

**WECC Phase 1 Rating Process  
Coordinated Planning and Technical  
Studies**

January 24, 2008

Portland Oregon

# Meeting Background and Purpose

Frank Afranji, PGE

## Introduction & Background

- Purpose of the meeting, 8-significant proposed projects
- Projects requested WECC Phase 1 Rating
- Only beginning of engagement process
- Goal is completion of Phase 1 Rating by August 2008
- We intend to keep on schedule
- Each project sponsor will be submitting an individual Project Phase 1 Rating report.
- Successful projects entering Phase 2 together

## Goals of Coordination

- Develop ideas to ensure robust proposals brought to sub-regional & regional engagement
- Avoid duplication
- Ensure efficient use of resources
- Optimize current T-expansion plans from commercial as well as technical views
- Open and transparent FERC Order 890 compliant planning

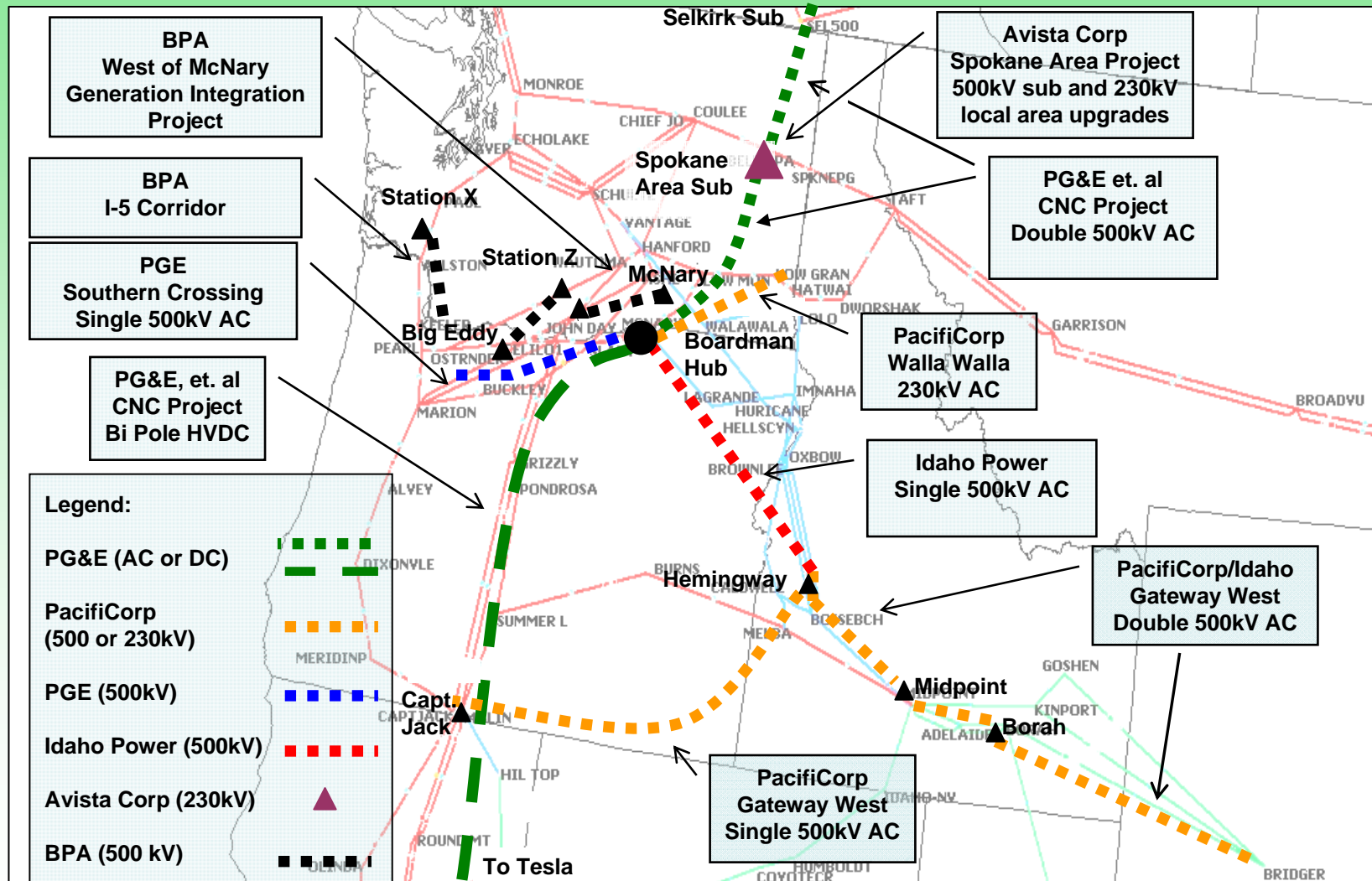
# **General Plan for WECC Phase 1 Coordination**

Ben Morris, PG&E

## Objectives

- Coordinate the WECC Phase 1 Rating (non Simultaneous) studies for projects that meet the following criteria:
  - Currently in--or soon to be in--Phase 1
  - Completion of Phase 1 in August 2008
  - Agree to using a common methodology
  
- Projects that meet such Criteria include:
  - Gateway project – [PacifiCorp](#)
  - West of McNary Project - [BPA](#)
  - Idaho-Northwest - [Idaho Power & Others](#)
  - I-5 Corridor Reinforcement - [BPA](#)
  - Southern Crossing Project - [Portland General Electric](#)
  - Canada to Northern California Project – [PG&E](#), [PacifiCorp](#), [Avista](#), [TANC](#) and [BCTC](#).
  - Canada to Northern California Project - [Avista Interconnection](#)
  - NorthernLights, TransCanada
  - Others
  
- Coordination facilitated by the Phase 1 Technical Study Coordination Group

# New Transmission Projects Converging at Boardman Planned Operation: 2010 – 2015



## Transmission Projects in--or soon to be in--WECC Phase 1 Planned Operation: 2010 – 2015

Sponsor	Project Name	Online Date	Voltage	Capacity
PacifiCorp	Walla Walla to McNary	2010	Single-230kV AC	400 MW
BPA	West of McNary Generation Integration Project	2010 & 2012	Single 500kV AC and 500kV Sub/Single 500kV AC	1,500 MW each
Idaho Power	Idaho to Northwest (Hemingway Boardman)	2012	Single 500kV AC	1,500 MW
PGE	Southern Crossing	2013	Single 500kV AC	2,000 MW
BPA	I-5 Corridor Reinforcement Project	2013	500kV Sub/Single 500kV AC	1,500 MW
PacifiCorp	Idaho to Capt. Jack (part of Gateway West)	2014	Single 500kV AC	1,500 MW
PG&E, Avista, PacifiCorp, TANC, BCTC, PGE	Canada – Northwest - California (CNC)	2015	Double 500kV AC and HV DC	3,000 MW
Avista Corp	Canada – Northwest – California – Avista Interconnection - Spokane Area Upgrades	2015	500kV Sub and local 230kV upgrades	500 MW
TransCanada	NorthernLights	2014	+/- 500 kV DC	2,000 MW

# Project Sponsor Activities (for each Phase 1 Project)

- Develop Study Plan
- Study Assumptions:
  - Identify the location and capacity of new incremental generation to be accessed with the proposed project
  - List Major paths to be monitored and their target flows
  - Identify the projects in the WECC Phase II Rating process to be modeled in the cases
  - Set of critical contingencies to be studied
- Develop Base Cases:
  - Use 2006 or 2007 series WECC base cases for the period 2010-2015
  - Seasonal cases, as required:
    - Summer Peak North-South Flow
    - Winter Peak South-North Flow
    - Light Spring North-South
    - West-East or East-West
  - Review and adjust Load and Generation balance in the cases as necessary and record Path flows

