

**RTO West Stage 2 Development Process
Planning and Expansion Content Group**

February 5, 2001 Working Document

Calendar

February 20	9:00 to Noon (PST)	Meeting of Market Driven Mechanism Small Content Group	PDX Conference Center Columbia Room
February 20	1:00 to 4:00 (PST)	Meeting of Backstop/Transmission Adequacy Small Content Group	PDX Conference Center Columbia Room
February 28	10:00 to 4:00 (PST)	Planning Content Group Tentative Agenda: <ul style="list-style-type: none"> ✓ Confirm Common Understanding of Stage 1 Decisions ✓ Further Discussion Regarding Scope of Stage 2 Discussions ✓ Report/Recommendations from Market Driven Expansion Mechanism Small Content Group ✓ Report/Recommendations from Backstop/Trans. Ad. Standard Small Content Group ✓ Preliminary Discussion of Allocation Approaches ✓ Preliminary Discussion Regarding Criteria Regarding Initial Transfer Capability <ul style="list-style-type: none"> ○ Exceptions ○ Possible Application of Criteria 	RTO West Conference Room Kingstad Center
March 14	10:00 to 4:00 (PST)	Planning Content Group	RTO West Conference Room Kingstad Center
March 28	10:00 to 4:00 (PST)	Planning Content Group	RTO West Conference Room Kingstad Center
April 11	10:00 to 4:00 (PST)	Planning Content Group	RTO West Conference Room Kingstad Center

Assignments from 2/1 Meeting

Responsible Person	Task	Status
Kristi Wallis	Find out from Filing Utilities the extent to which they intended to deviate (if at all) from the Stage 1 planning appendix in the TOA	
<p>Market Driven Expansion Mechanism Small Content Group</p> <p>(Aleka Scott, Brian Gedrich, Chris Reese, Kurt Granat, Jim Tucker, Rich Bayless, Marv Landauer, Scott Kinney, Ken Morris, Don Gillespie, Ray Brush, Steve Walton)</p>	<ul style="list-style-type: none"> ✓ Develop list of needed information (for example, from Congestion Model Content Group – what will be the threshold for the uplift charge, how will it be collected (zonal versus peanut buttered)). ✓ Analyze relevant issues, develop strawdog proposals, prepare briefing materials and recommendations regarding market driven expansion mechanism for consideration by Planning Content Group. 	Meets February 20
<p>Backstop/Transmission Adequacy Standards Small Content Group</p> <p>(Phil Carver, Ray Brush, Ken Morris, Don Gillespie, Scott Waples or Scott Kinney, Kathy Carlson, Don Brookhyser, Marv Landauer, Jim Tucker, Brian Gedrich, Aleka Scott, Hardev Juj, Chris Reese)</p> <p>Subissue of Local Control or Differences: (Phil Carver, Don Gillespie, Aleka Scott, Jim Tucker)</p>	<ul style="list-style-type: none"> ✓ Develop examples and run through scenarios to illustrate the difference between load service and congestion relief (keeping the lights on versus economics). ✓ Identify what is currently done for “adequacy” purposes. ✓ Analyze relevant issues, develop strawdog proposals, prepare briefing materials and recommendations regarding backstop/transmission adequacy standards for consideration by Planning Content Group. ✓ Focus might end up on general grid standards, but attention needs to be paid to local control or differences. 	Meets February 20
<p>Allocation Small Content Group</p> <p>(Chris Reese, Kurt Conger, Kurt Granat, Aleka Scott, Marv Landauer, Ken Morris, Scott Waples)</p>	<ul style="list-style-type: none"> ✓ Analyze examples of allocation methodologies (PJM, NEPOOL). ✓ Identify range of options. ✓ Analyze relevant issues, develop strawdog proposals, prepare briefing materials and recommendations regarding allocation for consideration by the Planning Content Group 	No activity scheduled yet

I. Stage 1 Decisions

(The following matrix was developed at the 1/31/01 Planning Content Group Meeting and reflects the attendees' understanding of the Stage 1 planning and expansion decisions.)

Planning Stages	Responsible Entity
Needs Planning (Status Analysis/System Perspective)	<p>Overall System – RTO Specific Needs – PTO/LSE*</p> <p>The RTO has overall responsibility for planning and expansion of the RTO system. PTO(s) will be asked to plan for specific requests in open processes, and will provide results to the RTO. The RTO will double-check the submitted analyses and disseminate the information to the market. (The RTO has the discretion to move the planning analysis to the RTO staff if it finds there are issues with having PTOs continue to plan for specific requests.)</p>
<p>Identifying Alternatives</p> <ul style="list-style-type: none"> ✓ Transmission and Non-transmission ✓ Engineering Component (viability/costs) 	<p>Overall System – RTO Specific Needs – PTO/LSE (Although some overlap)</p> <p>There will be open processes with broad participation of interested parties.</p>
<p>System Studies to Match “Tool Box” of Planning Alternatives to Needs</p> <ul style="list-style-type: none"> ✓ Sequencing of Alternatives ✓ Plan to be Implemented Over Time 	<p>Overall System – RTO Specific Needs – PTO/LSE (Although some overlap)</p> <p>Decision-Making Authority:</p> <ul style="list-style-type: none"> ✓ Congestion Relief (Project Sponsor) ✓ Load Service/“Lights On” (PTO decides when to build if customer willing to pay/RTO Backstop)
Jurisdictional/Regulatory Phase (Advocates Need)	Project Sponsor with appropriate involvement of RTO (could depend upon purpose of project – expansion [primarily project sponsor] or load service [RTO fairly involved])
Construction	<p>First Option – PTO Second Option – Outside Bids</p>

*Phil Carver requested that the content group recognize the distinction between Participating Transmission Owners (“PTO”) and load service entities (“LSE”). While a PTO might also be a LSE, in the future there will also be PTOs that do not have any load serving obligations and will be a different type of entity than today’s PTOs with different incentives.

