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Hemingway to Boardman Transmission Project

500 kV

Regional Planning Project Report

Project Description

The Hemingway to Boardman Transmission Project as proposed by Idaho Power consists of a single circuit 500-kV transmission line starting at a proposed substation located southeast of Boise named Hemingway and ending at Boardman Substation. Idaho Power is the planning lead and is currently the only participant in the project.

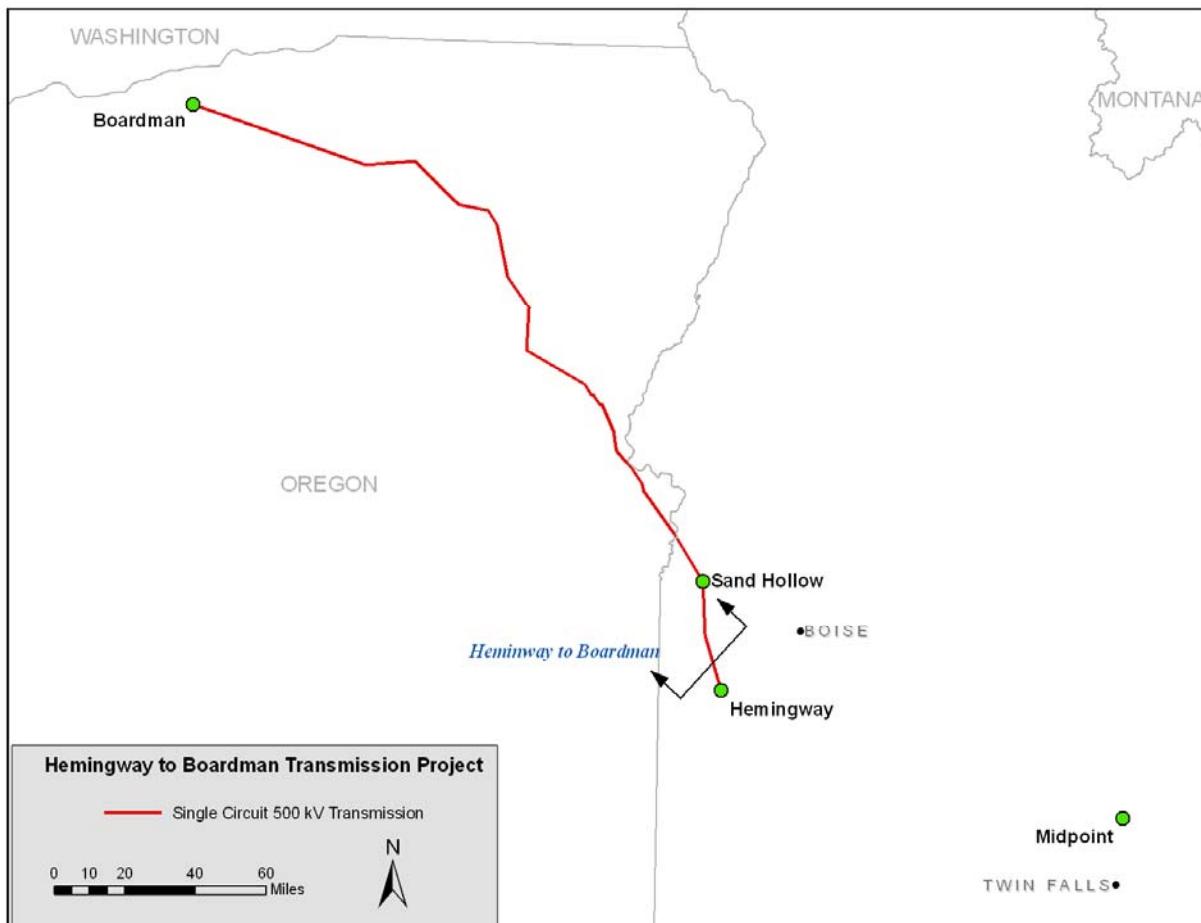


Figure 1. Hemingway to Boardman Transmission Project.

Idaho Power is proposing this transmission project because of service area load growth and to address transmission service requests. Idaho Power forecasts the need for 800 MW of additional power to serve Idaho load by the year 2017. Additionally, Idaho Power has obligations pursuant to its Open Access Transmission Tariff to plan for and expand its transmission system based upon the needs of its native load customers, network customers and eligible customers that agree to expand the transmission system.

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Hemingway to Boardman

New transmission from Hemingway Substation to Boardman is proposed to consist of one 500 kV transmission line rated at 1,000 MW, bi-directional. Its length will be approximately 230 miles.

Regional Planning Process

This project, along with several others, is the result of the Northern Tier Transmission Group¹ (NTTG) Regional Planning Process. During the first half of 2007, the NTTG members held planning stakeholder meetings to formulate a plan for the forecasted load and resources of the NTTG Region. This planning process identified a collection of projects that were determined to be beneficial to the region. These projects are collectively referred to as the NTTG Fast Track Projects² and are shown along with the forecasted loads and resources on the following map, Figure 2 (this map will be referred to throughout this document).