# Project Sponsor Activities

- Conduct Studies without and with Project
  - Power flow
  - Transient Stability
  - Voltage Stability
- Conduct sensitivity studies showing interaction with other Phase 1 projects, among others
- Communication of Study Progress and Results
  - Monthly Status report
  - Open Monthly Meetings/Teleconferences of the Phase 1
  - Participation Joint Big Tent meetings

# Phase 1 Technical Study Coordination Group (TSCG)


- Group formed to
  - establish consistent assumptions/methods for Project Sponsors
  - provide feedback on the Project Sponsor study work
- Participation
  - Representatives from projects in Phase 1
  - Other stakeholders with interest in providing feedback on technical studies
  - If interested in participating, contact Ben Morris BEM8@pge.com
- Activities
  - Develop consistent Assumptions, Switch Decks, Base Cases
  - Review and Comment on Project Sponsor Study Plans, Assumptions, Study Results and Comprehensive Progress Report
  - Attend monthly meetings or conference calls through August 2008
    - Meeting February 2008

## Proposed Schedule for Coordinated Studies

- Announce Phase 1 and Form Study Teams Dec 2007 – Jan 2008
- Joint Big Tent Meeting Jan 24, 2008
- Develop Assumptions (**support from TSCG\***) Feb 2008
- Prepare and Finalize Project Study Plans (**support from TSCG\***) Feb 2008
- Prepare Base Cases (**support from TSCG\***) Mar 2008
- Pre-Project Studies April 2008
- Technical Studies with Planned Project Projects April-Jun 2008
- Joint Big Tent Meeting Jun 2008
- Draft Comprehensive Progress Reports Jun - Jul 2008
- Review of Comprehensive Progress Reports (**TSCG Activity\***) Jul - Aug 2008
- Joint Big Tent Meeting Aug 2008
- Submit Final Reports to PCC and TSS Aug 2008

\* **Technical Study Coordination Committee meetings will occur monthly from February-August 2008**

# **Project Presentations**

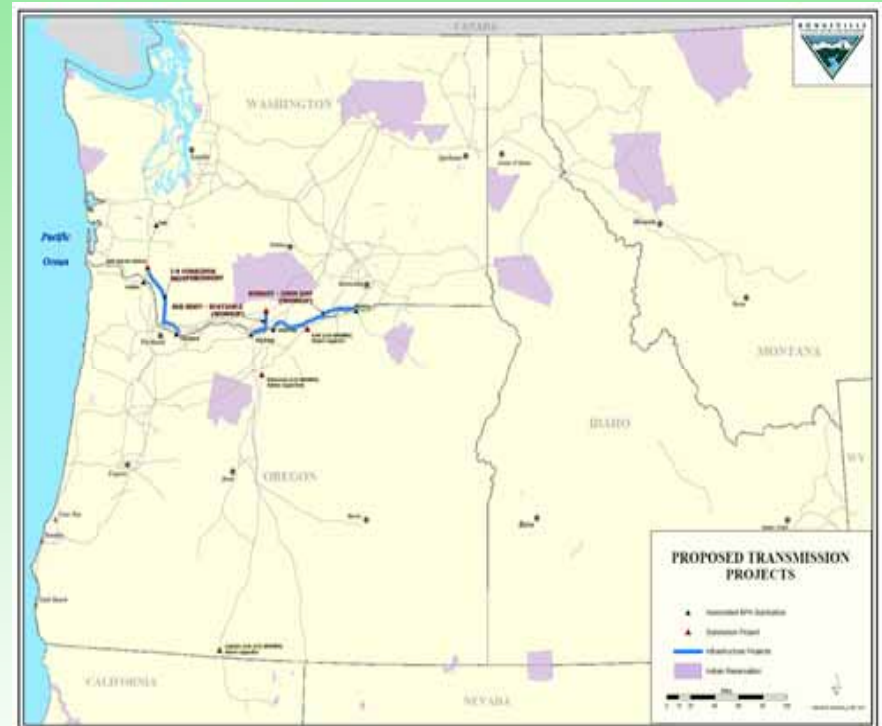


# **West of McNary Generation Integration**

Kyle Kohne, BPA

# Project Overview

- Major Project Elements
  - Part One: Construct a new McNary – John Day 500-kV transmission line.
  - Part Two: Construct a new 500-kV substation (“Station Z”) near Goldendale, WA, and a 500-kV line from Station Z to BPA’s Big Eddy substation near The Dalles, OR.
  
- Anticipated rating (TTC) increase:
  - Depending on where new generation is integrated.
  - West of McNary: 2850MW to 4500MW
  - West of Slatt: 4100MW to 5500MW
  - West of John Day: 2440MW to 3450MW
  
- Anticipated Operating Date:
  - Part One: 2011
  - Part Two: 2013
  
- Project Website:  
<http://www.columbiagrid.org/mcnary-overview.cfm>





## Objectives

- The objective of this project is to enable BPA to serve point-to-point transmission requests across multiple congested east-west transmission paths along the Washington – Oregon border. It would also enable BPA to integrate additional wind generation in Eastern Washington and Eastern Oregon.
- Increase system reliability to serve Portland area load.

## Background

- West of McNary Generation Integration Project Regional Planning Compliance Report submitted to WECC Planning Coordination Council on December 31, 2007.
- Power Flow and voltage stability studies have been completed. Transient stability studies are in progress.

## Project Implementation Schedule

- McNary-John Day 500-kV
  - Project will take approximately 3.5 years from start to energization
    - 0-0.5 year: Environmental Process
    - 0.5-1 year: Material Procurement
    - 1-3.5 year: Construction
  
- Big Eddy-Station Z 500-kV (includes Station Z)
  - Project will take approximately 5 years from start to energization
    - 0-2 year: Environmental Process
    - 2-2.5 year: Material Procurement
    - 2.5-5 year: Construction

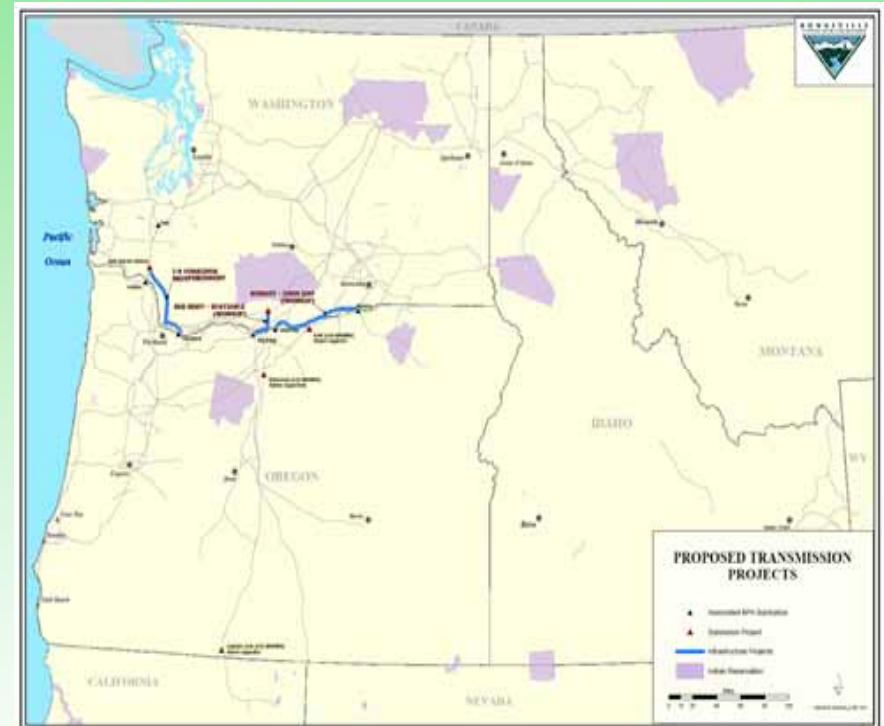


# **I-5 Corridor Reinforcement**

Kendall Rydell, BPA

# Project Overview

- Major Project Elements
  - Construct a new 500-kV Substation near Castle Rock, WA. Develop a 500 kV yard at the existing Troutdale Substation in Troutdale, OR. Construct a new 500 kV transmission line between these substations (approximately 70 miles).
  
