental improvement should continue
- Wholesale change out is not required.

Slide 5

(DOE and Western Process cont.)

- Required changes are happening already
 - Wind integration examples
- Can there be low cost options for using existing system with FERC filed OATT? Not sure this is allowed
- Continue to be proactive to address longer term issues
- WAPA Transmission system was built to serve WAPA load, WAPA is not obligated to cover load growth, we are not total requirements providers for our customers. This is not the same as BPA. We have customers with CO-suppliers and the CO-Suppliers are obligated to meet load growth for the customer.
- Design of Electrical systems:
 - Queue volume and actual need disparate
 - Add transmission needed to serve load only

Slide 6

(DOE and Western Process cont.)

- Funding issues for Western
 - o Funding needs to be there.

Slide 7

Integration of VERS

- Generation needs to follow load
- There is a process in place (FERC regulated) for integrating VERS Built in beneficiary pays
- Not appropriate to develop a transmission rate that favors one type of generation over another
- Rates shouldn't be punitive to one type of generator they are FERC filed and everyone gets the same OATT charges in UGP

Slide 8

¹ Underlined to add emphasis

(Integration of VERS cont.)

- Cost causation principles in place make sense, but can changes be made to make system more efficient
- Changes should optimize system for low cost integration
- This region is the lowest cost region in country
 - o Concern that PMA initiatives will increase cost was repeatedly stressed
- Strange topic for DOE
 - o Already have renewable energy mandates by the states, why is DOE involved now?

Slide 9

(Integration of VERS cont.)

- Makes sense to look @ resources that don't have fuel cost
- Renewable Energy and supporting production tax credit subject to risk
- Many resources including conventional are subsidized
- Diversity required what needs to happen to grid?
- Already doing a decent job of integrating resources on the grid in the UGP region

Slide 10

(Integration of VERS cont.)

- Seems like there are ways to improve efficiency
 - o Greater use of transmission for non-firm sales, firm may be harder to ensure
 - o Process to take advantage of efficiencies are in place today
- FERC process changing to address efficiencies e.g. FERC Orders 764 and 1000.
 - o VERS participants were unfamiliar with WAPA OATT that is filed with FERC

Slide 11

Rate Pancaking

- WAPA Integrated System (I.S.)
- There will still be seams issues at and ISO
- Remove pancake shifts cost
- There will be a rate pancaking issue at some level
- Rate pancaking within system or at seams.

Slide 12

(Rate Pancaking cont.)

- Rate pancaking defined as region to region?
- Upper Great Plains region is primarily on the east side of the east/west interconnection. UGP is connected, but through east west ties
- Reducing pancaking should be considered in regions where it makes sense
- Cost and benefits need to be assessed.

<u>Slide 13</u>

(Rate Pancaking cont.)

- Rate pancaking solutions should consider all parts of the region
- Formal rate process required for addressing rate pancaking
- What is the definition of region for rate pancaking evaluation, how big or small is the area we are trying to minimize pancaking on?
- MAPP-POET (Mid Continent Area Power Pool was the precursor to the MISO for this region. They did regional planning for transmission that WAPA and the customers in this area participated in)

Slide 14

EE, EV, DR

- Not a lot here for DOE, WAPA
- Utility controlled water heaters should support this type of DR
- Demand response –strength of utilities in region
- Already doing a lot of DR and EE
- Applicable in total requirements situation

Slide 15

(EE, EV, DR cont.)

- Like to see money restored for EE
- EV- at distribution level
- The no build option is an option
- Not applicable in rural areas need to plug in day and night

Design of Transmission Services Group Notes, UGP session in Sioux Falls

Joint Outreach Meeting - Sioux Falls, SD

August 2, 2012

Introductory Statements:

Speaker 1

Do no harm

Beneficiary pays for incremental infrastructure costs (do not socialize)

Much of March 16th memo is more appropriate at the distribution level, not wholesale transmission levels.

Speaker 2

They are concerned with Chu memo.

Why does DOE presume that our grid here in UGP is deficient with respect to needs of the 21st century?

It appears to move Western outside their congressionally authorized legal authority.

It adds additional existing customer cost without adding any benefit to them.

OATT already has provisions (Energy/Generator Imbalance) in tariff for intermittent resources.

Do no harm. DOE needs to follow beneficiary pays rule.

It would be more economical to build intermittent resources nearer the load.

"Local solutions to local problems", not a top down approach.