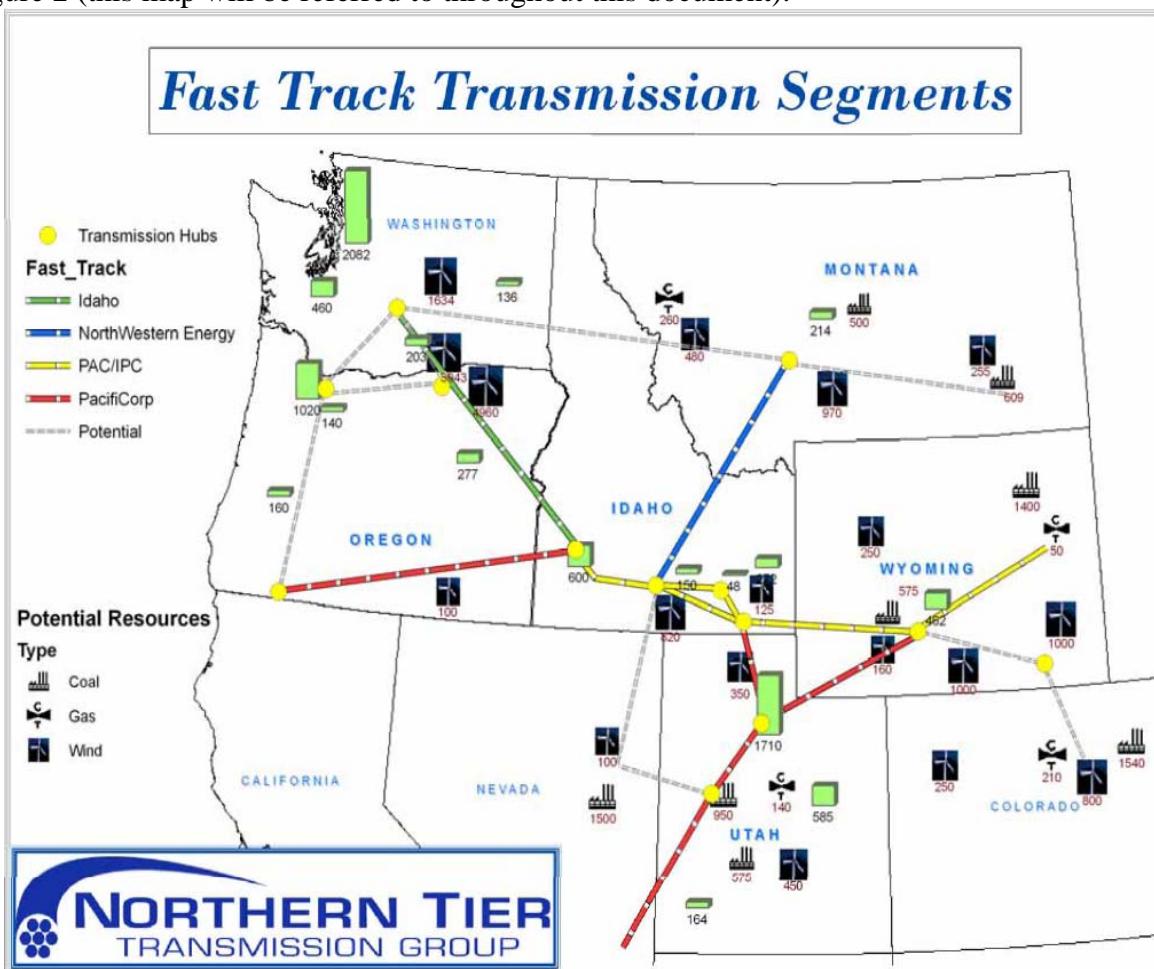


Figure 2: NTTG Fast Track Transmission Project Map

Each NTTG Fast Track Project has initiated the WECC Three Phase Rating Process and is developing a project specific Regional Planning Report. As such, the Gateway West project has formed a regional planning group beyond the NTTG planning stakeholders.

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WECC Regional Planning Guidelines

1. *Take multiple project needs and plans into account, including identified utilities' and non-utilities' future needs, environmental and other stakeholder interests;*
 - a. The Hemingway to Boardman Transmission Project was initiated in response to a transmission request submitted by Idaho Power's merchant group and was identified in Idaho Power's 2006 Integrated Resource Plan to access Pacific Northwest energy resources to serve Idaho Power's growing customer needs. Specifically, Idaho Power's load forecast shows 600 MW of additional load in the Boise area by the year 2017.
 - b. The Hemingway to Boardman Transmission Project will also address multiple transmission service requests that currently exist in Idaho Power's queue. Constraints on the Idaho to Northwest transmission path (Path 14) prevent Idaho Power from meeting transmission service requests currently in the queue. The Hemingway to Boardman project will relieve this constraint and allow Idaho Power to meet the current transmission service requests.
 - c. The northern terminus of this project is located near Boardman, Oregon which will provide access to northwest markets.
2. *Cooperate with others to look beyond specific end points of the sponsors' project to identify broader regional and sub-regional needs or opportunities;*
 - a. Idaho Power is a member of the Northern Tier Transmission Group (NTTG). The other NTTG members are PacifiCorp, Deseret Power Electric Cooperative, NorthWestern Energy and Utah Associated Municipal Power Systems. NTTG also includes utility commission representation from the states of Idaho, Oregon, Utah, Wyoming and Montana. The members of NTTG are actively coordinating various 500-kV projects throughout the region.
 - b. Idaho Power is coordinating planning with Columbia Grid and transmission additions planned by members of that organization.
 - c. Idaho Power and a number of other utilities with proposed regional transmission projects in the Northwest have signed a letter agreeing to coordinate technical studies.
 - d. Through NTTG, Columbia Grid and other regional interactions, Idaho Power is in active discussions with other transmission providers and developers to coordinate Hemingway to Boardman with various regional projects. These projects include;
 - i. Gateway West Transmission Project
 - ii. Canada to Northern California Project
 - iii. West of McNary Transmission Project
 - iv. Southern Crossing Project
3. *Address the efficient use of transmission corridors (e.g. rights-of-ways, new projects, optimal line voltage, upgrades, etc.);*

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- a. All transmission in this project is proposed to operate at 500 kV. Because of the distances involved, a lower voltage would not provide the necessary capacity to transmit 1,000 MW without an excessive number of circuits and real power losses.
 - b. A simple upgrade of the existing individual transmission circuits that make up the Idaho to Northwest transmission path would not provide the necessary 1,000 MW of new capacity.
4. Identify and show how the project improves efficient use of, or impacts exiting and planned resources of the region (e.g., benefits and impacts, transmission constraint mitigation);
- a. This project will provide Idaho Power with additional access to northwest energy markets. The energy in the northwest markets is increasing with the construction of numerous wind projects.
 - b. This project will act to relieve the Idaho to Northwest transmission constraint.

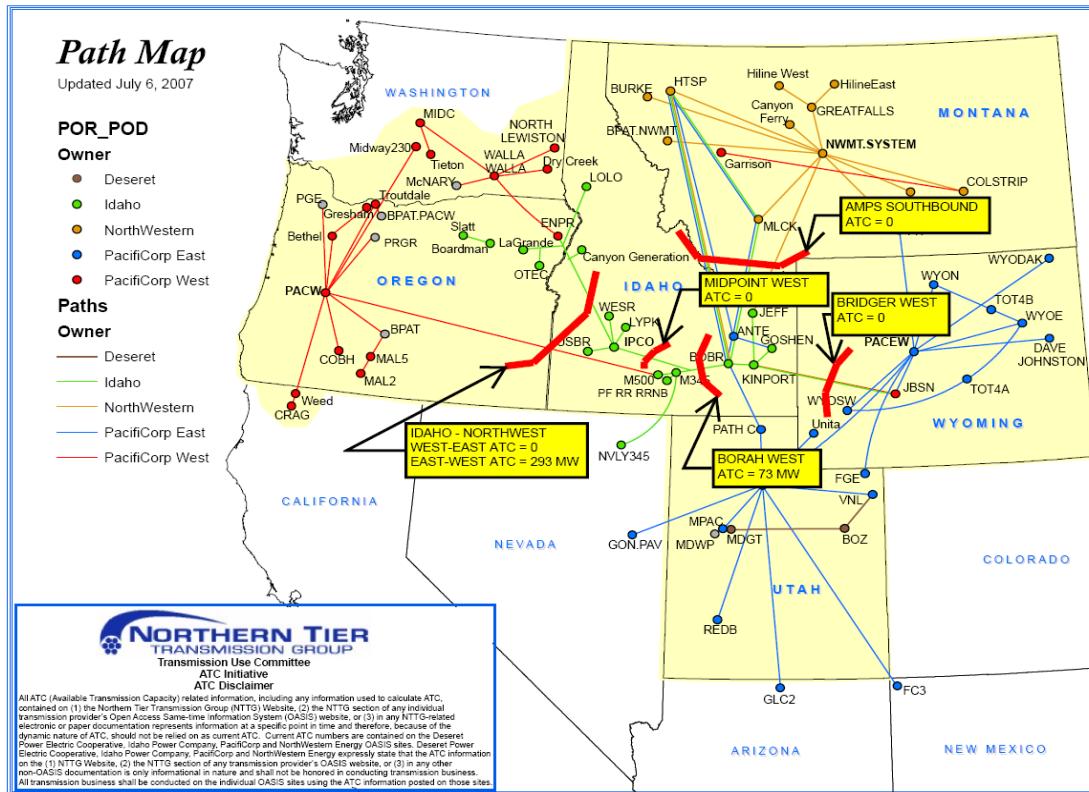


Figure 3. Existing Transmission Constraints

- c. Since 2001 there have been several committees that have evaluated the cost and benefits of the transmission additions from Wyoming to the west. Two specific studies are the Rocky Mountain Area Transmission Study (RMATS)³ of 2004 and WECC Seams Steering Group-Western Interconnection (SSG-WI)⁴ of 2005. The RMATS Phase 1 Report included the Midpoint to Oregon transmission path as recommended transmission path to support the development of Wyoming resources beyond the RMATS footprint. This path is shown in Figure 3 below.