- Anticipated rating (TTC) increase:
  - South of Allston: approximately 1300 MW
  
- Anticipated Operating Date:
  - 2014
  
- Project Website:  
<http://www.columbiagrid.org/i-5-reinforcement-overview.cfm>



# Objectives

The objectives of this project are:

- To relieve congestion along the I-5 corridor transmission path south of Paul Substation and enable BPA to serve point-to-point transmission service requests which impact this path.
- To enable BPA to integrate additional new resources which are being planned along the I-5 Corridor.
- Maintain reliable service to growing loads in Portland and vicinity.
- Reduce dependence on existing RAS while maintaining transmission system reliability.

## Background

- I-5 Corridor Reinforcement Project Regional Planning Compliance Report is drafted. Target date for submittal to WECC Planning Coordination Council is February, 2008.
- Power Flow, Voltage Stability, and Transient Stability studies have been completed for the project.

## Project Implementation Schedule

- I-5 Corridor Reinforcement Project
  - Project will take approximately 6 years from start to energization
    - 0 - 3 year: Environmental Process / Design
    - 3 - 6 year: Material Procurement and Construction



# **Gateway West**

## **Idaho Power and PacifiCorp Joint Project**

Dave Angell, Idaho Power

# Project Overview

- Conceptual Major Project Elements

- Eastern Wyoming - Two 500 kV AC circuits from Windstar, near Dave Johnston, to Jim Bridger
- Western Wyoming – Double circuit 500 kV AC from Jim Bridger to Populus, southern Idaho
- Southern Idaho – Two circuits of 500 kV AC from Populus to Hemingway, near Boise

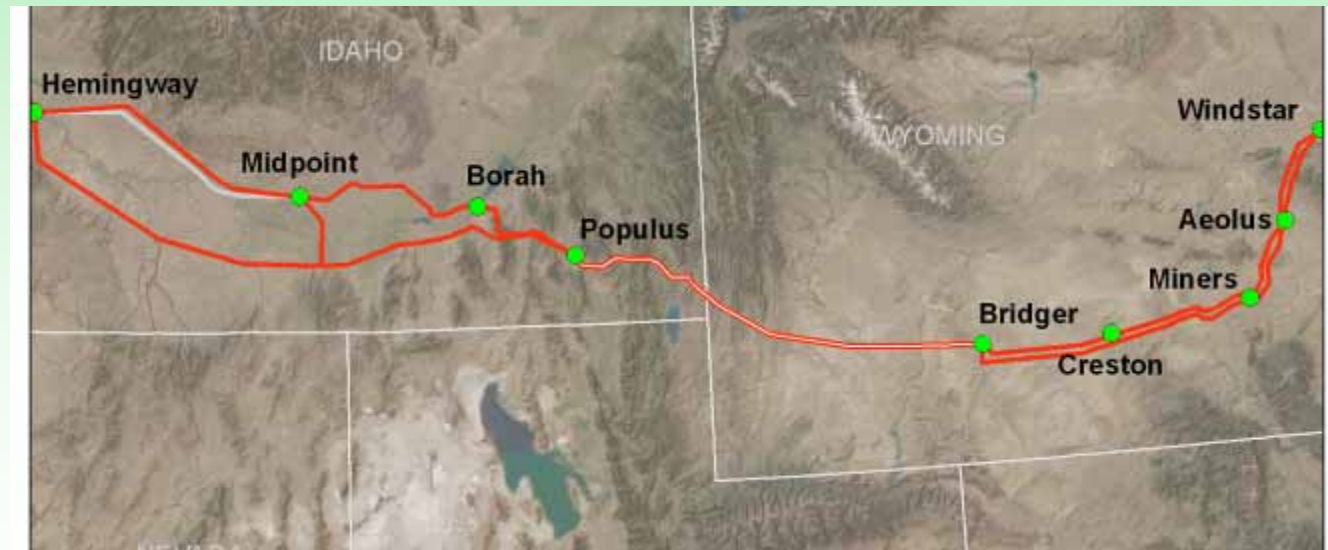
- Potential rating:

- 3000 MW

- Operating Date:

- 2012/2014

- Project Website:



<http://www.idahopower.com/newsroom/projnews/Gateway/default.htm>

## Objectives

- Connect resource centers to load centers (hub and spoke concept)
  - Transmission to forecasted load growth areas
  - Transmission to forecasted resources areas
- Relieve congested transmission paths
- Meet transmission requirements of Integrated Resource Plans (IRP)
- Satisfy OATI obligation for transmission service requests
- Provide transmission for generation interconnection queue

## Background

- Project developed through Northern Tier Transmission Group (NTTG) Fast Track Project Process
- Milestones:
  - NTTG Fast Track Process 1/1/2007 – 6/1/2007
  - Initiated Regional Planning 7/5/2007
  - Complete Regional Planning Report 1/31/2007
  - Initiate Phase 1 Rating Process 1/31/2007
  - Complete Phase 1 Comprehensive Planning Report 8/31/2007

# Proposed Schedule

ID	Task Name	Start	End	2007		2008				2009				2010				2011				2012				2013				2014					
				Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
1	<b>NEPA Process</b>	7/2/2007	12/31/2009																																
2	<b>WECC Rating Process</b>	7/5/2007	12/31/2009																																
3	<b>BLM Right of Way Grants</b>	1/1/2009	12/31/2010																																
4	<b>Right of Way Acquisition</b>	9/3/2007	12/31/2010																																
5	<b>Permitting</b>	8/11/2008	12/31/2010																																
6	<b>Engineering</b>	1/1/2008	12/11/2012																																
7	<b>Construction</b>	1/3/2011	8/2/2018																																



# **Idaho to Northwest (Hemingway Boardman)**

Dave Angell, Idaho Power

## Project Overview

- Conceptual Major Project Elements
  - Single 500 kV AC circuit from Hemingway, Idaho to Boardman, Oregon
- Potential bidirectional rating:
  - 1000 MW
- Project Operating Date: 2012
- Project Website:



[http://www.idahopower.com/newsroom/projnews/hemingway\\_boardman/default.htm](http://www.idahopower.com/newsroom/projnews/hemingway_boardman/default.htm)



## Objectives

- Meet transmission requirements of Idaho Power Integrated Resource Plans (IRP)
  - 225 MW of northwest resource import
- Relieve congested transmission path
- Satisfy OATI obligation for transmission service requests
- Connect resource centers to load centers (hub and spoke concept)
  - Transmission to forecasted load growth areas
  - Transmission to forecasted resources areas