The following matrix illustrates another way to look at the Stage 1 decisions – who pays for expansion.

<p align="center">Recovered from Load Through Inclusion in Company Rate (Just what load pays is decision of PTO’s rate case – direct assignment is still an option)</p>	<p align="center">Project Sponsor Bears Cost (Not Recovered through Company Rate even if Project Sponsor is a Transmission Customer)</p>
<p>PTO decision to upgrade/expand/build its facilities</p> <ul style="list-style-type: none"> ✓ Obligatory Expansion to Meet Service Request/Transmission Adequacy <ul style="list-style-type: none"> ○ If PTO fails to build, RTO can compel construction through backstop mechanism, recover costs through PTO’s Company Rate ✓ Prudent Expansion as Part of Overall Plan 	<p>Congestion Relief</p>

(See Attachment 1, Appendix from 10/23/00 filing, for a narrative description of the Stage 1 planning and expansion decisions.)

II. Planning Needs

(The Planning Content Group at its 2/1 Meeting identified the following needs):

- A. Being able to get siting and other regulatory approval for expansion;
- B. Interim process for project development (interim between now and when RTO becomes operational); and
- C. Proper scoping of RTO’s roles and authority (RTO West is a transmission entity).

III. Stage 2 Scope

<u>Item</u>	<u>Stage 2 Filing</u>	<u>By the Time of RTO Formation</u>	<u>By the Time the RTO Becomes Operational</u>
Backstop for Load Service	X		
Transmission Adequacy Standards ¹	Identify Standards	Develop Framework and Procedures for Application of Standards by RTO (might leave development of secondary standards to this stage)	
Allocation of Expansion Benefits and Costs	X		
Market-Driven Expansion Mechanism	X		
Criteria To Determine Initial Transfer Capability	X		
WIO/WSCC Relationship	Ongoing (paying special attention to action dates in WIO process)	Ongoing (paying special attention to action dates in WIO process)	Ongoing (paying special attention to action dates in WIO process)
General Planning Process (Including any follow-up work on least cost, losses, interconnection standards, etc.)	Further Development of Principles as Appropriate	Begin Development of Process with Participation of Transmission Owners and Other Interested Parties	Continue Development of Process with Participation of Transmission Owners and Other Interested Parties Some content group members believe the planning process should be in place <i>before</i> the RTO becomes operational – many are concerned about expansion in the interim

¹ *This issue is very important to the transmission-dependent utilities and they agree that the development of actual standards should be a Stage 2 task.*

IV. Candidate Tasks (Listed in Order of Priority)²

A. Consider Relationship of and Tensions Between Market-Driven Mechanism, Backstop for Load Service, and Allocation of Expansion Costs and Benefits

Initial discussion to provide context for small group work on each of the individual components; ongoing discussion to coordinate development of individual components so that they work together and do not undermine each other.

Issues:

Who provides for long-term needs?

Who decides?

Who pays?

B. Market-Driven Expansion Mechanism

Take the general expansion principles agreed to in Stage 1 and design a market-driven expansion mechanism that has a high probability of success in the Northwest.

Issues:

- a. Providing sufficient incentives for expansion (avoid congestion, reliably serve load);
- b. Addressing impediments to expansion (lumpiness, NIMBY, long lead times, need for regulatory/siting approval, uncertainty of cost recovery, lumpiness, high capital cost, long service lives, existing beneficiaries of congestion);
- c. Dealing with issues specific to market-driven mechanism (expansion “free riders”, current requirement in congestion model to release FTRs in preschedule process),
- d. Generation of pricing signals (role of RTO v. role of market participants),
- e. Treatment of non-transmission alternatives, and
- f. Authority of RTO over congestion projects
 - i. Limited to mitigating negative impacts,
 - ii. Extends to determining best project for limited corridor,
 - iii. Veto right if not “best” decision,
 - iv. Any further?
- g. How much of residual congestion costs, thresholds, other costs go to uplift charge? How does this impact price signals?

² These tasks should be considered within the framework of the Stage 1 Planning and Expansion decisions.

- h. If the content group identifies fatal flaws, what happens (at a minimum, some members of the group want to fully document any fatal flaws)?

(See Attachment 3, Outline Prepared by Stage 1 Small Group.)

Identify “experts” with experience regarding market-driven expansion to possibly assist the Planning Content Group (could be someone in another industry that involves projects or plants with similar qualities – e.g., long lead times, significant costs, lumpiness of investments.) *Might be difficult. Steve Walton and Larry Luna will be bringing in examples/materials from gas subscriptions. It was suggested that the railroad industry might also provide a good example.*

Start with Stage 1 proposals. See Attachments 4, 5, and 6 (WTED, PacifiCorp, and Bonneville proposals).