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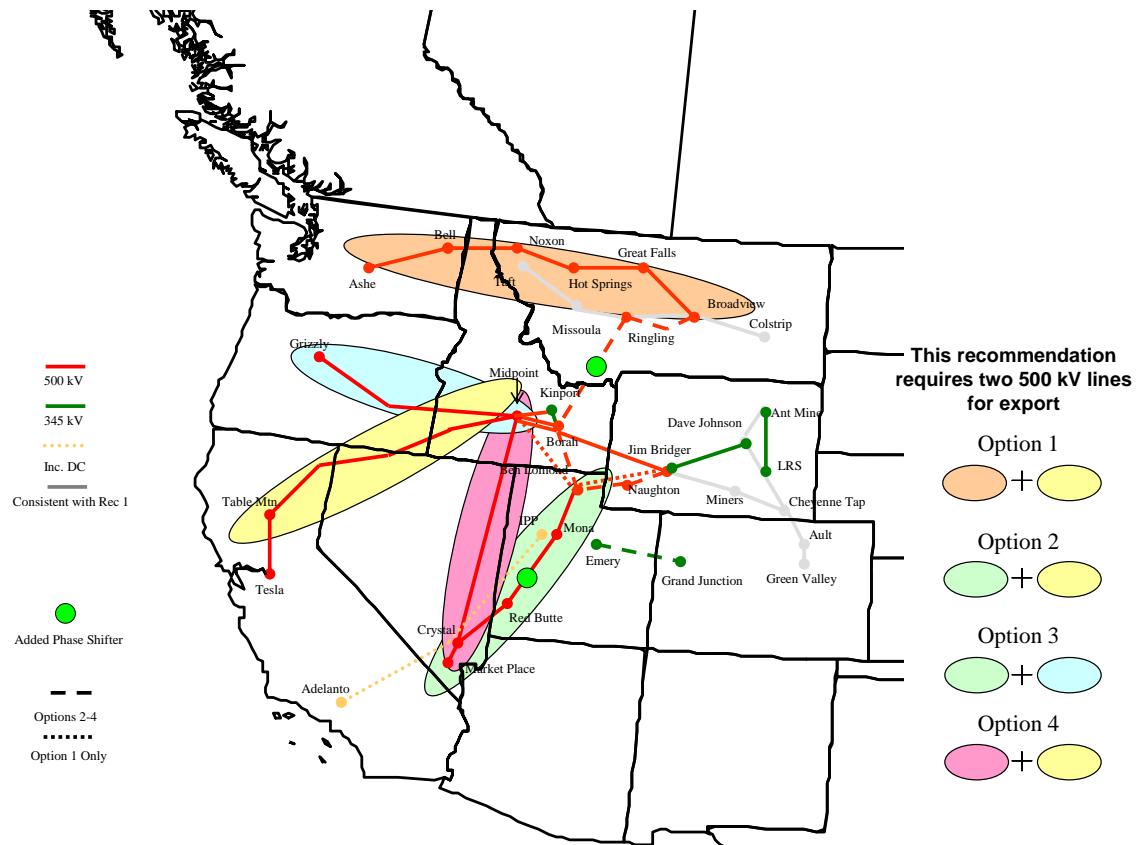


Figure 3: RMATS Transmission Expansion Beyond RMATS Regional Recommended for Further Development

5. *Cooperate with Regional Planning Review Group members in determining the benefits and impacts due to the project;*
 - a. Idaho Power sent out an invitation on July 5, 2007 to stakeholders to become members of a Regional Planning Review Group. A copy of this letter can be found in Appendix A. Note that this project was combined with the Gateway West Transmission Project for regional planning purposes.
 - b. The initial Review Group meeting was held on September 7, 2007. The minutes from this meeting can be found in Appendix C. A list of Regional Project Review Group members can be found in Appendix B.
 - c. Additional Review Group meetings were held in conjunction with NTTG Planning Stakeholder meetings on October 17 (conference call) and November 13. Minutes from these meetings can be found in Appendix C.
 - d. All meeting notices, presentations, and minutes were posted on Idaho Power's OASIS website. Additionally, this same material was posted on the NTTG website if the meetings were held in conjunction with NTTG Planning Stakeholder meetings.
6. *Identify transmission physical and operational constraints resulting from the project or that are removed by the project;*

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The major transmission constraint for energy entering into Idaho from the west (or leaving Idaho heading west) is the Idaho to Northwest transmission path (Path 14). Currently this path is rated at 1,200 MW with a summer OTC of 1090 MW (west to east) and is fully subscribed. The Hemingway to Boardman Transmission Project is expected to increase the Path 14 rating to 2,200 MW. Pending studies will address the impacts.

7. *Coordinate project plans with and seek input from all interested members, sub-regional planning groups, power pools, and region-wide planning group(s);*
 - a. Idaho Power is a member of the Northern Tier Transmission Group (NTTG) and as such participates in NTTG Planning Stakeholder meetings. At these meetings, Hemingway to Boardman is presented to participants and feedback has been received concerning the project. Additionally, these planning meetings are used to coordinate the various transmission projects proposed by NTTG members.
 - b. Idaho Power is coordinating planning with Columbia Grid and transmission additions planned by members of that organization.
 - c. Idaho Power and a number of other utilities with proposed regional transmission projects in the Northwest have signed a letter agreeing to coordinate technical studies.
 - d. Idaho Power is a member of the WECC Transmission Expansion Planning Committee (TEPC) and has kept members informed about Hemingway to Boardman progress.

8. *Coordinate project plans with and seek input from other stakeholders including utilities, independent power producers, environmental and land use groups, regulators, and other stakeholders that may have an interest;*

Regional Planning Review Group Members included regulators, utilities and other stakeholders. Additionally, NTTG Planning Stakeholder meetings are attended by environmental and land use groups and their input was solicited for Hemingway to Boardman.

9. *Review the possibility of using the existing system, upgrades or reasonable alternatives to the project to meet the need (including non-transmission alternatives where appropriate);*

Given that the Idaho to Northwest transmission path is fully subscribed, it is not possible to meet either load growth requirements or transmission service requests using the existing transmission to deliver energy from the west.

10. *Indicate that the sponsor's evaluation of the project has taken into account costs and benefits of the project compared with reasonable alternatives;*

The cost and benefit of the project was determined through the IRP process which identified this as one of the preferred projects to meet load requirement in 2012.