## Background

- Project initiated through Idaho Power IRP
- Milestones:
  - NTTG Fast Track Process 1/1/2007 – 6/1/2007
  - Initiated Regional Planning 7/5/2007
  - Complete Regional Planning Report 1/31/2007
  - Initiate Phase 1 Rating Process 1/31/2007
  - Complete Phase 1 Comprehensive Planning Report 8/31/2007

# Proposed schedule

ID	Task Name	Start	End	2007		2008				2009				2010				2011				2012					
				Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
1	<b>NEPA Process</b>	7/2/2007	12/31/2009																								
2	<b>WECC Rating Process</b>	7/5/2007	12/31/2009																								
3	<b>BLM Right of Way Grants</b>	1/1/2008	12/30/2009																								
4	<b>Right of Way Acquisition</b>	1/1/2008	5/2/2011																								
5	<b>Permitting</b>	1/1/2008	12/31/2010																								
6	<b>Engineering</b>	1/1/2008	12/31/2010																								
7	<b>Construction</b>	1/3/2011	6/1/2012																								

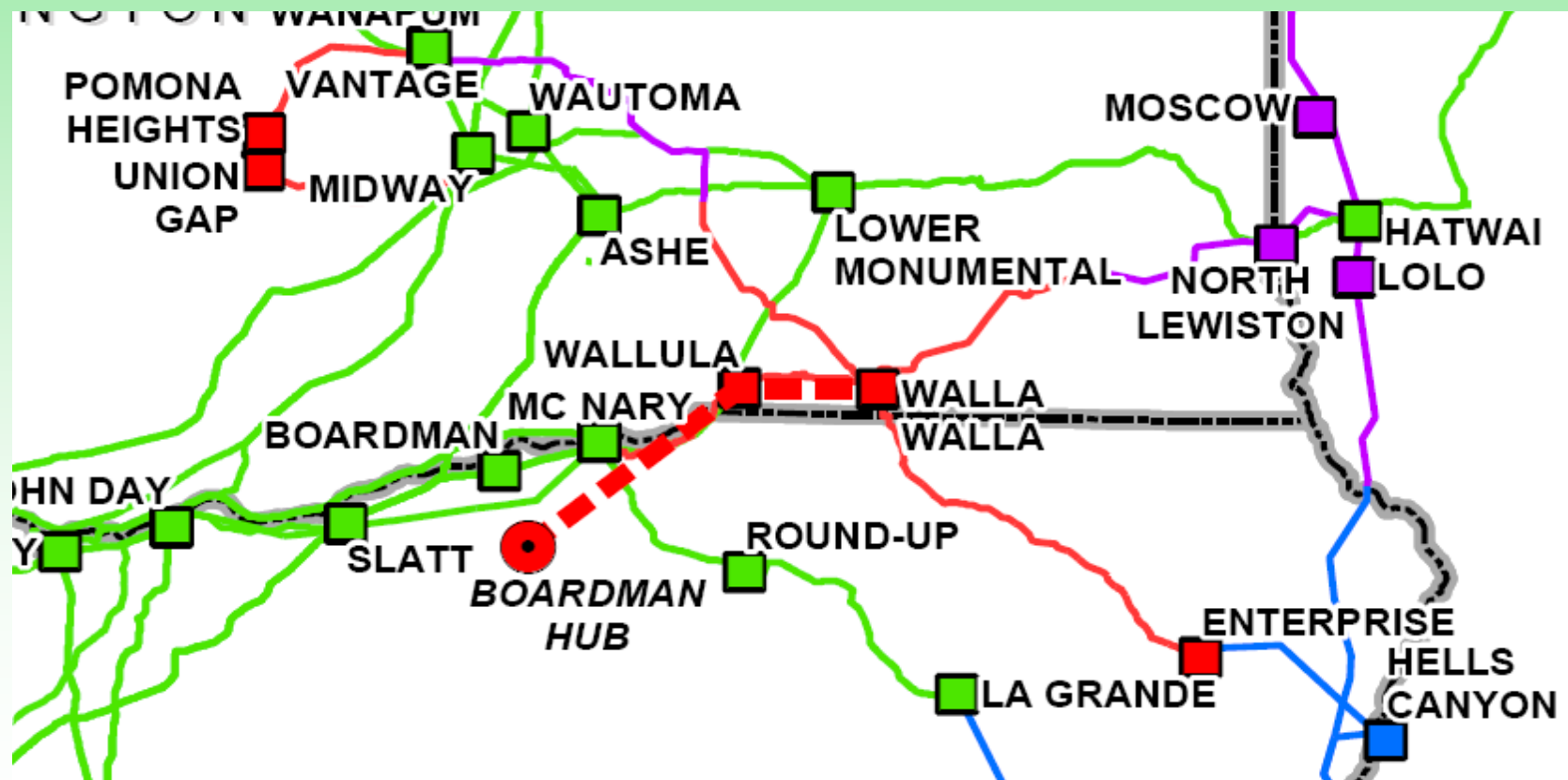


**Walla Walla to McNary/Boardman  
230 kV Line Project  
Hemingway to Captain Jack  
500 kV Line Project**

Brian Weber - PacifiCorp

## Project Overview; Walla Walla to McNary/Boardman

- Conceptual Major Project Elements: Single 230 kV circuit from Walla Walla Washington to McNary/Boardman Oregon with a tie to Wallula Substation
- Potential bidirectional rating: 400 MW
- Proposed Project Operating Date: 2011





## Objectives

- Meet transmission requirements of PacifiCorp Integrated Resource Plans (IRP)
- Relieve congested transmission path
- Improve Wallula Area Transmission Reliability
- Connect resource centers to load centers (Walla Walla to PacifiCorp Main system through Boardman Hub)
- Satisfy OATI obligation for transmission service requests
- Provide transmission for generation interconnection queue