C. Backstop for Load Service

Define the scope and application of the RTO's backstop for load service.

Issues:

What is the scope of the RTO's backstop?

What type of facilities does the backstop extend to (ability of RTO to reach facilities that are functionally transmission but have not been turned over to the RTO)?

What is the time span for application of transmission adequacy standards?

Who forecasts load demand?

What provisions are necessary in order to ensure that the RTO can construct facilities deemed necessary under the backstop? Are the provisions of the current TOA sufficient or are refinements/additions required?

Relationship between transmission adequacy, backstop, and allocation.

D. Transmission Adequacy Standards

Develop the standards that RTO West will apply in determining whether to implement its backstop authority. *Adequacy with assumption that system will be secure.*

Issues:

How will the criteria be used?

For example, how will the criteria be applied to transmission versus non-transmission alternatives?

Are there existing standards to draw from?

What is done now for adequacy purposes?

What is load forecast for purposes of assessing adequacy?

Interplay of adequacy and contracts (what if generation is sufficient but not under current contractual arrangements?)

E. Allocation of Expansion Costs and Benefits

Develop an allocation mechanism for expansion projects that assigns cost responsibilities to track benefits. Stage 1 contemplates that an allocation could occur when the RTO is exercising the load service backstop and when a congestion relief project benefits local load and the project's sponsor requests an allocation. If a local project relieves congestion, costs will not be directly assigned to the parties benefiting from the congestion relief, but the local load will receive the FTRs relating to the increased capacity (and, ideally, the market-driven expansion mechanism will ensure that these FTRs have value).

Issues:

Application of “or” or “and” test (how does that apply to allocation of FTRs/load growth).

Ability to assign costs directly to parties benefiting from congestion relief (current TOA would not track this approach).

See Attachment 2, Summary of relevant provisions of FERC’s PJM and NEPOOL orders regarding planning and allocation of costs.

F. Criteria to Determine Initial Transfer Capability

Develop the criteria that will be used to assess a PTO’s initial transfer capability, as well as to determine what level of transfer capability a PTO is required to maintain.

G. General Planning Provisions

Identify other general planning principles needed to provide a framework for development of specific processes at a later time.

IV. Tentative Work Plan/Schedule

	Start Date	Completion Date
Confirm Which Processes Need to Be Developed as Part of Stage Two (Appendix, Other)	1/9/01	1/30/01
Criteria Regarding Maintaining Initial Transfer Capability	1/31/01	3/29/01
Finalize Market Driven Expansion Methodology	1/31/01	3/29/01
Finalize Planning Content for Tariff	1/31/01	4/16/01
Define Backstop for Load Service	1/31/01	4/16/01
Develop Transmission Adequacy Standards	1/31/01	4/30/01
Develop Process to Allocate Expansion Benefits/Costs	1/31/01	4/30/01
Double-check Market Driven Expansion Mechanism After Completion of Congestion Model	1/31/01	5/15/01
WIO/WSCC Interface	1/31/01	5/15/01
Finalize Planning Appendix/Provisions	4/16/01	6/1/01

Attachment 1

DESCRIPTION OF RTO WEST PLANNING AND EXPANSION (Appendix P of 10/23 FERC Filing)

- A. Operational Planning. RTO West is responsible for the operational planning of the facilities it controls beginning on its service commencement date.
- B. Long-Range Planning. RTO West is responsible for the long-range planning of the facilities that it controls and will develop a non-discriminatory process that allows for significant input from all users of the system. RTO West has the discretion to determine how to fulfill its planning responsibilities. In other words, RTO West will determine what information it needs from Participating Transmission Owners (“PTO”), what use to make of such input, and whether RTO West or the PTOs (or some combination thereof) will perform studies. The PTOs anticipate that RTO West’s approach will evolve over time.
- 1) Facilities Under the Control of RTO West. RTO West’s planning responsibilities for facilities under its control include the following:
- a) Determining the capability of all paths (TTC/OTC/ATC) on an on-going and five-year projected basis
 - b) Identifying paths that are experiencing congestion and the current/historical specifics (price, duration, etc.)
 - c) Identifying opportunities for improvements (in a general way, not through detailed studies)
 - d) Assessing the ability of the facilities controlled by RTO West to deliver requested power, without regard to the cost of the power being delivered (“transmission adequacy”)
 - e) Modifying, if appropriate, and enforcing interconnection standards
 - f) Providing the information developed above to the market, including communicating opportunities for improvements and offering to facilitate discussion of whether the opportunities should be acted upon
 - g) Coordinating compliance studies and system base cases
- 2) PTO Facilities Not Under Control of RTO West. RTO West’s only role with respect to PTO facilities not under its control is to analyze new or modified facilities to determine their impact on the transfer capability of facilities under RTO West control and ensure that the project sponsor has appropriately mitigated

any negative impacts. Conversely, if the new facilities have created transfer capability on facilities under the control of RTO West, the PTO will be given any corresponding FTRs.