Through the RMATS process many scenarios were evaluated and the Phase 1 Report included the Midpoint to Oregon transmission path as recommended transmission path to

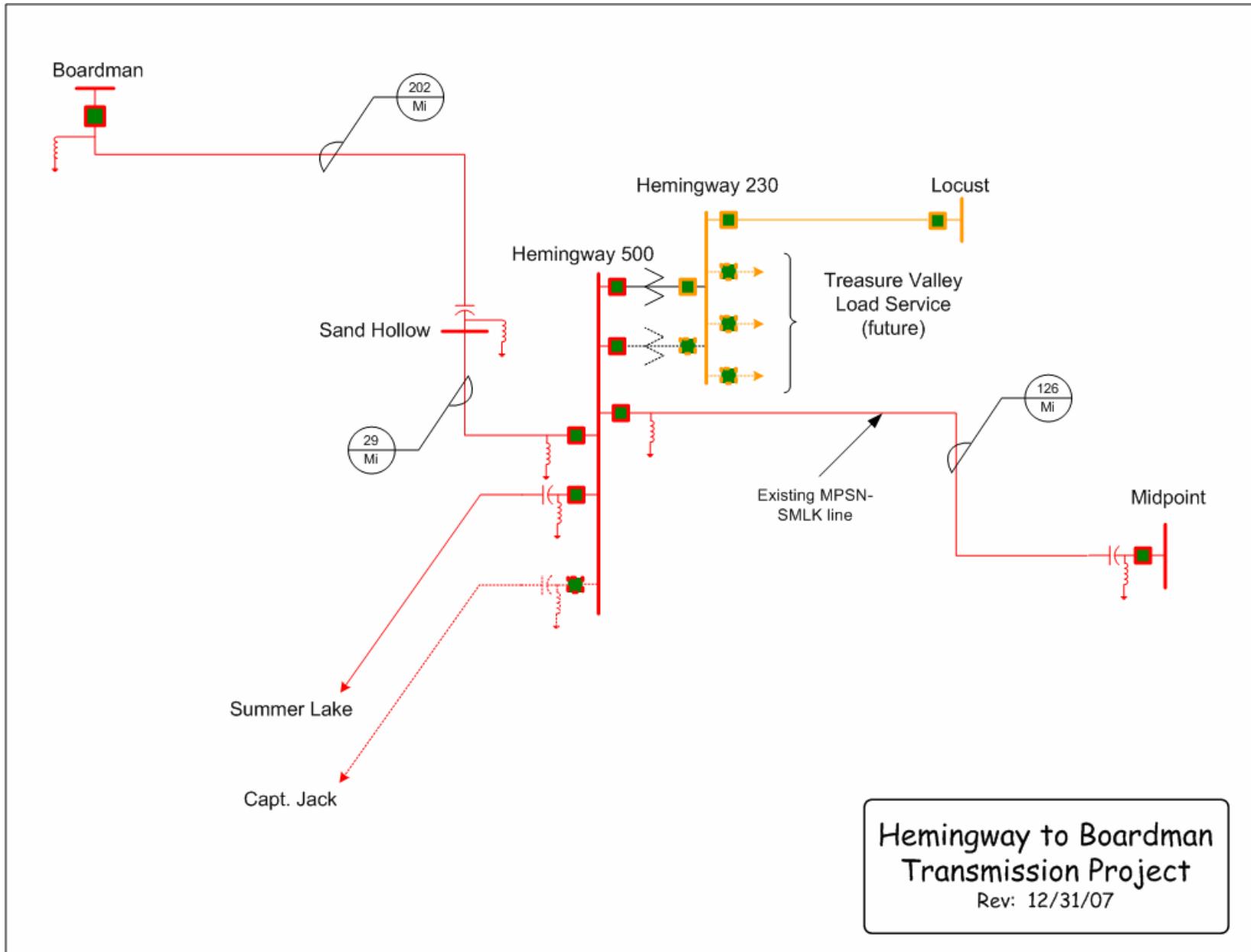
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support the development of Wyoming resources beyond the RMATS footprint providing an annually savings of \$516,000,000.00.

- 11. Coordinate with potentially parallel or competing projects and consolidate projects where practicable;*

At this time, there are no known parallel or competing projects that could provide the capacity needs addressed by this project.

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Appendix A – Regional Planning Project Review Group Invitation Letter



July 5, 2007

Planning Coordinating Committee
Technical Studies Subcommittee

Subject: Regional Planning Project Review for the Jointly Proposed 500 kV Transmission
Project from Jim Bridger to Northeastern Oregon

Idaho Power is initiating the process for Regional Planning Project Review to construct and operate 500 kV transmission between the Jim Bridger Generating Plant and northeastern Oregon. This transmission project, to be constructed jointly with PacifiCorp, will increase the transmission capability west of Jim Bridger by 3000 MW, west of Borah by 3000 MW and from Idaho to the Northwest by +/-1000 MW. The desired in-service date for the project is 2012.

If you are interested in participating in the Regional Planning Project Review Group, please complete the attached form and return it to Candace Gentry, email cgentry@idahopower.com, fax (208) 388-6647, by August 6, 2007. Questions should be addressed to Dave Angell at daveangell@idahopower.com or (208) 388-2701.

Sincerely,

A handwritten signature in black ink that reads "David M. Angell".

David M. Angell
Manager, Delivery Planning

enc: Response form

P.O. Box 70 (83707)
1221 W. Idaho St.
Boise, ID 83702

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Appendix B – Regional Planning Project Review Group Members

The following Regional Planning Project Review Group membership list is identical to the review group formed for the Gateway West Transmission Project. This is because originally these two projects were combined as one but have since been split into two separate projects using the same review group members.

Planning Review Group Members		
First	Last	Company
Robert	Jenkins	Pacific Gas and Electric Company
Craig	Quist	PacifiCorp
John	Cummings	NorthWestern Energy
Rebecca	Berdahl	Bonneville Power Administration
Mike	Kreipe	Bonneville Power Administration

Correspondence Only		
First	Last	Company
John	Williams	Bonneville Power Administration
Morteza	Sabet	WAPA-SNR
Kurt	Granat	PacifiCorp
Dan	Wood	Utility System Efficiencies, Inc.
Don	Johnson	PacifiCorp
Dana	Cabbell	SCE
Geordie	Hochbaum	Cargill Power Markets, LLC
Dave	Churchman	Idaho Power Company
Scott	Wiley	Bonneville Power Administration
Michael	McWilliams	Powerex
Paul	Arnold	Columbia Grid Oregon Public Utility Commission Wyoming Public Service Commission Idaho Public Utilities Commission

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Appendix C – Minutes from Regional Project Review Meetings

Note: Some Regional Project Review Group Meetings were held in conjunction with NTTG Stakeholder meeting. As such, the minutes are combined for the groups. Additionally, the Hemingway to Boardman Transmission Project (formerly known as Idaho to Oregon Transmission Project) was originally combined with the Gateway West Transmission Project so the minutes also include information concerning both projects.

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Gateway West Transmission Project And Idaho to Oregon Project Regional Project Stakeholder Meeting

September 7, 2007
Idaho Power Headquarters

Purpose of Meeting

Dave Angell (Idaho Power) opened the meeting and reviewed the agenda. This was followed by Bert Gumm, Leader of Idaho Power Operations Compliance who read and explained Idaho Power's Standard's of Conduct.

Dave Angell asked that all who were in attendance via teleconference identify themselves followed by introduction of those in the room.

It was explained that the purpose of this meeting was to meet the requirements of WECC Regional Planning Project Review policies, to share the projects' study plan for the WECC Regional Planning Process Phase 1 and to meet stakeholder requirements of FERC 890 Attachment K for both the local and regional processes.

Project Overview

Dave Angell presented the project justification to the group. It was explained that the purpose of the project was to serve local load growth, regional load growth and provide transmission to identified regional resources. The attendees were asked for their input concerning the project justification.

A project description for both the Gateway West Transmission Project and the Idaho to Oregon Project was delivered. This was tied into a description of other regional projects currently in their planning phases. The desired path ratings for both subject transmission projects was explained along with the reliability associated with both projects. Power flow basecases chosen to represent both projects were described. The attendees were asked for their input on this overview.