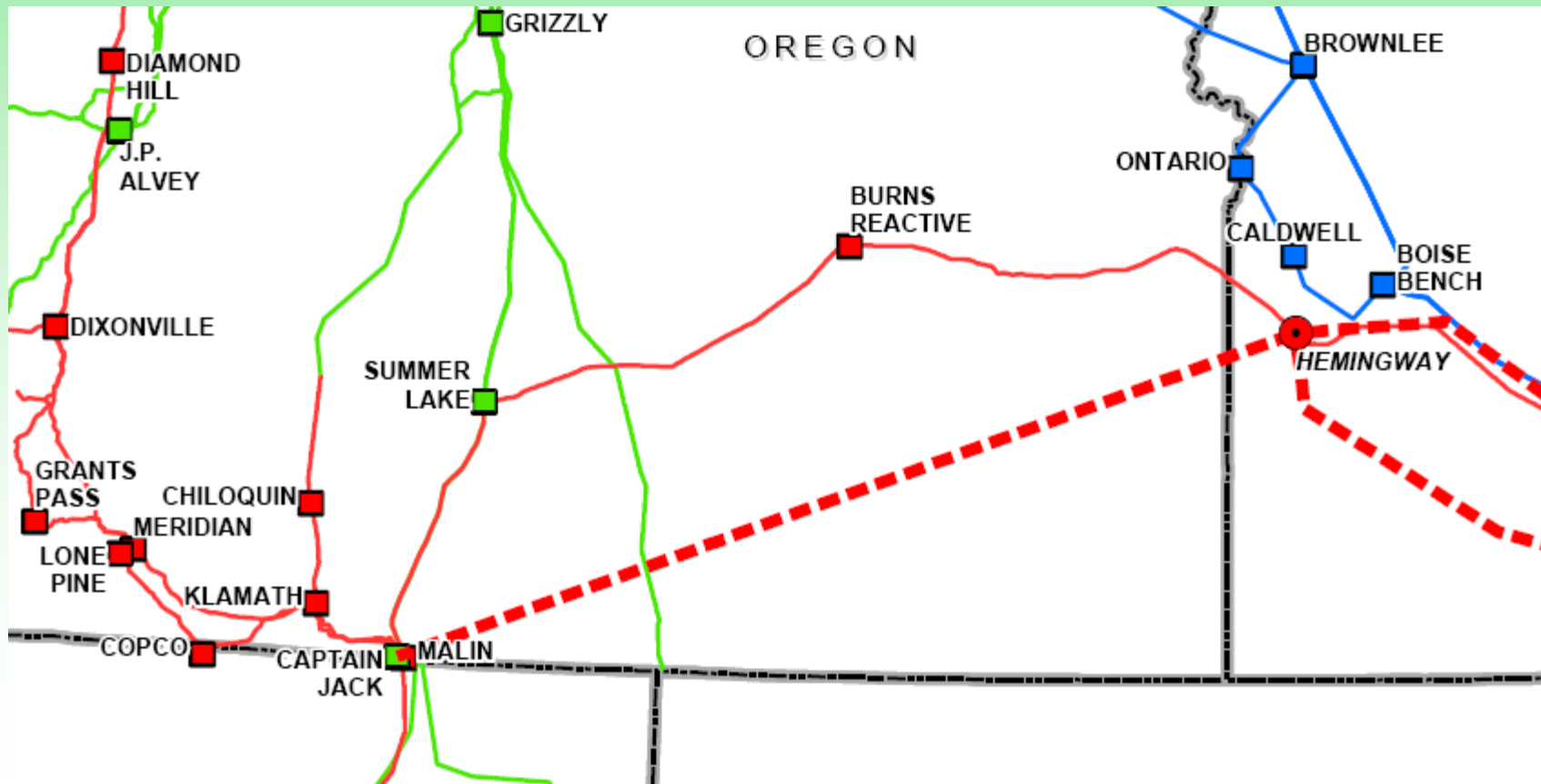


## Background and Schedule

- Initiated Regional Planning 11/21/2007
- Complete Regional Planning Report March 2008
- Initiate Phase 1 Rating Process March 2008
- Complete Phase 1 Comprehensive Planning Report August 2008

# Project Overview; Hemingway to Captain Jack

- Conceptual Major Project Elements
  - Single 500 kV circuit from Hemingway Idaho to Capt. Jack Oregon
- Potential bidirectional rating: 1500 MW
- Proposed Project Operating Date: 2013





## Objectives

- Meet transmission requirements of PacifiCorp Integrated Resource Plans (IRP) by increasing transmission capacity between PacifiCorp's East and West Control Areas
- Relieve congested transmission paths (Idaho to Northwest)
- Connect resource centers to load centers (Wyoming Resources to Southern Oregon Loads)



## Background and Schedule

- Initiated Regional Planning 11/21/2007
- Complete Regional Planning Report March 2008
- Initiate Phase 1 Rating Process March 2008
- Complete Phase 1 Comprehensive Planning Report August 2008

# Canada to Northern California

Steve Metague, PG&E

# Project Overview

## ■ Conceptual Major Project Elements

- HVAC from Selkirk to either Boardman area or Grizzly/Round Butte area via Spokane area sub
- HVDC from either Boardman area or Grizzly/Round Butte area to Tesla/Tracy
- HVDC converter stations in the Round Butte/Grizzly area and Tesla/Tracy and potentially in the Round Mountain area

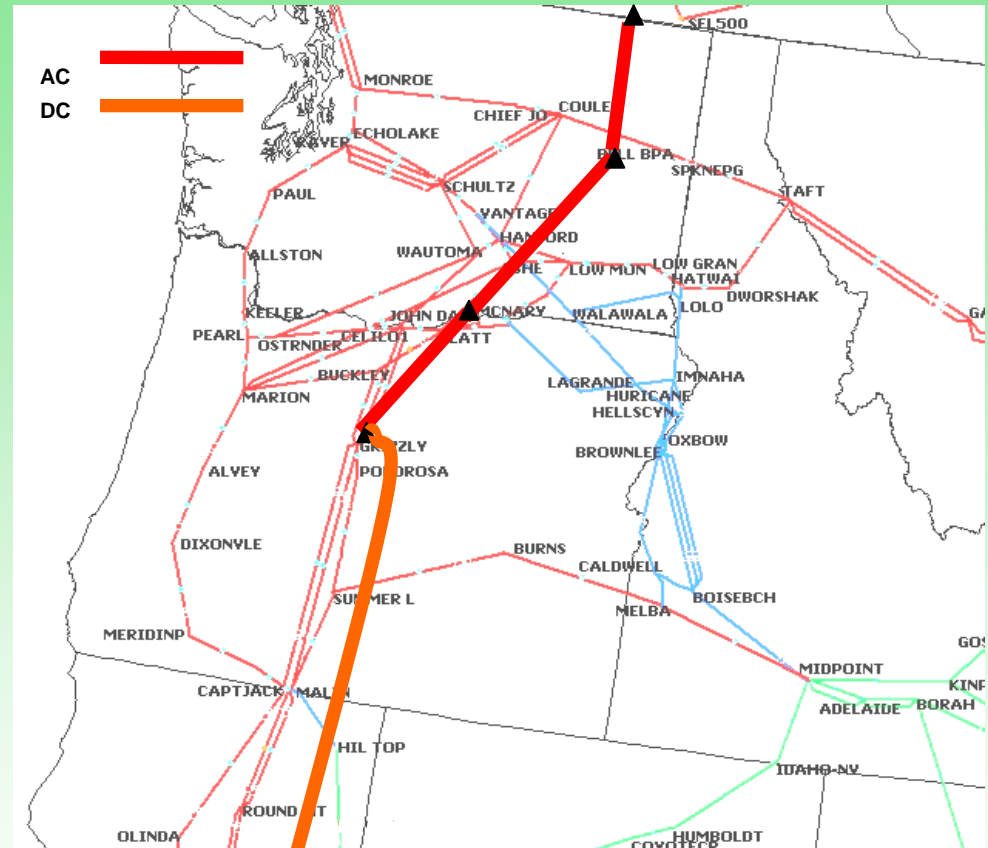
## ■ Potential Bidirectional rating:

- 3000 MW

## ■ Project Operating Date: late 2015

## ■ Project Website:

[http://www.pge.com/biz/transmission\\_services/canada/](http://www.pge.com/biz/transmission_services/canada/)





## Objectives

- Enhance access to significant incremental renewable resources in Canada and the Pacific Northwest.
- Improve regional transmission reliability.
- Provide market participants with beneficial opportunities to use the facilities.

## Background

- Project steering team: Avista Corp, BCTC, PacifiCorp, PG&E, TANC
- Milestones reached:
  - Initiated Regional Planning 12/16/2006.
  - Completed Regional Planning 11/1/2007.
  - Initiated Phase 1 Rating Process 10/31/2007.
  - Completed load and resources, technical feasibility and economic screening analysis. Reports posted on project website 11/1/2007.
  - Petition for Declaratory Order submitted to FERC December 21, 2007.
- Milestones planned for 2008
  - Develop Preferred Plan of Service – July 2008.
  - Complete Phase 1 Rating process – August 2008.
  - Initiate Phase 2 Rating Process – September 2008.
  - Perform pre-permitting studies including environmental and design activities – throughout 2008.