Electric Vehicles: An example of how WAPA should not be involved. This is a distribution issue – not a transmission issue.

Speaker 3:

Variable resources are a cost to the system, and owners of the variable resources should bear cost.

Retail level are better able to serve consumer conservation efforts

Electric vehicles and infrastructure do not make sense in rural areas.

Speaker 4:

Grid is evolving on how it deals with all generation.

Maximize reliability by building in consistently higher wind areas.

Need more intra-hour scheduling capability.

Like to see that we are joining RTO.

DOE and the Western Process:

Western has been continually upgrading the IS System, not sure where Chu/DOE is getting their perspective.

Basin, HCPD, and WAPA (Reclamation) have been partners in the development of the JTS and eventually the IS dating back to 1963. FERC 888 brought about the IS and OATT. Not something that happened overnight. Now DOE is stepping into the scene proposing changes.

Decisions about IS changes are made by unanimous decisions of the owners for benefit of customers. WAPA is but a piece of this.

Participant: Is WAPA's planning to join and RTO being coordinated with DOE?

Participant: Need to respect the geography of the regions, they are not homogenous. Our grid serves fewer people over a much larger area. Need to consider demographic impacts of system changes on current customers.

Participant: Enhance system with changes that are appropriate for the specific region needs.

SW Minnesota: IS has evolved incrementally over the years..ie Lakeville Junction to Sioux Falls Incremental, gradual change over time to fit regional needs.

Participant: Industry is moving away from large centralized generation to a more regional generation.

Customer: We are concerned with reliably serving our local customer load, while wind developers are concerned with marketing resources.

Using Western's resources to balance intermittent resources takes away from East River's demand side management advantages and their investment in them.

Local coops have invested heavily in system improvements for reliability..three times what the government has invested.

Customer: There is 45,000 MW in the transmission queue in MISO, far more than necessary to meet the state's RPS requirements ... too much wind

Integrating Variable Resources

Customer: Reminder that the basic concept has always been that "generation follows load".

This has been the problem for wind integration.

OATT allows for requests for transmission access ... it allows access to all resources on a nondiscriminatory basis. Requires that beneficiary pays.

Customer: Tariff should not favor one generation resource over another.

Developer: Do not want the tariff/requirements to be overly punitive.

Stated that wind can follow a signal.

Participant: Asked if there is a way of operating the IS system to obtain the lowest cost possible. He said there may be at times 500-1000 MW of unused transmission across the MISO/WAUE seam?? Customer disagreed with this assertion.

Customer: Refuted Developer's statement on wind following a signal. Wind was not dispatchable in that it could only be dispatch down to zero. On the hottest day in June only six per cent of wind was available to serve the load. When a customer asked the Deer Creek operator if the plant was to serve base load, the operator said that it was there to "chase wind".

Developer: Upset with the statement that we needed to build peaking resources to balance wind. Called this as "misinformation" that was being put out. Customers/utilities disagreed with this statement.

Customers: We are among the lowest cost regions in terms of electric prices. When we hear that improvements, joining RTO, etc will lower costs, this creates skepticism.

Customer: We already have a RPS mandate of 25%. Why is the DOE going down this road when we are already doing renewable integration.

Participant: It makes sense to look at resources that do not have a fuel cost.

Customer: If we have to build additional capacity to accommodate renewables – who pays for this incremental cost? FERC 890 provides for transmission studies to make the most efficient use of our transmission system. There are alternatives such as dynamic scheduling and pseudo ties.

Rate Pancaking:

Western has a postage stamp transmission rate. If you are on the WAUE System there is no rate pancaking. It only occurs when you cross multiple systems.

Western compensates 1 mil/kwh for those off WAUE or getting their own transmission.

Those who have rate pancaking are using more than one system and are benefiting from this.

If Western goes to MISO/SPP there will still be rate pancaking regardless.

If you drop this type of transmission charge, you will be shifting the cost burden away from the beneficiary of the transmission.

Since Western's footprint is so large it does not make sense to have one transmission rate..need to look at rate setting from a regional perspective.

Customer from MN: UPG Region needs to decide on an RTO market first (SPP or MISO) and then work on transmission rates. Make the macro decision first and then work on the micro decisions.

Customer: Need regional solutions to regional problems when it comes to cost allocations.

Customer: When this transmission rate comes decision making, this should be a formal rule-making process so East River has input.