Study Plan

The project Study Plan was given to all participants at the beginning of the meeting. While there wasn't time to review the entire plan, the project timeline was described as was the current project status. The attendees were asked for their input.

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Summary of Questions/Answers/Comments

Identification of the person asking the question or providing the comment are not provided below, however, most of the persons are identified in the notes. It was difficult to capture the persons with phone questions/comments.

The answers to the questions were provided by Dave Angell and Kip Sikes of Idaho Power and Darrell Gerrard (check spelling) of PacifiCorp.

Comment (C): Idaho Power stated that they are expecting to post a draft Open Access Transmission Tariff (OATT) on their OASIS site by September 14.

Question (Q): How is this planning process going to coordinate with the queue process?

Answer (A): Regional Planning Process does not constitute a service request under the OATT so it doesn't apply.

Q: On review of alternatives on P10 of presentation, how far along are parties in doing this?

Answer: We haven't spent time on costs vs benefits. We've looked mostly at benefits.

Q: Concerning P10 of presentation, have alternatives been considered?

A: The evaluation is underway.

Q: Concerning P20 of presentation, are ATC numbers short term?

A: P20 shows breakdown of long term firm in terms of season.

Q: Concerning P20 of presentation, are ATCs contract or actual?

A: Under FERC definition of ATC, these numbers are defined.

Q: Do diagrams on P19 and P20 of presentation take into account new generation that is coming on-line?

A: Yes, they do. When we say they are, we mean the parties have transmission to move their energy. PacifiCorp is a little concerned about the resources but PacifiCorp wants transmission options.

Q: Concerning P20 of presentation, with all the zeros on the ATC, what happens if no transmission is built?

A: We won't be able to provide necessary power. One attendee stated that Portland General Electric has experienced a scenario where transmission couldn't be built in time to serve load. They had to install combustion turbines to serve the load.

C: Idaho Power reviewed some other regional projects that are in progress,

- Trans West Express
- High Plains Express
- Other PacifiCorp projects
- Northern Lights
- SWIP

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C: An attendee added that we should also include the Wyoming West project and the Wyoming – Colorado Intertie project.

Q: Is the main objective of the Idaho to Oregon project to get resources from Mid-C to Boise?

A: Looking at import constraints and ATC. Northern terminal not nailed down. Idaho Power knows where our load center is and where the power needs to get to.

C: The sooner Idaho Power nails down the northern terminal the better. This impacts McNary West planning. Focus of BPA project (McNary West) is to move Mid-C resources west. If they should assume anything else because of Idaho Power's project, they need to know. Idaho Power stated that mutual benefits need to be looked at.

Q: On P8 of presentation, what is the justification for showing over 7,500 MW of coal given the current negative atmosphere toward coal? If the current plans change and we start building more gas plants, what happens to the justification?

A: Given uncertainties, it's best to move forward with existing plans and then not build if necessary, especially realizing the length of time required to build new transmission lines. Also, the amount of renewables available in Wyoming is tremendous.

A: If you look at the map that talks about options, the transmission builds to markets so if resources don't show up you still have the market.

C: Seems to one participant that you know where your projected loads are so you know you need resources. Don't know where the resources are going to be.

C: With all the projects, you almost need that interconnection.

C: You need to get all parties in the region together to discuss projects.

C: ColumbiaGrid is having a meeting to discuss this. ColumbiaGrid is forming a study team to look at project synergies.

C: PacifiCorp's method is to line up with other utilities that have interface/similar needs. i.e. PG&E, IPCo, APS. Native load service will drive projects.

C: As a former planner, we used to do this. Now we have rusty planners. The need has been pent up. The task is how we bring the plans together. Don't use sky is falling syndrome, but the transmission has to be built. Jim Eden of PGE chairs the transmission planning subcommittee for the Northwest Power Pool and they have organizations popping up all over the place.

Q: Need clarification on 500 kV projects. Are the lines through southern Idaho new?

A: Yes

Q: Are the lines from Jim Bridger additional to existing 345 kV lines?

A: Yes, we are hoping to increase the rating by 3,000 MW.

Q: Is there any ROW in place for the 500 kV lines?

A: We are working on the ROW now.

Q: Does the double circuit 500 kV from Bridger to Populus present reliability problems?

A: On P33 of presentation, we believe there is limited ROW from Bridger to Populus. Double circuit outage is credible and we think Gateway South project (PacifiCorp) will provide relief, at least as far as Populus. MSTI (Northwestern Energy) project could help also. LS Power 500 kV transmission from Midpoint to Ely Energy Center will give ability for some transmission flow. We are evaluating the reliability as part of the study process.

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Q: How will other projects fit in a commercial sense? How are we dealing with more power coming into Midpoint with no transmission to get it out?

A: There are many projects planned in and out of Midpoint.

Q: Won't this have an impact on North – South transmission?

C: Glad we are including looking at MSTI project. Also need to look at 1,500 MW coming down MSTI and then some coming in from Populus. On big picture basis, need to look at projects from Montana.

A: Good item. We will also be looking at simultaneous flows versus non-simultaneous flows.

C: Concerning P33 of presentation, PacifiCorp says options are what they want to consider. This shows a double circuit ring around their largest load center. Days of multiple ROWs are gone. Double circuit shows they are maximizing ROW. If load and resource picture changes, they only have to build one circuit.

Q: Concerned about one contingency causing outage. Why don't we have any plans to identify transfers from West to East?

A: True, it's only unidirectional as shown but there are reasons we could look at both. For native load, import is most important. Would you recommend that we include bidirectional rating on the project?

A: Attendee stated yes. PacifiCorp may be transporting California energy across Idaho for load service.

C: Concerning P25 of presentation, McNary – Sand Hollow line. There is an Indian reservation near Pendleton that will be a problem for ROW.

C: If wind doesn't get built, the North of John Day cut plane might be a problem going north to south.

Q: Is Sand Hollow part of the Treasure Valley 500 kV loop?

A: Yes. It will start as just a series capacitor and reactor station. Eventually, 500 kV will be built across the northern part of the Treasure Valley to fill out the loop.

Q: Are you thinking about the planned BPA transmission heading west from McNary?

A: Main purpose is for import into Idaho.

Q: Thought the Sand Hollow – McNary transmission was bi-directional. Where does power go to when going from Idaho to the Northwest?

A: We are aware of planned BPA McNary to the west corridor improvements and we are aware of constraints. We will coordinate with ColumbiaGrid and NWPP NTAC.

Q: Why hasn't BPA been contacted prior to now concerning this?

A: We will put in an interconnection request as this gets fleshed out.

C: Idaho Power and PacifiCorp are aligning all the projects shown on P31 of the presentation with ours in power flow.

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Q: Concerning the light autumn case, 2010LA1-S, won't there be more than 3,000 to 6,000 MW flow because of the Capt. Jack line and others?

A: PacifiCorp is interested in flows south. Both Gateway West and Gateway South are using the same power flows. MSTI is also going to use them.

A: On 2015 heavy summer case, definition did not have heavy loads in Southern California and had lighter loads in the west. We will increase the loads in the case.

C: So far with baselines, we've removed resources not developed, added projects in-service but not in baseline (or close to in-service). We've also adjusted loads. By mid next week, we will have the cases available.

Q: Will the baselines be publicly available?

A: It's a WECC issue. Need to sign WECC non-disclosure agreement and merchants are limited to the new cases we develop.

A: WECC representative says the modified cases are not available to merchants but baselines are to any WECC member.