# Basic Elements of Conceptual Project Schedule

Task Name	2006				2007				2008				2009				2010				2011				2012				2013				2014				2015			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
<b>FEASIBILITY ANALYSIS</b>					●	—	—	●																																
<b>PROJECT PERMITTING</b>									●	—	—	—	—	—	—	—	—	—																						
<b>PROJECT DESIGN</b>									●	—	—	—	—	—	—	—	—																							
<b>PROJECT LAND ACQUISITION</b>																	●	—	—	—	—	—	—	—																
<b>PROCUREMENT OF MATERIALS</b>																	●	—	—	—	—	—	—	—																
<b>CONSTRUCTION</b>																					●	—	—	—	—	—	—	—	●	—	—	—	—							
<b>RELEASE TO OPERATION</b>																																	●	—	—	●				

Note: This conceptual project schedule was prepared based on preliminary information without the benefit of route screening, preliminary engineering or other tasks necessary to finalize a detailed schedule. The timeframes set forth herein may change as the result of pre-application studies.

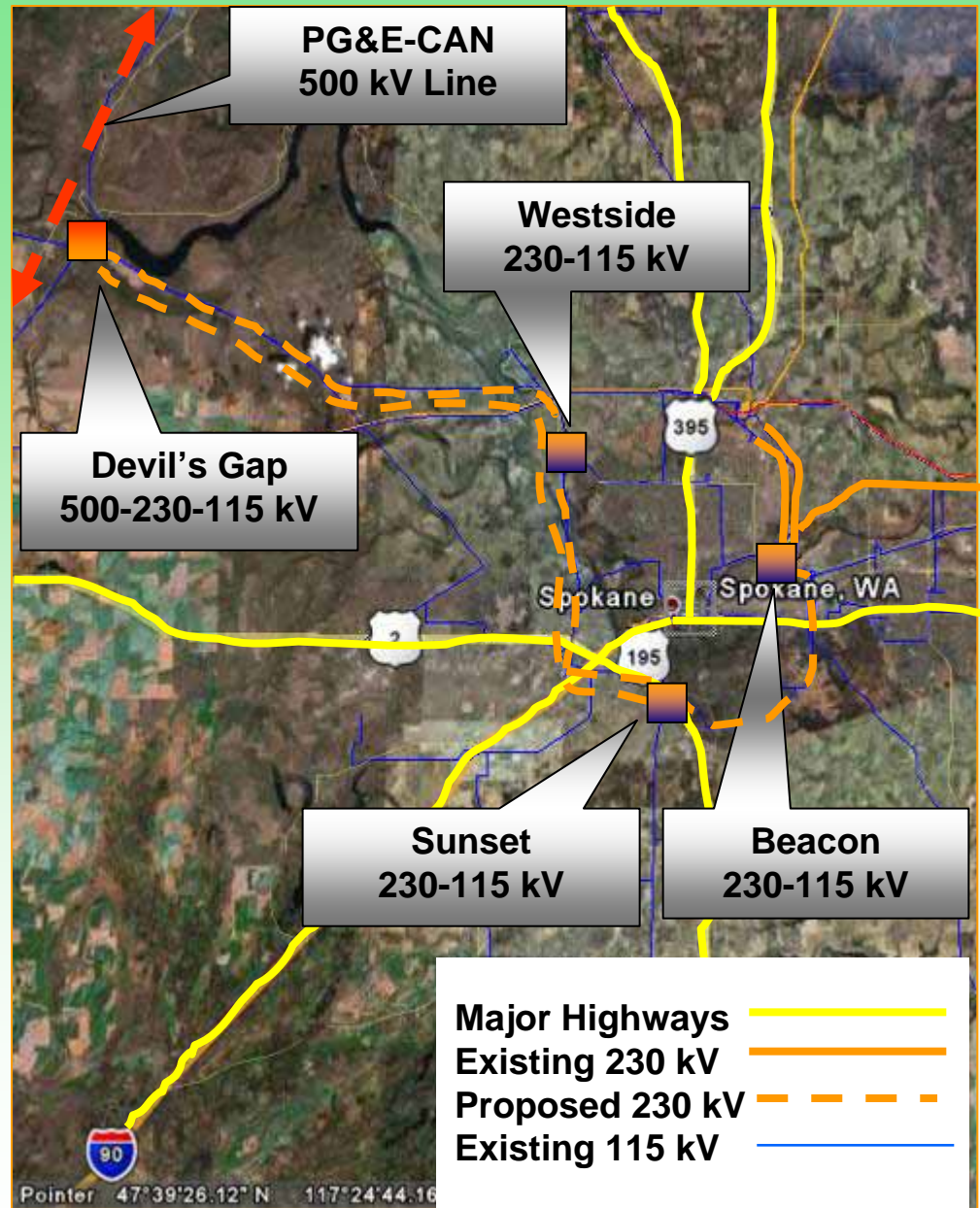


# **Canada to Northern California - Avista Interconnection**

Scott Waples, Avista

# Project Overview

- Major Project Elements:
  - 500/230 kV interconnection at Devils Gap
  - 230 kV Phase Shifting Transformers
  - 2-230 kV interconnections to the Spokane Area 230 kV Grid
- Potential Bidirectional rating:
  - 500 MW
- Project Operating Date: 2015





## Objectives and Resources

- The Avista interconnection to the PG&E Canada to Northern California 500 kV Project will provide up to 500 MW of access to the “Main Stem” Project from the Avista transmission system for renewable resources in the Avista service territory.
- The interconnection will allow Avista access to other renewable resources in the Northwest as well as in Canada.
- The project may also allow Avista to integrate some of its existing thermal resources to its loads over its own transmission, and may allow for additional imports of economy energy into the Avista system.
- Potential resources are wind resources located in various locations on the Avista system, including but not limited to wind farms near Spokane, Othello, Lewiston, and Clarkston Washington, as well as Grangeville, Idaho. Avista presently has 9 interconnection requests pending, with up to three additional that may soon be in the queue.



## Background, Study Work, and Future Meetings:


- Avista has announced a Regional Planning Process that will run concurrently with a WECC Phase I Rating Process. The letter announcing these processes went to the WECC Committees and other stakeholders in the fourth quarter of 2007.
- Preliminary studies that have been run on this project indicate that a 500/230 kV interconnection at Devils Gap with the associated 230 kV construction is feasible. The studies further indicate that a phase shift angle of plus 20 degrees to minus 40 degrees will be sufficient to satisfy the goal of a bi-directional rating of 500 MW.
- Avista will be hosting a kickoff meeting in Spokane for the above WECC Processes in early February. Stay Tuned!

# Draft Project Schedule



Task	2007				2008				2009				2010				2011				2012				2013				2014				2015				2016			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
<b>FEASIBILITY ANALYSIS</b>					●				●																															
<b>PROJECT PERMITTING</b>									●				●				●				●																			
<b>PROJECT DESIGN</b>									●				●				●				●																			
<b>PROJECT LAND ACQUISITION</b>													●				●				●				●															
<b>PROCUREMENT OF MATERIALS</b>																	●				●				●				●											
<b>CONSTRUCTION</b>																					●				●				●				●							
<b>RELEASE TO OPERATION</b>																																								

Note: This draft project schedule was prepared based on preliminary information without the benefit of transmission route screening, preliminary design engineering, or other tasks necessary to finalize a detailed schedule. The planning timeframes set forth herein may change as a result of pre-application studies, permitting requirements, and other external conditions.