C. Expansion Decisions Regarding Facilities under the Control of RTO West (Who Decides/Who Pays)

Purpose	Decision-Maker/Who Pays
<p><u>Category I</u></p> <p>Maintaining Sufficient Transfer Capability to Satisfy the Converted Pre-Existing Contracts and Load Service Obligations (Including Load Growth)</p>	<p>The PTO is obligated (1) to maintain the transfer capability that exists on Day One that is needed to satisfy converted pre-existing rights or obligations or (2) to address a degradation of needed transfer capability to the satisfaction of the right-holders through another approach, including non-transmission solutions (e.g., buy-back of long-term firm rights).</p> <p><i>Exception.</i> When the degradation results from the following causes there is not an automatic obligation to maintain transfer capability, and the affected parties should look to the terms of pre-existing contracts to determine the appropriate action and, if there is not a contract (or a contract with relevant provisions), RTO West should facilitate a discussion to determine how the degradation should be addressed:</p> <ul style="list-style-type: none"> * RAS, to extent it is system-wide RAS that is being provided by RTO West * Something outside of the control of the PTO (for example, (NERC changing criteria, changing load or generation, line/path derating, operations of other RTOs) <p><i>Backstop.</i> If a PTO fails to maintain transfer capability as required above, RTO West has the authority to require the PTO to restore the transfer capability. Alternative dispute resolution (“ADR”) will be available for parties that disagree with RTO West’s decisions. The PTO’s costs for maintaining transfer capability will be recovered through its Company Rate.</p>
<p><u>Category II</u></p> <p>Maintaining the Initial Transfer Capability of the Class A Facilities to the Extent such Transfer Capability Exists Beyond What is Needed to Satisfy Category I Rights and Obligations</p> <p>(For example, the transfer capability of a path that does not have FTRs might be heavily used or will be needed for future use)</p>	<p>Through its planning process, RTO West will assess the adequacy of the Class A Facilities and determine, based upon established criteria, whether and when the transfer capability of existing facilities should be maintained to serve RTO West’s on-going commitments (other than FTRs relating to pre-existing contracts and load serving obligations). While the general approach will be to maintain the transfer capability, in some instances it might be appropriate to allow degradation. To allow this, prior to RTO West’ formation, criteria will developed with the goal of ensuring that reasoned and sound economic decisions are made. (For example, it may be appropriate to allow degradation on a path that is not heavily used.) If RTO West has determined that transfer capability should be maintained, a PTO is required to undertake any necessary replacements, reinforcements, or non-transmission solutions. The costs of such replacements, reinforcements, and non-transmission solutions will be recovered through the PTO’s Company Rates.</p>

Purpose	Decision-Maker/Who Pays
<p><u>Category III</u></p> <p>Transmission Adequacy: Load Service (Including Load Growth) On All Paths</p> <p><i>“Keeping the Lights On”</i></p>	<p>Requests for load service will be made to RTO West. RTO West will analyze such requests and determine which PTO(s) could be affected by the requests. RTO West will then forward the request to the appropriate PTO(s), which is responsible for ensuring that sufficient facilities are available to provide secure service. The PTO(s) will determine what action to take pursuant to an open process that considers non-transmission alternatives. After such planning process, the PTO(s) will submit its proposed plan to RTO West. In an open process, RTO West will determine whether the PTO’s proposed plan provides transmission adequacy. If it determines that it does, the PTO will implement its plan and the costs of such facilities will be recovered in the Company Rate of those PTOs whose load benefits from the expansion.</p> <p>If multiple PTOs need to be involved in order to meet the load service request, RTO West should coordinate the PTOs’ determination of a plan of service and their respective obligations within a set timeframe. If the PTOs cannot reach agreement, RTO West has the authority to decide what should be done and to allocate the costs of such action to the PTOs.</p> <p>As part of their responsibilities under this category, PTOs are required to prepare adequacy assessments and provide them to RTO West. This is required (1) after a service request has been forwarded to a PTO and (2) on a periodic basis in the regular course of business. Regional criteria will be established for the PTO(s) and RTO West to apply to determine adequacy.</p> <p><i>Backstop.</i> If a PTO fails to develop a plan that RTO West determines assures the transmission adequacy of the Class A Facilities, RTO West has the authority to remedy the problem. First, RTO West will develop, in an open process, a transmission solution. The PTO will have an opportunity to present alternatives (including non-transmission solutions) to RTO West’s proposed transmission solution. In the event that RTO West does not accept any of the PTO’s alternatives, RTO West has the authority to fix the transmission deficiency by causing the construction of necessary transmission facilities. (RTO West cannot cause generation to be built.) ADR will be available for parties that disagree with RTO West’s decisions. The costs of such facilities will be recovered through the Company Rates of those PTOs whose loads benefit.</p>

Purpose	Decision-Maker/Who Pays
<p><u>Category IV</u></p> <p>Congestion Relief/ Market-Driven Mechanism</p>	<p>Transmission project sponsor makes decision and bears the costs of transmission expansion for rights obtained. (Transmission project sponsor could be PTO, load serving entity, or other market participant)</p> <p>The specifics of the market-driven mechanism need to be developed. Such details should ensure that the market-driven mechanism has the highest probability of success. A number of proposals have been developed that attempt to treat transmission like generation. For example, one proposal creates value by allowing a transmission project sponsor to withhold the FTRs for a time, another suggests that a reserve price should be set for the auction of those FTRs.</p> <p>Other proposals address:</p> <ul style="list-style-type: none"> • How to handle a situation where a state regulatory body requires that a congestion relief project be expanded “for the public good” (RTO West would set a reserve price for the “extra” FTRs created from the expansion of the original proposal); • Specifics of soliciting interested sponsors; • What to do when too many transmission project sponsors come forward; and • How to handle competing project proposals.