C: FERC has said all information must be available to everyone so not sure how this works. Things have changed and WECC practices might be wrong now.

C: WECC policy is based on national security so shouldn't be limiting as long as non-disclosure agreement is signed.

Q: If we do participate in project, are we (merchants) treated differently than others? FERC has never said that.

A: We will provide the data as long as it meets SOC requirements, critical infrastructure requirements, etc.

Q: When are PAC and Idaho Power taking this to WECC rating process?

A: We will have some study results in mid-October so we have to clarify what we can share.

C: Participant thinks it's optimistic that Phase 1 and Regional Planning are completed at same time.

A: We think NTTG process has helped us with that. Phase 2 will certainly be more dragged out.

C: The January finish date for Regional Planning and Phase 1 is too tight for BPA to respond to an interconnection request.

C: Regional Planning is kind of gray so don't need queued request to go through process.

C: Talking about the Phase 1 process and the transfers going into McNary. BPA has a lot of studies for interconnection requests and it will take time. BPA is queue driven on their studies.

C: From a PUC representative, for those of us who suffered through Grid West, etc., somebody will bring to FERC's attention that this area needs to be addressed. This should be done outside of the queue process.

C: Chicken and egg. How can you manage queue with regional planning process under FERC 890?

C: IPCo Merchant does have an interconnection request with BPA from McNary to Idaho that was initiated 16 months ago. No response from BPA yet.

Q: Concerning the WECC Review Checkoff that begins on P40 of the presentation, the checkmarks make it look like these are done. Are they?

A: They are in process, not done.

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Q: From Idaho Power...Is there a preferred method for interfacing with BPA since ColumbiaGrid doesn't look to be passing the information on?

A: The queue is taking more time than they have. Try working together. Point of Contact at BPA for this is Mike Kreipe.

Q: Sort of expected that NTTG would take care of one area of planning and ColumbiaGrid would do other. This is not in NTTG's scope?

A: NTTG doesn't build projects. NTTG is doing regional planning. The building parties must take projects through WECC rating process.

Q: Is Dave Angell on West of McNary project mailing list?

A: No.

C: Marv Landauer of ColumbiaGrid said he would put Roger Grim (Idaho Power) on mailing list.

Q: Concerning P46 of presentation, what might you get out of coordinating with WECC Transmission Expansion Planning Committee (TEPC)?

A: They are doing economic studies and as our projects mature, we can use that. We will also make sure our projects are properly identified in the TEPC process. We are looking at being transparent.

C: Concerning P46 of presentation, maybe put checkoff for RMATS under #4

C: It is noteworthy that NTTG is unique in the U.S. in that its board is ½ utilities and ½ regulators.

Q: Concerning P47 of presentation, does the ROW coordinate with national permitting process?
A: Yes, we are doing that.

Q: Are load reduction by DSM activities considered as an alternative to building transmission?

A: Most of PacifiCorp's projections on native load are long term. This includes DSM activities, so that alternative is considered. National Grid and others looked at demand control and other transmission configurations.

C: This almost seems to call out for a benefit/cost study. Or put the projects out there and get requests.

A: RMATS study did production cost/benefits. We will rely on prior studies. Maybe do some simple validation.

C: One participant doesn't like that we are not looking at cost/benefits.

Q: There are no dollars associated with this. Will we get estimates at some point?

A: We are in the process of looking at that (whether we are allowed to give out these numbers).

C: From the Idaho Power merchant side, we have requests on PAC, IPC and BPA. This project overlays all this. Anything we can do to help them with costs would be good.

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C: NTTG is putting together cost allocation committee. Will be up and running by end of year 2007. It will look at who pays for what. Look on NTTG website for list of cost/benefits working in concert with planning process.

C: From Idaho Power, the total cost for PAC and IPC from Dave Johnston to McNary is in the range of \$2.5B to \$3B. Just from Bridger to McNary, the range is from \$2B to \$2.5B.

Next Steps (see timeline on P38 of presentation)

-NTTG meeting October 18 (Date moved to week of October 29th) in Boise. Results of initial study will be presented at that meeting.

-NTTG meeting December 11 in Salt Lake City. We will present our draft report.

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Description of Meeting: NTTG Planning Stakeholder Meeting

Meeting Date: Monday October 22nd, 2007

October 22nd, 2007

Boise, Idaho

1. Overview

The NTTG Standard of Conduct and Anti-trust policies were read. Roll call was held for both in-person and phone participants. Phone participants were directed to the NTTG Website for meeting materials.

The agenda and meeting purpose, to stakeholders with basecase information and receive their feedback, was discussed. An overview of the basecases within NTTG was discussed by Dave Angell with assistance from other project sponsors.

2. Summary of Questions/Answers

Comment: (Slide 10) Looking at south of Mona down to Crystal as 345kV with a possible upgrade to 500 kV. TransWest Express will layer in. Next meeting will be in Cheyenne, WY on Nov 7th then again in Phoenix on December 5th.

Q: (Slide 15) Could you expand on Midpoint-Summer Lake what you mean by, “It’s just an upgrade?

A: Midpoint-Summer Lake from west to east is allowed a transfer capability of 400 MW and increased to 550MW with no facility improvements.

Q: Should we have both projects modeled 500 kV from Ely energy center down to southern Nevada just a single line

A: Just one, however it depends on which one we get the data from.

Q: (Slide 16) Is the coal facility indentified at 870 MW a single facility?

A: It could be distributed around Montana

Q: (Slide 16) What is the time frame that you are looking at for all this?

A: MSTI 2013; And projects proposed operational date isn’t till around that time, anywhere from 2011-2014

Comment: Keep in mind TEPPC database and additions there to see how these match up

Response: We are in process in responding to your data request for all that information, there probably aren’t that many new generators in Montana.

Comment (Slide 17): We hope to finalize resource numbers for TransWest Express within two weeks time frame.

Comment: (Slide 20) Typing was wrong on 2015 HS; The NorthWestern Energy area should be 1900.

Comment: Resources in WY are in extended resource plan and would come on after the facilities are in service

Comment: The year that was selected for the resource portfolio for WY was essentially a 2023 timeframe

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Q: What assumptions are being made for resources in Idaho, Oregon, and Washington?

A: The resources that show up in the 2015 case would be any of the resources that were allocated in the WECC process for loads and resources in that area that could be quite a few years out. The resources that I expect in Oregon and Washington will be wind in the Columbia Gorge area.

Q: And those are not reflected in the basecase because you were making the assumption that they are not going to be there?

A: If they were in the WECC 2015 case then they were modeled in, we have gone out a little bit beyond that and identified some resources in WY of various portions into the West.

Q: When was the WECC 2015 case put together?

A: In the last 6 or 9 months. These are the latest WECC cases available. They were approved this last winter or spring.

Comment: It would be good to show some resources in Washington or Oregon area even though they may be wind.

Response: We will compare the 2010 to the 2015 and see what differences there are in the resources and then come back to 2007 or 2006 case and screen again to identify in the Northwest what additional resources are showing up. We can put that out on the NTTG website in a week or two when we post the minutes.

Q: Does anyone disapprove of the basecases as it has been presented today? Anything out of reasonableness

A: Hearing no objections we will move forward

Q: Have you guys put together a study plan of basecases that have been approved as of today and what methodology you will use in purpose of this study and what you are really looking at in respect to the output? For anything that NTTG is going to study?

A: NTTG approved these as Fast Track projects believing that they add value to the region. It is up to each of the project sponsors to take them through the stakeholder process that are set up through WECC rating process.