Pancake rates are a substantial cost to Munis inside MISO. Joining MISO would increase the size of the balancing area.

DOE should be following congressionally authorized purposes for each project.

Top-down approach is not necessarily the best for owners decision-making process.

Energy Efficiency, Electric Vehicles:

Customer: Since 1985 Customer has spent \$40 million in energy efficiency program and \$30 million in energy efficiency loans. This is not an area of concern at the transmission level. It is distribution level function.

Large volume, energy efficient water heaters have made a significant contribution to demand response and grid efficiency. Diverting resources over to electric vehicles pull these resources from these and other proven programs.

Customer: Apparently DOE does not have a good grasp of what we have been doing in the areas of energy efficiency and demand response. Western is a wholesale power supplier and its deliveries are not impacted by energy efficiency and demand response measures. Co-supplier deliveries to customers are directly affected by these measures. It this is level where these decisions should be made and not a top-down approach from Washington.

Tribal Comment: DOE support for energy efficiency programs should be restored.

Customer: We have to answer directly to the customer on what we are doing to keep our costs down, not DOE. These programs to add costs rather than reduce them.

Customer: Perhaps the best option would be to "Do Nothing".

New Transmission Authorities Working Group Flip Charts, UGP Session in Sioux Falls

1

ROADMAP

- About 21222
 - PMA can accept third-party funds to "design, develop, construct, operate, maintain or own."
- Current process + process wish list
- Evaluation criteria
- Concerns and recommendations

2

EVALUATION

- 1. Whether P is in public interest
 - a. Tribal consultation → extra credit?
 - b. Efficiency
 - c. Pref. customers
- 2. Facilitate reliable delivery of [renewable] power
- 3. Benefits and impacts in each state include economic and environmental
- 4. Technical viability
- 5. Financial viability of project

- 1. Public Interest
 - a. What is evaluated?
 - b. Tribes extra credit?
 - c. Customers extra credit?
 - d. If no regional planning = not public interest
- * regional/10 yr. planning necessary make a requirement
 - 2. Renewables
 - a. Not in statute
 - b. May unnecessarily limit statute
 - c. How broad is 'facilitate'
 - d. What is renewable? Large hydro? Existing UPGRADES to hydro?

- e. Consideration for state defn?
- f. How good facilitation? AC facilitates more projects than DC

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- 3. Benefits and impacts in each state include economic and environmental
 - a. Focus on electricity not policy
 - b. Need identified benefits in each state
 - c. Look at local environmental goals and policy, not national
 - d. Require identification of likely environmental impacts (not wait until NEPA) + native cultural 106

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- 4. Technical viability
 - a. Current system
 - b. Siting conflicts
 - i. Purchase of all aerial rights?
 - c. System demands
 - i. Ancillary and regulation
- 5. Financial viability of P
 - a. <u>Do</u> need to consider because ultimately it will be a project with real costs and risks (*project + applicant)
 - b. Concern with fly-by-night
 - i. Prepay good idea
 - c. Ensure due diligence

6

CONCERNS & RECOMMENDATIONS

- Consistent with vs. coordination
 - Address via evaluation?
- Concern of insulating customers
 - Not 100% funding required by third party
 - No customer feedback
- Public interest certification?
 - o Challengeable?
- Tribal consultation
 - UNDRIP indigenous peoples consultation
- Is this needed??
 - o Risks compromising Western's mission and tradition
 - Already being done by other entities → RUS, utilities

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CONCERNS 2

- DC lines contrary
- #1 ensure no harm to Western's traditional ROLE
- As Western's costs go up → rates
- * require coordination or participation in regional planning (more than just 'consistent with' a2a b2a)
- * required by Order 1000
 - No benefits to PMA region
 - Utilities do it anyway not concerned with making \$

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CONCERNS 2

- * < Multiple agree > If no cap, risk turning Western into A&E firm (away from core mission)
- * Not enough staff if many projects
 - If staff up and demand down then staff cost eventually rolls to customers (e.g. DSW CRSP trust work fluctuations)
 - FERC draft policy statement
- * need to coordinate re: merchants + regional planning
 - Customers think no need for 21222

9

OTHER REQUIREMENTS + EVALUATION IDEAS

- What is required per service?
 - Upgraders already talked to WAPA
 - o PUC certifications/permits
- EVAL #6 benefit to PMA + its customers and their consumers

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OTHER REQUIREMENTS + EVALUATION IDEAS

- Customer consultation because possible cost allocation
 - + tribal consultation

New Transmission Authorities Notes, UGP session in Sioux Falls

Discussion began with discussion of Evaluation Criteria.