D. Allocation of Benefits and Costs. At the request of a Category I, II, or III project sponsor, RTO West will determine the benefits of the project and proportionally allocate its costs to the Company Rate of the PTO(s) of the benefiting loads. (PTOs will determine how to collect the allocated costs of such project in their individual rate proceedings.) The PTOs will develop objective criteria for RTO West to apply and the other details of the allocation process prior to RTO West’s formation. A Category IV project sponsor can ask RTO West for an allocation to load that receives a reliability benefit; however, RTO West will not allocate costs to parties that benefit from congestion relief. In all of the above cases, if additional transfer capability is added that results in the creation of Firm Transmission Rights (“FTR”), the parties that paid for the additional transfer capability will receive the corresponding FTRs. This should provide incentives for both transmission and non-transmission solutions. Challenges to RTO West’s allocation can be raised in RTO West ADR.

E. Analyzing Impacts of Interconnections. RTO West will perform system impact studies to analyze proposed interconnections of new transmission facilities, new generation and new load and will determine what action is appropriate, if any, to mitigate negative impacts on the operational transfer capability of all Class A Facilities. If transfer capability is added and FTRs result, the party interconnecting will receive such FTRs.

- F. Further Development of Planning and Expansion Specifics. After formation, RTO West, in consultation with the PTOs, will develop its general planning process. The following will be developed before RTO West's formation: (1) criteria to be applied by RTO West in determining the level of transfer capability that should be maintained from existing facilities, (2) transmission adequacy standards, (3) further definition of the market-driven mechanism, (4) the allocation procedure, including objective criteria, (5) interconnection standards, and (6) the details of the relationship/participation of RTO West with appropriate interconnection-wide and regional reliability organizations.

Attachment 2

NEPOOL Planning Highlights– FERC³

Planning Issues

- Issue 1: The need for the ISO to develop a single regional plan in which parties may request expansions in response to market signals.
- Issue 2: The role of the transmission owners in deciding what projects should be included in the Plan and who should be responsible for the construction.
- Issue 3: How costs for various types of upgrades should be allocated.

Commission Response

Issue 1: Single Regional Plan

- a) Accept the ISO's proposal for regional transmission planning, with modifications. In general, we find regional planning desirable, and have authorized regional planning for the PJM ISO.
- b) Regional planning does not preclude others from constructing merchant transmission facilities.
- c) Regional planning and expansion is one of the key RTO functions we identified in the RTO order.
- d) RTO has ultimate responsibility for transmission planning and expansion that will enable it to provide efficient, reliable and non-discriminatory service and coordinate such efforts with appropriate authorities.
- e) Although we recognize the importance of individual parties expanding capacity at their expense in response to market signals and receiving corresponding incremental congestion rights, regional planning promotes efficient grid expansions. Because of network externalities, private decisions to expand transmission capacity may create grid-wide benefits that the party bearing the costs may not fully capture. Thus, reliance solely on private decisions may result in less than optimal expansions of transmission capacity.

Issue 2: Role of Transmission Owners in the Planning and Expansion Process

- a) We direct the ISO to revise its proposal to eliminate any decisional role transmission owners may have in the current Plan. We note that the PJM ISO

³ This was prepared by Chris Reese (Puget) and represents his understanding of the relevant FERC orders. Chris is not a lawyer and this is not intended to be a legal interpretation of those orders.

alone has the authority to develop the transmission expansion plan. Although the PJM ISO can consult with all parties, it alone proposes the plan which the Board approves before implementation. We point to PJM's plan as one which satisfies our concerns that transmission owners not be in a position to unduly influence the projects included or how the projects are ranked or classified. We share the concern that the role of transmission owners in the planning process may give them the incentive and ability to bias the Plan in favor of their competitive interests. The ISO's promise that procedures and mechanisms will be developed and implemented to protect against transmission owner parties influence is not sufficient.

- b) We also agree with Transenergie that all projects in the Plan should be built following a competitive solicitation. We also conclude that third parties should be allowed to build merchant transmission facilities outside the context of the plan, subject to ISO review.

Issue 3: How costs for various types of upgrades should be allocated

- a) We direct the ISO to revise its proposal to remove the distinction between economic and reliability upgrades in assigning costs, and adopt the framework accepted for PJM, i.e., directly assign costs where there is agreement among the participants, and develop objective, non-discriminatory guidelines to allocate costs where participants are unable to agree on the allocation of costs.
- b) Our general principle is to assign costs of various upgrades to those who benefit to the extent that they can be identified, regardless of how the upgrade is classified. Parties who bear the costs of such upgrades should also receive any associated incremental congestion rights.
- c) PJM's default cost allocation for expansions when parties do not agree gives objective, non-discriminatory criteria to be applied to all such projects. It effectively assigns costs directly to those entities that have agreed to bear all or a portion of the costs and then allocates remaining costs among transmission owners in accordance with specific guidelines
- d) Finally, we will not at this time allow the ISO to recover costs associated with two proposed types of system modifications and upgrades: additional transfer capability that may be economically justified without necessarily identifying specific projects, and other potential economic solutions to transmission congestion.