Q: Do you need to provide your name and information to each project sponsor?

A: Yes, to make sure that you are on their regional planning list.

Q: And all the information regarding the project will be at the appropriate party's website, not at the NTTG website?

A: Correct

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Description of Meeting:**Planning Stakeholder Meeting****Meeting Date: Tuesday November 13th, 2007****November 13th, 2007****Portland, Oregon****1. Overview**

The NTTG Standard of Conduct and Anti-trust policies were read. Roll call was held for both in-person and phone participants. Phone participants were directed to the NTTG Website for meeting materials.

The agenda and meeting purpose, to provide a venue for stakeholder input on progress and studies results to date on the proposed transmission expansion projects undergoing regional review in the NTTG footprint. The PowerPoint presentation was discussed.

2. Summary of Questions/Answers**Questions following the Inland Project update by Northern Lights/TransCanada:**

Q: Any possibility that the transmission could be built only for renewable sources, or will you need gas?

A: We are basically a merchant developer, so we provide the freeway for the energy to flow on. It will be up to the load serving entities and the generators to decide what the resources will be.

Q: On slide 11, please expand on “Equity and Operating Partnerships-discussions underway” and “Indicative Tariff Proposals”. Has that proposal been written? Has it been discussed with Canadian as well as U.S. agencies?

A: We talked with almost all the utilities that are in the footprint and we talked about what approach Trans Canada would like to take. And your second question surrounding the indicative tariff proposals - each one of those has been done around a confidentiality agreement and given to individual entities that have expressed an interest in understanding the tariffs that might apply to the project.

Q: Does that mean that you talked with Pacific Gas and Electric on their proposal on the eastern side of B.C. to the same area of your line in that area?

A: Yes we have had discussions with PG&E

Q: Is there any reason it is not represented on your map about that project?

A: I took this slide from an NTTG presentation and modified it for this presentation to NTTG to give it some context for this meeting.

Q: On slide 3; do the squares that represent sub-stations or proposed sub-stations imply that they are multi-terminal DC lines?

A: We do believe that they will be multi-terminal DC lines.

Q: We assume that if you are proposing multi-terminal DC, that you have found someone who has a technical solution to DC breakers for isolating DC line faults between terminals?

A: We will not involve DC breakers, it would involve the shut-down of a pole; we would use sectionalizing equipment to open it up; and sectionalize the converter station

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Q: When you said “sectionalizing equipment to open it up” - that is not a breaker?

A: No. If you had a fault on a pole you would shut the pole down. If the fault happened to be between the line and the converter station then you would need to isolate that converter station.

C: The concern is that when you shut down that pole you shut it down for the entire system not just from point to point and we aren’t sure if anyone has the solution to that yet.

R: It would be a challenge.

Q: What is the status of your WECC rating process on the projects?

A: We are just getting ready to submit the report for WECC approval and will move into the path rating process in parallel with other projects that are moving ahead in that region.

Questions following the MSTI update by NorthWestern Energy:

Q: (slide 41) Which case did you run this on?

A: 2010 light load

C: (slide43) Concerning slide titled “LL, NTTG CCL1 Results,” he has some additional results that aren’t on slide.

- The voltage deviations are up to 7%; there may be a simple solution or it may be a basecase issue. As the case is tuned up it can probably be resolved.
- Midpoint 345/230 kV transformer problem is existing and not created by MSTI.

Q: You didn’t include California as growing loads on Point #2, why is that?

A: That was just an oversite.

C: MSTI is not building new wire to California.

C: In the post-NTTG projects we do show Great Basin and Ely projects, so there is a path from southern Nevada which could go into California. There isn’t new wire but there may be ways to get to California from there.

Q: On point #5 there was some work done on the RMAT studies with regard to a phase regulator, is there some cost beneficial information on the MSTI project?

A: We think that there is. This fits nicely with RMATS. The benefits are much more with 1500 vs. 1000.

Q: On your cases that you described on the heavy load and light load, was it 1500 MW for both cases or not?

A: Yes, we pushed 1500 MW for both.

Q: You have two different points of connection, either Garrison or someplace west of Townsend and Idaho was Midpoint or Borah, which did you assume for the studies?

A: Townsend to Midpoint

Q: For Townsend did you assume both new lines?

A: We would put a breaker and a half scheme there and make a big bus at Townsend

C: Our plan is to look at the Populus connection in phase 2

C: One of the reasons for Populus is to be a northern terminal to move power south towards Salt Lake City so it should be looked at and is a viable option.

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Q: Where is the baseload generation tied into Montana?

A: Some is tied in to the 500 with a radial 230 kV and a lot of it is tied into a collector system. Which is bringing the power to Broadview, or to Garrison, and then onto the 500.

Q: And then they all come to what we call Montana Intertie - the transmission to Garrison to the 500kV. Is that what you are referring to at Northwest Intertie?

A: Not necessarily. At Garrison there is a 500-230 autobank. Under that there is a 230/160 kV system all in western Montana. The same at Broadview –two 500-230 auto banks with underlying 230/160kV that spreads out into eastern and northern Montana. All of the generation is tied into that underlying system.

Q: 1500 MW of generation connected via your 230-500 at Garrison?

A: Garrison or Broadview

Q: Does the line 1500 use any series compensation?

A: Yes, at a level of 35% comp. We started here and it seems to work right now. We don't need a lot of angle on that to push it at 35% comp.

C: By having the MSTI comp you add a complexity to the system.

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R: The 3 phase WECC study process is not the end of the study work on this line; the next part is the SSR, etc. which will take place as the project moves forward. The WECC process protects that and we plan to respect the WECC process.

Q: You mentioned improving reliability for Montana NW either east or west; does this help Idaho to NW, especially in the light loads (without any NTTG projects)?

A: We didn't look into that level of detail. What will really help Idaho NW are the other NTTG projects (to Captain Jack and up to McNary).

C: In the light load we did have the phase shifter maxed out at 60° but this is only the beginning of the project and we will work with all of the points that you have made.

Q: When will MSTI be operational?

A: 2013

Questions following the Southwest Intertie Project update by IPC/LS Power:

Q: Who is the Transmission Owner for the project?

A: LS Power is the developer of the project under the name Great Basin Transmission. The permits are under Idaho Power's name.

Q: Who will be operating the transmission contracts?

A: That detail hasn't been worked out yet.

Q: Will the products be offered under open access tariffs?

A: Probably, but we have not decided for certain.

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Q: Eddy; In the basecase, what was the southern terminus of this Great Basin? Was it connected to Sierra system and if it was, at what location?

A: Harry Allen

Q: That means that you did have the southern side modeled as in-service according to the northern. Then in White Pine is there a total of 3000MW of coal (1500 south and 1500 north), or is it just 1500MW of coal?

A: The generation is a total of 1500MW at that location. On the case we are running, Light autumn 2010, the northwest is set up to be an importing load base - energy is coming out of California and from the east to the northwest. When generation is added at that location it is being sucked north. We have not done any other studies.

Q: How is it connected? Was the station in Robinson Summit and is that how it is connected to the Sierra's 345/230 kV system?

A: We have the connection to Las Vegas and Harry Allen, and 500 up to Robinson Summit, but I don't have the details off hand.

C: I am quite surprised that this doesn't impact on 2c, 2b, and 2a.