# **Southern Crossing**

Philip Augustin, PGE

# Project Overview

## ■ Conceptual Major Project Elements

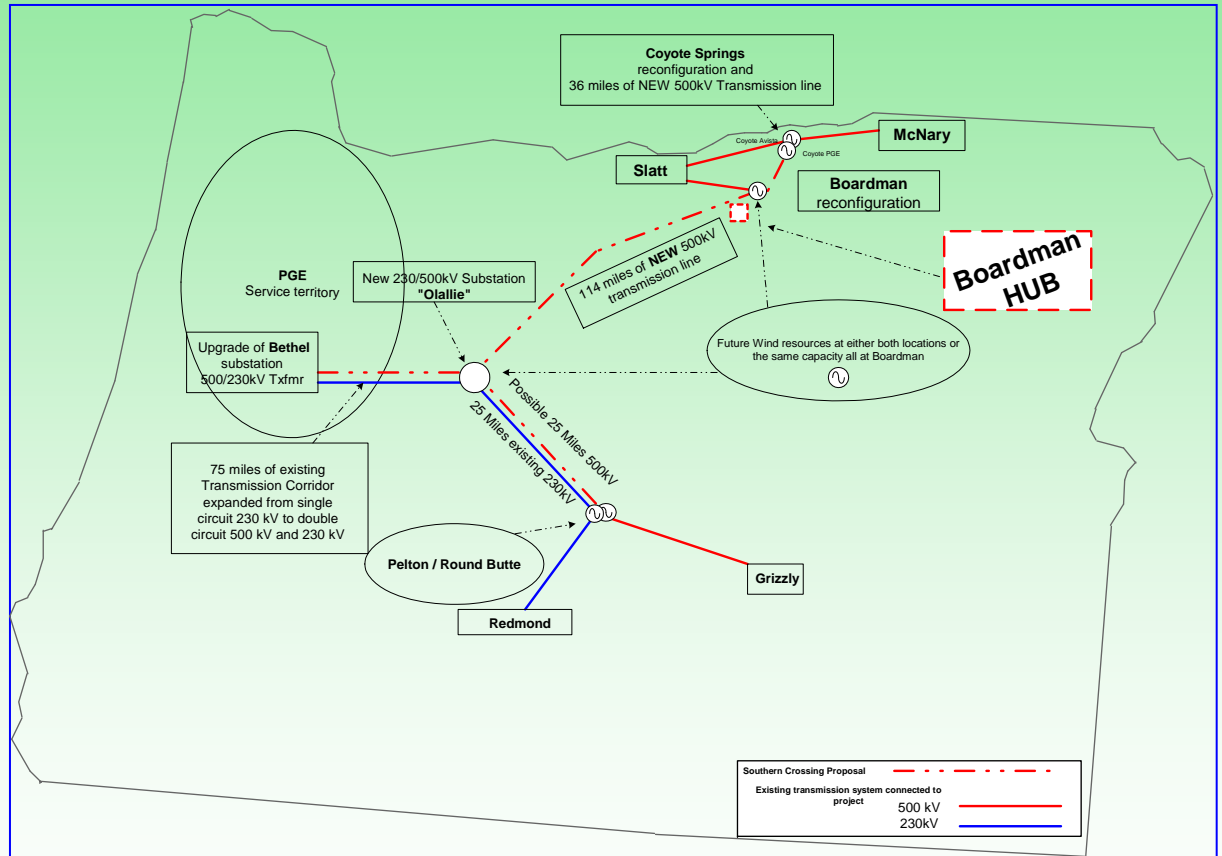
- 500kV transmission lines
- 500/230 kV substation

## ■ Potential Bidirectional rating:

- 2000 MW
- 2000 MW

## ■ Project Operating Date: 2013

## ■ Project Website: PGE OASIS/ Southern Crossing Project



## Objectives

- Meet the Renewable Portfolio Standard requirements for 2015
- Deliver future wind resource to load
- 2002 Integrated Resource Plan (IRP) - Identified significant demand and energy requirement, and the critical nature of transmission
- Opportunity for integration of existing resources
- Access to a new Transmission Hub
- Balanced scheduling of diverse wind resources at Transmission Hub
- Reliability Improvement to Willamette Valley customers
- Provide some Congestion Relief to current transmission system

## Background

- Previous studies done by a consultant working for PGE Merchant (PGEM) concluded that the merits of the project are worth further pursuing.
- Project was first introduced to the region at a WECC regional project review meeting hosted by Columbia Grid on September 5<sup>th</sup>, 2007 by PGEM.
- Project report is the technical supporting information for interconnection request given to PGE Transmission (PGET) function.
- Project was presented to NWPP members at NTAC November 6<sup>th</sup>, 2007.
- Project is currently being studied by PGET under the OATT process.

# Project Implementation Schedule

Task Name	Duration	Start	Finish	2007				2008				2009				2010				2011				2012				2013				2014				2015			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>FEASIBILITY ANALYSIS OATT Process</b> <ul style="list-style-type: none"> <li>Regulatory &amp; Stakeholder Coordination</li> <li>Corridor Options</li> <li>High Level cost and schedule</li> <li>Project Participation sign on</li> </ul>	18 months	Q3 2007	Q4 2008																																				
<b>Phase 1</b> <ul style="list-style-type: none"> <li>Comprehensive Progress Report</li> <li>Review by TSS Members</li> <li>Informal Reports Presented at TSS Meetings</li> <li>Letter to TSS and PCC requesting Phase 2 Status</li> </ul>	8 months	Q1 2008	Q3 2008																																				
<b>Phase 2</b> <ul style="list-style-type: none"> <li>Identify the non-simultaneous and simultaneous transfer capability for project</li> <li>Address the mitigation of adverse impacts to existing system</li> <li>Permitting</li> <li>Land Acquisition</li> </ul>	30 months	Q4 2008	Q4 2010																																				
<b>Phase 3</b> <ul style="list-style-type: none"> <li>Definitive commercial agreements</li> <li>Engineering</li> <li>Procurement</li> <li>Construction</li> <li>Release To Operation</li> </ul>	48 months	Q1 2009	Q2 2013																																				