PJM Planning Highlights

Schedule 6 of the PJM Operating Agreement sets out the protocol for regional transmission expansion planning. It generally adopts the NERC and MAAC criteria, obligates the RTOs to supply staff, data and systems to support a regional analysis, and provides for the participation of all interested parties, including regulatory agencies and consumer advocates in affected states, as well as coordination with neighboring control areas. The regional transmission expansion plan will include a recommendation for cost responsibility; however, under Schedule 6, section 1.6, if the RTOs cannot unanimously agree, cost responsibility will be allocated to those entities who have indicated a willingness to bear some or all the costs and among the RTOs as follows: (1) 500 kV facilities will be allocated on the basis of the percentage of PJM load in each RTO's service area; (2) 230 kV or 345 kV facilities will be allocated half on the basis of the percentage of PJM load in each RTO's service area and half to the RTO(s) where the expansion is located; and (3) facilities below 230 kV will be allocated to the RTO(s) where the expansion is located.

Commission Response

We find that the regional transmission expansion plan is reasonable. It provides for regional planning with the input of all affected parties, obligates the RTOs to construct necessary facilities, and establishes a cost sharing mechanism. We will not adopt Old Dominion's proposed modification to the cost sharing approach for transmission expansions. The transmission expansion plan will propose a specific cost allocation, and the parties will only turn to this allocation as a default mechanism. For that purpose, it reflects a reasonable compromise.

Attachment 3

Outline Regarding Market Driven Expansion Mechanism Prepared by Stage 1 Small Group

Incentives for expansion

- Avoiding congestion management (CM) costs (i.e., curtailment, inability to schedule, buying redispatch)
- Providing reliable service to loads

Impediments to expansion

- Nature of transmission investments
 - NIMBY
 - Long lead times
 - Need for regulatory/siting approval
 - Uncertainty of cost recovery
 - Lumpiness
 - High capital cost
 - Long service lives

Existing beneficiaries

- Loads on the “good” side of congestion
- Generators on “bad” side of congestion

Expansion “free riders”

- Requirement to release unused Firm Transmission Rights (FTRs) in preschedule process compounds the “lumpiness” problem – parties wait for others to fund expansion and pick up low cost FTRs at the last minute knowing they will be available.
- Increased capability on other flowgates that is not identified
- Improved reliability within local load areas
- Loss reduction
- Increased flexibility and security

How are pricing signals generated?

- RTO collects and disseminates data on historical CM costs
 - RTO managed process readily tracked
 - Who tracks intra- and inter- Scheduling Coordinator deals?

Projecting future CM costs

- Responsibility of market participants or
RTO function?

Process to advance candidate expansions – see Planning WG models

Potential Funding Mechanisms

- Market participants make investments in exchange for the rights to FTR auction revenues or to use the FTRs, i.e., market participants fund expansion to avoid congestion charges or unreliability
- RTO decides on expansion and assigns costs to particular beneficiaries or rolls costs into access charge
- Combination of above
- Other?

How should non-transmission approaches (generation siting, DSM, DG, etc.) be treated?

Independent decisions by market participants, i.e., market participants make decisions to avoid congestion costs.

Tied to approaches to funding transmission expansion, e.g., fund with FTR auction proceeds, RTO funds and assigns to beneficiaries.

Attachment 4

WTED Stage 1 Proposal Regarding Market

Strawman Market Mechanism for Flowgate Expansion

Arne Olson, Washington Office of Trade and Economic Development

Most participants in the RTO West process seem to favor some sort of market mechanism for expanding transfer capability for economy trades, i.e., to relieve congestion across designated flowgates. Since the competing approaches to reducing parties' exposure to congestion costs include primarily merchant generation and competitively-supplied load management, market-financed expansion of grid capacity offers the most consistent and competitively-neutral approach. However, a number of potential problems have been identified with this approach, including:

- **The diverse beneficiaries problem.** Expanding flowgate capacity benefits a diverse array of market participants. Moreover, once a project is completed, it is difficult to keep non-participants in the project from enjoying the same benefits as participants. As a result, it may prove difficult to assemble a broad enough coalition of beneficiaries into an economic unit for efficient and timely investment decisions. This could result in inefficient expansion decisions if non-transmission solutions are favored because it is easier to recover costs from non-participants, or if transmission solutions are delayed because of problems convincing enough potential beneficiaries to pitch in.
- **The "lumpiness" problem.** It is generally not cost-effective to build incremental amounts of transmission capacity. An efficient long-term solution might involve building much more capacity than is needed in the short term, or than is needed by any one participant in the project.
- **The transmission externalities problem.** Because of the interconnected nature of the transmission grid, interconnecting a new facility will have impacts on how existing facilities can be operated. This could lead to higher operating costs for the RTO or other market participants. Conversely, the new facility could have system benefits such as reducing losses, reducing need for reactive power, or enhanced reliability of local load service.
- **The inadequate information problem.** Parties that wish to expand flowgate capacity may not have access to the operational data needed to know the full costs of a project, since they will not be transmission operators.

Following is a proposal which seeks to provide a market-based mechanism for expanding flowgate capacity, while addressing the concerns listed above. Rather than an RTO "backstop" which may keep a market approach from ever getting off the ground, it proposes targeted RTO participation to address specific problems that parties have identified. The proposal is broadly similar to the Pacificorp proposal, with some

additional detail appropriate to the physical and hybrid-physical rights models currently being pursued by the congestion management work group.