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R: The way the Great Basin project Phase 1 works out (the way the southern half of SWIP is modeled) is you have the generation located at White Pine. There are two 500 kV lines down to Robinson summit, then there is a 500/345 transformer (there may be 2 of them) and 345 kV phase shifters that connect into the Gonder line and that is how that is how the connection is made to Sierra Pacific. Then you have two (NTTG and Great Basin projects) 500 kV lines south from Robinson Summit to Harry Allen.

R: The model will only show a single line south. Many of these questions will be answered in Phase 2.

Q: On slide 4 you show some numbers - those are line miles I assume?

A: Yes.

Q: What is the line going from Midpoint north?

A: That is the MSTI project

Q: On slide 11 you mention that there are no competing projects - why?

A: That is just looking at SWIP north

Q: We had a presentation from TransCanada which proposed two connections from Las Vegas up to Borah which seems very similar.

A: In a north to south sense they are similar. TransCanada shows a potential converter station as an option.

Questions following the Idaho to Northwest update by IPC:

Q: The direction of the project is both west bound and east bound?

A: Correct. The project was originally identified as inbound, however, we have had requests for outbound as well.

Q: Where is Melba on slide 4?

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A: Hemingway was formally Melba.

Q: Hemingway to Midpoint - is that a part of the existing Midpoint to Summer Lake?

A: Those that are shown on this map are all new. There would be a Midpoint to Hemingway and a line from Hemmingway to Summer Lake.

Q: Is Hemingway going to have two 500kV lines coming out of it (One to Capt. Jack and the existing one to Summer Lake)? Your slide presentation does not discuss the upgrade to Summer Lake or Captain Jack. I haven't seen PacifiCorp start to take that through the WECC rating process.

A: Midpoint to Summer Lake is in Phase 2 of the WECC rating process. The intent to get the Midpoint - Summer Lake rating increased before any of the projects are built.

Q: So the Idaho to Northwest path rating would increase and what you are proposing is in addition to that?

A: Yes

Q: How many lines would be going northwest from Hemingway?

A: There would be 3 lines: Hemmingway to NE Oregon, Hemmingway to Summer Lake (the existing Midpoint to Summer Lake line), and Hemmingway to Capt. Jack (if PacifiCorp determines that that is what they want to do. They have announced it to some level, however, they have not committed yet).

Q: The existing Midpoint - Summer Lake 500 will get looped into Hemingway and if PacifiCorp wants to it will build a new 500 from Hemmingway to Captain Jack.

A: That is correct

Q: Have you run any basdcases for Hemingway to Northwest?

A: We have run a couple initial cases. Recently our focus has been more on the Gateway West project.

Q: On point #2, please describe "coordination."

A: We first need to determine where the project will land. The ability to get 500 in and out of McNary may be very difficult because it has been cited as congested.

C: Captain Jack termination is not concrete. We are looking at several different options.

Questions following the Gateway West update by IPC/PAC:

Q: Is that part of the WECC 3 phase?

A: No

Q: Is the project description for Gateway West going to be officially changed? Because the phase 1 is dependent on the points that you have in Phase 1 which at this point does not include Dave Johnston.

A: That is correct. When the project initially started it actually showed it starting from Dave Johnston.

C: You will need to look at the WECC process instead of the RMATS. Each one will need to be examined.

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Q: For your Great Basin projects would you terminate at Hollister instead of Midpoint?
A: Yes we would, just a single line.

Q: Point 10; How do you propose to deal with the fact that since our last study was completed, the brown electrons are more expensive or less valuable?

A: We would put together a report with the RMATS data in it and see comments from those who actually operate the generation. Parts of the RMAT study included CO2 incremental prices, so there may be some good information there.

Q: Point 9 – MSTI ties into Midpoint then north SWIP comes in and ties into Cedar Hill. It seems that you may not be considering a tie between those two.

A: We won't have 3000MW of load. In the sequence of building up the system and the flows coming along in time that tie would be one of the last projects we would take, it may be a matter of timing.

C: I don't think RMATS considered any cost associated with the wind integration. If they did assume anything it may have been too low, and this really needs to be considered in the cost of new transmission.

Q: Do we have a 500/345 transformation via the eastside or Gateway west?

A: That would be portion of Gateway west. We are looking at multiple transformers there and we initially threw in 1500. Our initial mode also puts a phase shifter to maintain loads in that link.

Q: Concerning Jim Bridger to Populous, what are you considering for your contingency analysis?

A: We are going to consider N-2 since it is credible. We must also consider generator tripping, which is what the new system will have.

C: Your transformation on the 500 to 345 needs to be sufficient enough at Jim Bridger otherwise you will need to reduce generation in Wyoming. This should be stated in the studies.

R: No one has ever stated that this could be built without generator tripping. More than likely somewhere along the line we will have generator tripping somewhere wired into it.

C: It needs to be stated “last one on, first one off”.

Q: Point #4 – You state that you are removing the operational constraints on Borah west (RAZ); what are those and how are you correcting them?

A: We did 250 MW upgrade by building a 230kV line. Last summer we had 73 MW ATC summer. With studies that were performed we were able to increase from the 2557 to the 5557 on the Borah West without any unit trip. It would relieve the need for the Bridger trip.

C: The double circuit 500kV transmission is more expensive than 2 single circuit 500 kV lines.

R: Studies indicate that a single circuit 500kV is about \$1.25M/mile and double circuit is \$1.75M/mi.

Q: Is there a difference between Hollister and Cedar Hill?

A: They are the same location. It will remain Cedar Hill.

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Q: Slide 6 – What will become of the 1500 transformer to Midpoint? Will there be an additional transformer, an upgrade, or will the existing transformer be reinvented?

A: We are contemplating on east to west loads we would be going down to two; the transformer at Midpoint would stay the same.

Q: The Populus/Hollister line is not planning to connect to Borah, is that correct?

A: That is correct. Between Borah and Populous there are three 345 kV lines.

Q: On slide 11, did those studies include MSTI or SWIP north?

A: No but SWIP north does help.

Questions following the Gateway South & TransWest Express update by PAC/NG/APS:

Q: Slide 4 shows a HVDC terminal, and also on slide 6. I don't see much AC network associated with that - I assume that is new generation only.

A: At each one of these locations we have focused on the high voltage. Each one of these will tie back into Dave Johnston. If a terminal does head out appropriate facilities would be added if need be in southern Nevada along with additional studies. The AC hasn't been made explicit on the charts provided.

Questions following the Wrap Up and Next Steps:

Q: Would NWE be ready with comprehensive report?

A: We will provide whatever we have accomplished.

Q: The goal is to present publicly the initial draft of the comprehensive reports. Are the rest of the projects going to be ready?

A: There are 2 reports that we are all syncing – the regional planning report, would we be ready. TransWest Express/Gateway South-no, MSTI-yes, IPC-yes

Q: Is there benefit to holding a December 11th open meeting?

A: It may be better to have the next meeting in January.

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References

¹ Visit <http://www.nttg.biz/site/> to download an NTTG Fact Sheet.

² Visit http://nttg.biz/site/index.php?option=com_content&task=blogsection&id=5&Itemid=26 for information on NTTG Fast Track program.

<www.nttg.biz>

<Programs>

Scroll down to FAST TRACK

³ Visit <http://psc.state.wy.us/htdocs/subregional/FinalReport/rmatsfinalreport.htm> to download sections of the RMATS Phase 1 Report.

⁴ Visit

<http://wecc.biz/modules.php?op=modload&name=Downloads&file=index&req=viewsdownload&sid=179>

Otherwise

<www.wecc.biz>

<Committees>

<Transmission Expansion Planning Policy Committee>

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