The following notes attempt to depict statements made by participants in the working group, and do not necessarily represent fact.

- In criterion #2, what does the word "consistent" mean? Does it mean "coordinated"?
- Under 1222, money may come from Western, depending on, for example, the use of a shared line. In such case, money may be expended without the feedback of Western's customers.
- Who defines "public interest" at any given time. Is the determination of "public interest" subject to challenge? Is it certifiable?
- How is "public interest" determined. What is the basis? Is it founded on need?
- How does 1222 incorporate public interest and tribal concerns? Is there a process for tribal consultation?
- The C&RE program "went away" in the mid-1990s. Why did it end?
- Western's Energy Services Program, including its Equipment Loan Program, would appear to be an extension of the C&RE program.
- Some co-suppliers provide energy services for end-use customers.
- End-use energy service programs impact the sales of the co-supplier, not Western. Therefore, those programs should be funded by the co-supplier, not Western.
- The intent of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) may be to affect decisions and actions pertaining to tribal lands.
- What is 1222 attempting to accomplish? Why are we here discussing 1222?
- Western's Transmission Infrastructure Program is a mechanism used by third-party developers to achieve the effective exercise of eminent domain. Power Marketing Administrations (PMA) are being used by third-parties to achieve projects which utilities would not otherwise undertake.
- When third-party developers couple with a PMA to accomplish projects which utilities would
 otherwise not, they're doing so outside of regional planning processes and, thus, are outside of the
 public interest.
- Would new transmission capacity developed pursuant to 1222 be priced according to its own tariff?
- Is it possible to have multiple tariffs for a single line?
- If a third-party is involved in development of transmission under 1222, does the third-party pay Western to design and build a line; are capacity rights divided; are benefits shared?
- The practical effect of criterion #2 appears to be the de facto elevation of renewable resources beyond the threshold of "in the public interest."

- Is there statutory authority for the specification of renewables under 1222?
- What does "facilitate" mean? Is there a limit to the extent of "facilitate"?
- There have been no non-renewable projects approved.
- Typically, by state law, large hydropower generation is not considered a renewable resource.
- Direct Current (DC) lines generally prove unbeneficial to prospective renewable resources because
 DC lines are difficult and expensive to interconnect with. DC lines tend to be singular in purpose and exclusive.
- Should "a line be drawn" to limit the involvement of Western in 1222 projects? Should a "do no harm" criterion be added to this process?
- The minutes should state that projects should not adversely affect Western or impede Western from executing its statutory role.
- Western should focus on its role and not interfere with other state or federal programs.
- What "need" is 1222 actually intended to satisfy?
- 1222 projects create a risk to existing firm power customers via potential impacts to deliveries and increased costs.
- First and foremost, the statutory mission of Western should be preserved.
- The federal government, through Western, should mandate and regulate state building codes.
- What are the requirements of 1222 projects? Do the requirements appear to vary by the type of project, e.g. new versus upgrade?
- "Applicants" should be compelled to participate in regional planning processes, which should include state regulators.
- Project criteria should differentiate between national and local impacts. National policy should not preclude exceptions necessitated by local impacts.
- The evaluation criteria should be amended to include a requirement that 1222 projects must benefit the PMA and its customers, whether the project is new transmission capacity or an upgrade.
- The evaluation criteria should be amended to include a requirement that environmental and cultural impacts of 1222 projects be identified.
- Exclusive rights obtained by third-party developers often restrict the use of land and result in siting conflicts.
- The Department of Energy is attempting to hijack Western.
- Third-party developers are in business to profit from energy prices and tax credits. Public utilities are normally responsible to complete projects that are in the "public interest".
- Most, if not all, third-party developers pursue singular purpose projects for profit.
- FERC is biased toward renewable merchant projects.
- The impact of capped or uncapped spending under 1222 is very significant and troublesome. If spending is unlimited after 2015, the results to Western would be disastrous because Western lacks

the staff to undertake multiple, additional projects, and lacks the flexibility to adapt staffing to inevitable fluctuations of workload.

- Western would simply become an architecture and engineering firm.
- 1222 has let the "camel's nose under the tent", therefore, strong lines of demarcation are needed to prevent Western from expanding into private sector business.
- Western customers believe 1222 is neither needed nor viable.