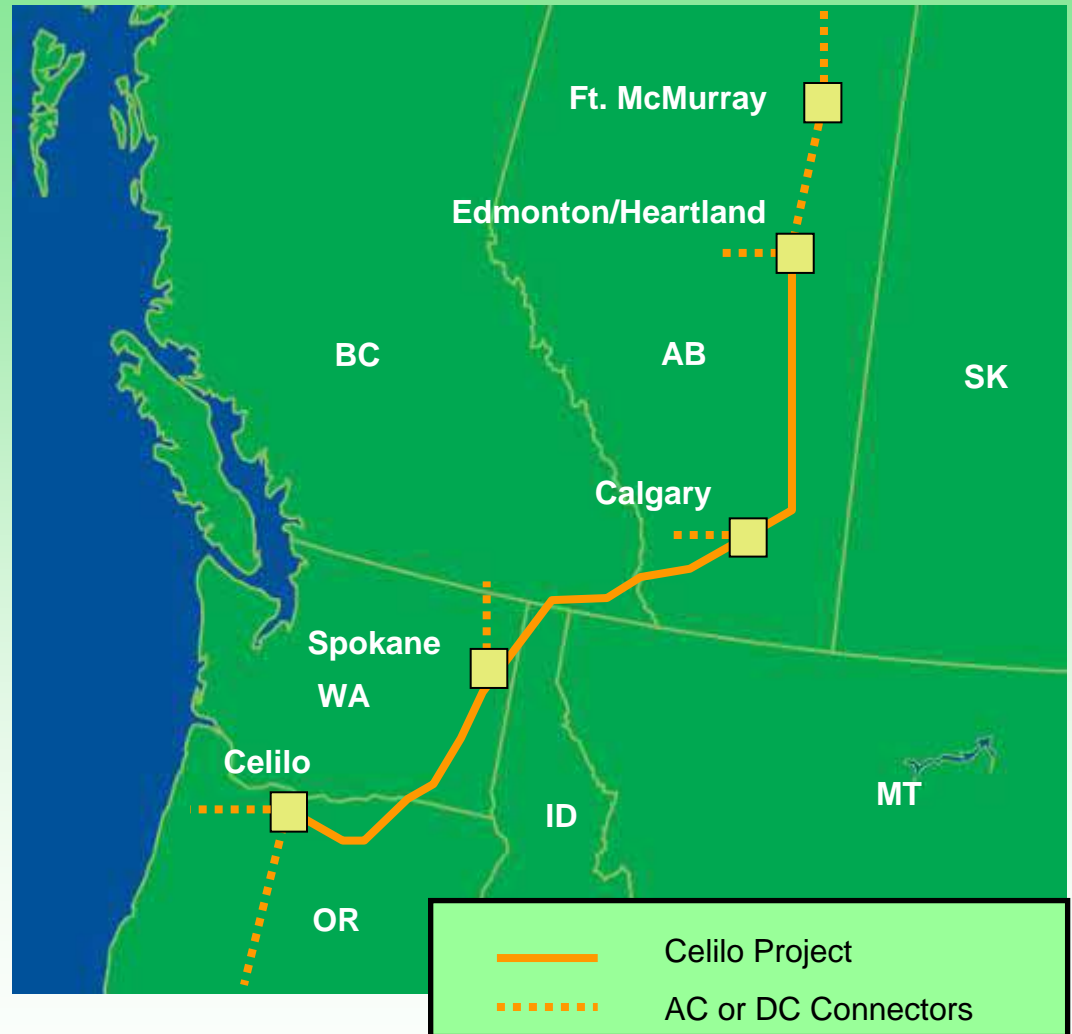


# **Alberta to Pacific Northwest**

Bill Hosie, TransCanada

# Alberta to Celilo Project Overview

- HVDC transmission line from Edmonton/Heartland area to Celilo, Oregon
- 3000 MW design capacity
- 830 miles
- \$1.5 billion ('06\$), 2000 MW initial capacity
- Merchant intertie line
- 6 years to permit and build
- Operational in 2013



Project web site: [http://www.transcanada.com/company/projects\\_initiatives.html](http://www.transcanada.com/company/projects_initiatives.html)



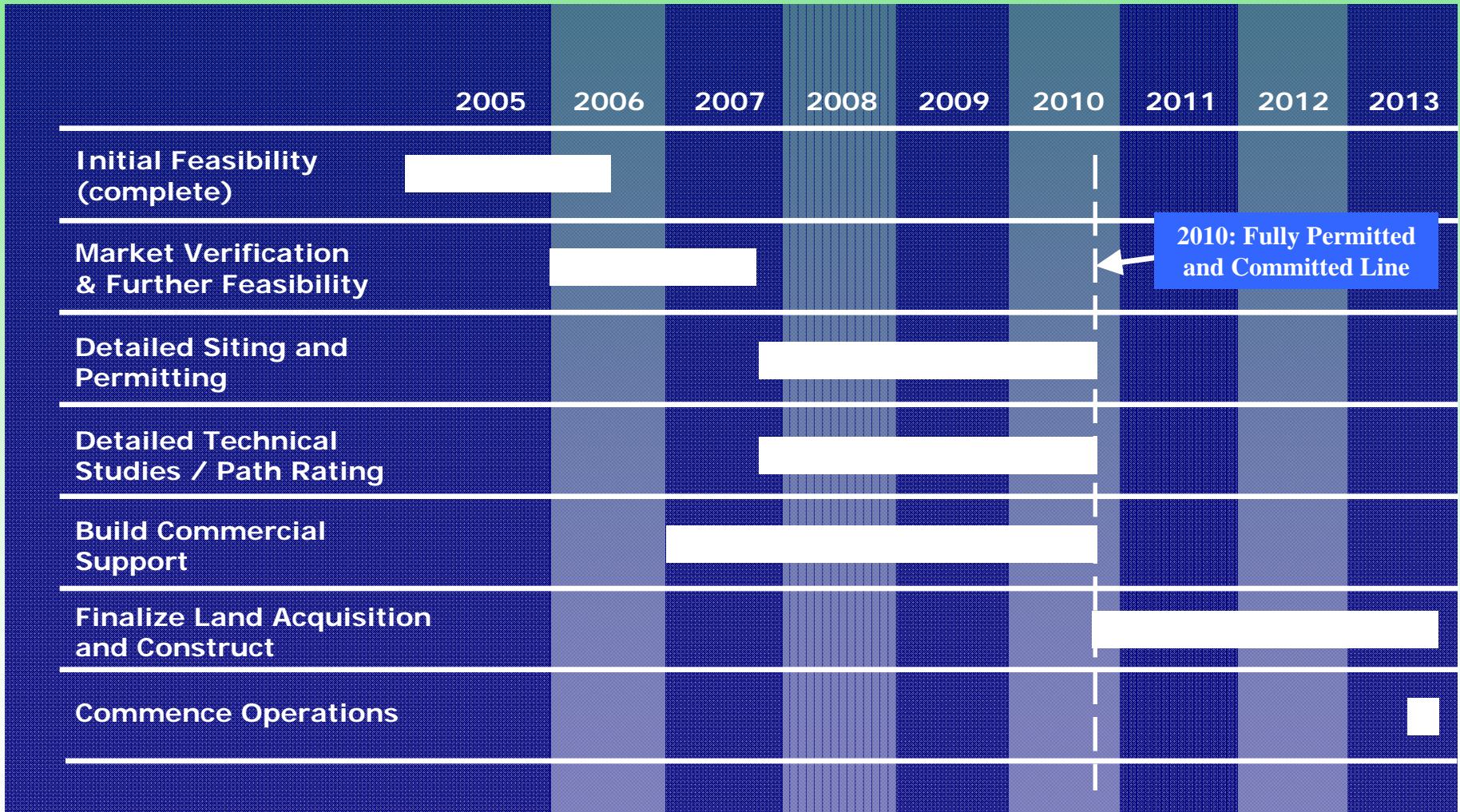
## Objectives

- Create a bi-directional path between Alberta and the Pacific Northwest
- Enhance regional resource reliability by providing bi-directional market access (AESO's 2007 Market Roadmap)
- Provide opportunities for renewable energy resources to access markets – wind, hydro IGCC with sequestration, nuclear
- Enhance regional wind capacity factors through geographic diversity
- Improve regional transmission reliability.
- Provide market participants with beneficial opportunities to use the facilities.

## Background

- NTAC's Canada to NW to California study demonstrated the cost effectiveness of HVDC to interconnect the PNW with California
- Milestones reached:
  - Initiated Regional Planning July 11, 2006
  - Regional Planning Meeting in Portland September 22, 2006
  - Completed Regional Planning January 2008
  - Initiated Phase 1 Rating Process December 10, 2007
  - Alberta Transmission Regulations amended – multiple Alberta terminals allowed for merchant inter-ties December 19, 2007
  - Alberta Government signifies support of significant intertie capacity increase Fall 2008

# Project Schedule



# **Next Steps, Q&A and Wrap Up**



## Next Steps

- Indicate on the sign up/attendance sheet if you would like to participate or be a correspondent for future meetings.
- For participation in individual Phase 1 processes contact individual project sponsors.