Prior to construction

1. Market participants propose new transmission facilities by bringing a project prospectus to the RTO.
2. RTO planning staff undertake a system study, focusing primarily on any external impacts that might result from the project, but also identifying any other, non-transmission solutions that may be more cost-effective from a societal point-of-view. The RTO will make these studies available to the public and to state siting agencies, but will not require that sponsors pursue any particular project.
3. If the RTO determines that the project offers system-wide benefits that won't be captured by individual beneficiaries, it estimates those benefits and offers an appropriate contribution to the financing of the project, to be recovered from grid-wide RTO operating costs. The RTO will not receive FTRs in exchange for its contribution.
4. Local planning areas may also elect to make a contribution to the project, if they determine that it offers local load-service benefits. Local areas will not receive FTRs, but instead will negotiate specific rights with project sponsors, such as the right to tap into the project for load service at some point in the future, the right to degrade the project's capacity over time through load-growth, etc. This will allow local areas to make an appropriate contribution to the project while preventing them from engaging in speculation about the value of future FTRs. No assumption is needed about whether the local planning areas are defined by congestion zones or company rate boundaries.
5. Because of the change to flow-based scheduling, any new project will have impacts on rights that parties have resulting from pre-existing obligations or from other system expansions (new projects will change the matrix of impedance-based flow distribution factors). The RTO will require the project sponsor to mitigate these impacts by granting FTRs on the new facility to parties that need them to retain their existing rights.
6. If the facility is found to have sufficiently mitigated external impacts and met any other legitimate RTO technical specifications, the RTO will approve the project and require parties with eminent domain authority to exercise it, if necessary.

After construction

7. Upon completion of the project, project sponsors will turn the facility over to the RTO for operation. In return, the party will receive the right to release FTRs up to the incremental capacity added to the system.
8. Each year, prior to the FTR auction process, the project sponsor will release a fixed amount of FTRs to the market. The sponsor need not release the full amount, but it cannot release additional FTRs until the following year's auction process. This process enables the sponsor to collect some portion of its costs from non-participants that now wish to use the new facility. The sponsor will estimate the number of FTRs that will allow it to maximize its FTR revenue (or equivalently, the value of its congestion relief benefit) from the project in any given year. Requiring them to release the entire incremental capacity as FTRs would flood the market, driving the

value of the FTRs to zero and making it impossible to recover any costs from non-participants.

9. The sponsor is not allowed to release additional FTRs until the following year's auction process. Other market participants would find it impossible to estimate the value of FTRs in the auction and secondary markets if they did not know how many FTRs were available.
10. Because FTRs will only be available up to the amount released, no party, including the project sponsor, will be able to schedule on the incremental capacity beyond that level. For example, suppose a project adds 500 MW of capacity to a flowgate with 1000 MW of existing capacity. If in year 1 the project sponsor releases 200 MW of FTRs, the RTO will operate the flowgate as if it had a TTC of 1200 MW.
11. The RTO must adhere to the 1200 MW TTC in operating the balancing energy market as well as in the scheduling process. Not doing so would create a disconnect between the scheduling model and the operational model, with resultant gaming opportunities, and would negate the sponsor's decision to release only a fixed number of FTRs for that year.
12. However, the RTO may call on the incremental capacity during emergency operations, at a price negotiated with the project sponsor.
13. In year 2, prior to the auction process the sponsor re-evaluates the market and decides how many FTRs to release. If it now decides to release only 100 MW, the RTO will operate the flowgate in the coming year as if it had a capacity of 1100 MW.
14. The RTO may require the project sponsor to make available a larger amount of FTRs if it determines that the sponsor has market power. Since the project was built as a substitute for generation or dispatchable load, this would require the RTO to find that the project sponsor has market power in the generation market in the zone downstream of the flowgate.

This proposal addresses the diverse beneficiary problem by providing a mechanism through which the project sponsor can extract payment from non-participants. It addresses the externalities problem by providing for RTO participation, if appropriate, and mitigation of adverse impacts. It addresses the information problem by requiring the RTO to conduct studies and make the results available to market participants, the public and state siting authorities. It does not fully address the lumpiness problem, because the entire incremental capacity must be paid for up front, even if it is only released to the market in increments.

Attachment 5

PacifiCorp's Stage 1 Proposal Regarding Market Expansion of Transmission Capacity to Relieve Congestion

I. Areas of Apparent Consensus Related to Transmission Expansion

Most members of the congestion management workgroup apparently agree on certain desirable components of any plan to deal with congestion management / transmission expansion. These components include:

1. All current embedded transmission costs are by definition not incremental and should be charged to load rather than to incremental wheeling transactions.
2. The cost of transmission system expansion for reliability purposes or to meet growing local growth requirements generally should be spread to loads.
3. The cost of congestion, as well as the cost of transmission system expansion needed to relieve current or future congestion, should be paid by generation owners or marketers wanting the benefits of congestion relief and not holding firm transmission rights ("FTRs").
4. Transmission congestion relief and expansion of transmission capacity should be handled by market mechanisms to the extent possible. Such market mechanisms should be designed to produce the lowest cost solutions, whether such solutions are new transmission facilities, remedial action schemes, load interruptability, location decisions for new generation facilities or otherwise.

II. The Free Rider Dilemma

In IndeGO, the participants envisioned transmission capacity expansion abetted by the RTO, with the RTO entering Transmission Control Agreements with entities that were prepared to construct the lowest-cost (and a cost-effective) solution to transmission congestion. The RTO would not pay money to the transmission owner, as there would be no means for the RTO to assure collection of such moneys except over loads. Instead, the RTO would issue FTRs to the entities that created the additional expansion, which such entities then could re-market.

The IndeGO solution seems unworkable. Transmission expansion by its nature is "lumpy." Thus, an entity cannot readily create only the amount of expansion it needs (and the entity may only need such expansion for a small portion of the life of the new facility in any event). In the meantime, by creating substantial incremental transmission capacity, the entity will have reduced or eliminated the cost of transmission congestion, and thus will have caused the FTRs granted to it by IndeGO to have a reduced value or no value. The expected results will be: (a) an unwillingness of any entity to be the party

to finance transmission expansion, because all other entities then can be "free riders" on such capacity and (b) an unwillingness in any event to construct optimally-sized transmission facilities, if the optimum size exceeds the specific requirements of the constructing entity.

This free-rider problem must be resolved if a market-based solution to transmission congestion is to be implemented.

III. Proposed Solution -- Use the Competitive Market Instead of Central Planning.

The problem with the IndeGO solution is that it at heart is not a competitive market solution.

The recommended solution is to treat transmission expansion as a congestion relief mechanism in the same manner as competing alternatives, such as generation redispatch, load interruption and remedial action schemes, in the following manner:

1. The RTO will plan only for reliability purposes and will make public all transmission expansion as planned for reliability. Reliability expansion of transmission facilities will, as currently envisioned, be paid for by load. To the extent that transmission expansion required for reliability purposes also reduces congestion, such reduction is a free good that is the byproduct of the reliability need of loads.
2. The RTO will not plan for or arrange for specific transmission congestion relief solutions. Market players will be solely responsible for such solutions and as indicated below, will compete for the least-cost solutions.
3. Any entity that can obtain required permits may construct new transmission facilities beyond those transmission facilities planned for reliability purposes. If that entity is not a current transmission owner, the RTO may step in as needed to require interconnection of the new transmission facilities. Any entity also may pursue any transmission congestion relief measure that does not require the construction of transmission facilities.
4. The RTO will (a) certify the additional capability of the transmission expansion solution and (b) will operate the additional capability for reliability purposes only.
5. The RTO may not, however, consider the new capability as available to the RTO for relieving congestion. The owners of the new capability will be entitled to bid (or not bid) the new capability in competition with redispatch and all other options available for congestion relief. The owners may auction long-term rights to all or part of the capability of the new facilities. The owners may use the new capability and thus self-supply their own congestion relief. In other

words, the owners of the new facilities will be treated the same as any other provider of congestion relief.

6. Absent authorization by the owner of a merchant line, the RTO may not (except for real time emergency relief purposes) assume for scheduling purposes a capability of such merchant line greater than the megawatts of any bid accepted by the RTO from the owner of such merchant line. Therefore, for example, if generator displacement is the winning bid, the generator will actually be obligated to engage in the displacement as bid. Of course, under such rules, the generator and the merchant line owner almost certainly would make bilateral arrangements to substitute available merchant line capacity for the generation displacement, for an agreed bilateral compensation.

7. The owner of the merchant line may also file with the FERC a rate for any use of such line for real time emergency relief by the RTO.

Attachment 6

Bonneville's Stage 1 Proposal Regarding Long-Term Flowgate Congestion Management

Issue

Some parties advocate a pure market-based approach for relieving flowgate congestion. Market participants would make investments in exchange for the rights to FTR auction revenues or to use the FTRs, i.e., they fund expansion to avoid congestion charges or unreliability.

Problem

There are several impediments to a pure market-based approach, as discussed in an earlier paper, which may lead to market failure and cost-effective solutions not being implemented. Key among them are:

- Inadequate information available to market participants
- System benefits of reinforcements (e.g. loss reduction)
- Lumpiness of transmission investments (e.g. preserving ROWs for long-term needs)

Objectives

- Rely on the market wherever feasible
- Build as a last resort – avoid stranded investments
- Address market failures

Proposal

There should be an RTO backstop. Three steps are proposed. We could choose to implement one or more of the steps.

1. When market participants believe that there is a need to relieve congestion on a flowgate(s), but nobody has stepped in to propose a fix, the participants can request that the RTO Planning group undertake a study that examines expected future congestion costs and alternative cost-effective solutions. Non-transmission alternatives including DSM, DG and generation siting should be considered. The RTO would also assess system benefits derived from the fix. A portion of the investment may be ascribed to system benefits, and the carrying costs recovered from access charges. The RTO would then invite parties to fund one of the studied solutions or alternatives in exchange for receiving FTR auction revenues or use of the FTRs.

2. If nobody steps forward to sponsor the fix(es), then the RTO could seek funding if there are sufficient parties willing to commit to long-term FTRs on the affected flowgate(s) at a price which covers the project costs.
3. Since congestion costs are likely to increase over time, a fix that is cost-effective over its life may not be fully subscribed in year one. If a pre-set threshold for participation is reached, the RTO could purchase any remaining FTRs and recover those costs as a surcharge on flowgate(s) users. The remaining FTRs will be released in future years through the auction. In essence the RTO is funding speedup of a lumpy project.