

# ColumbiaGrid Update for the WUTC

April 16, 2012





# Members and Planning Participants



CHELAN COUNTY  
**POWER**



# Overview

- 2012 Update to the 2011 Biennial Plan
- Puget Sound Area Transmission Expansion Plan
- ColumbiaGrid Response to FERC Order 1000

2012 Update to the  
2011 Biennial Transmission Expansion Plan



January, 2011 - Work  
initiated

July 2011 - System  
Assessment completed

December 2011 -  
Public Review Draft  
completed

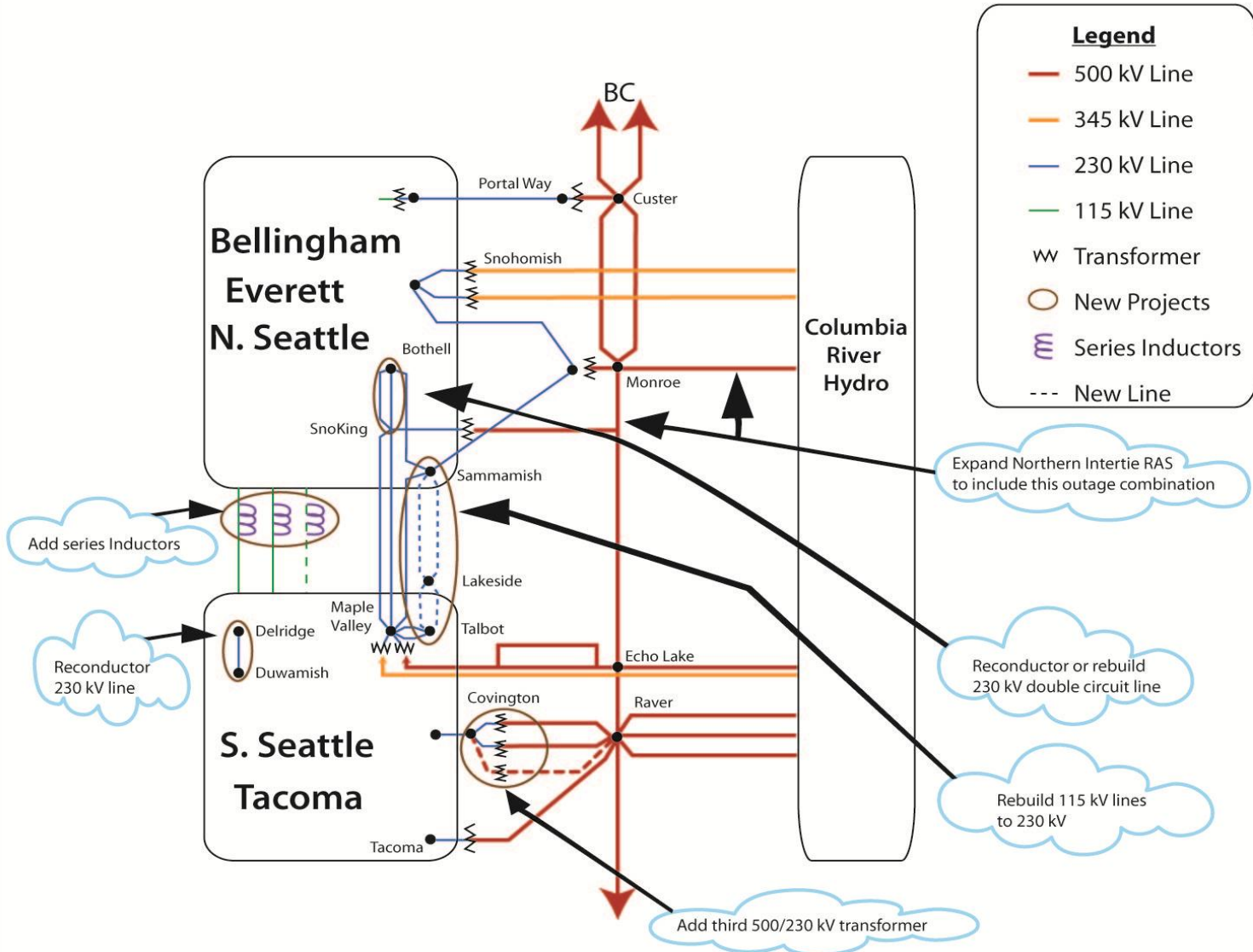
February 2012 - Board  
Approval

# Includes Study Team Reports

- Puget Sound
- Northern Mid Columbia
- Wind Integration
- Cross Cascades
- Centralia Closure
- Woodland
- Natural Gas and Electricity Interdependency

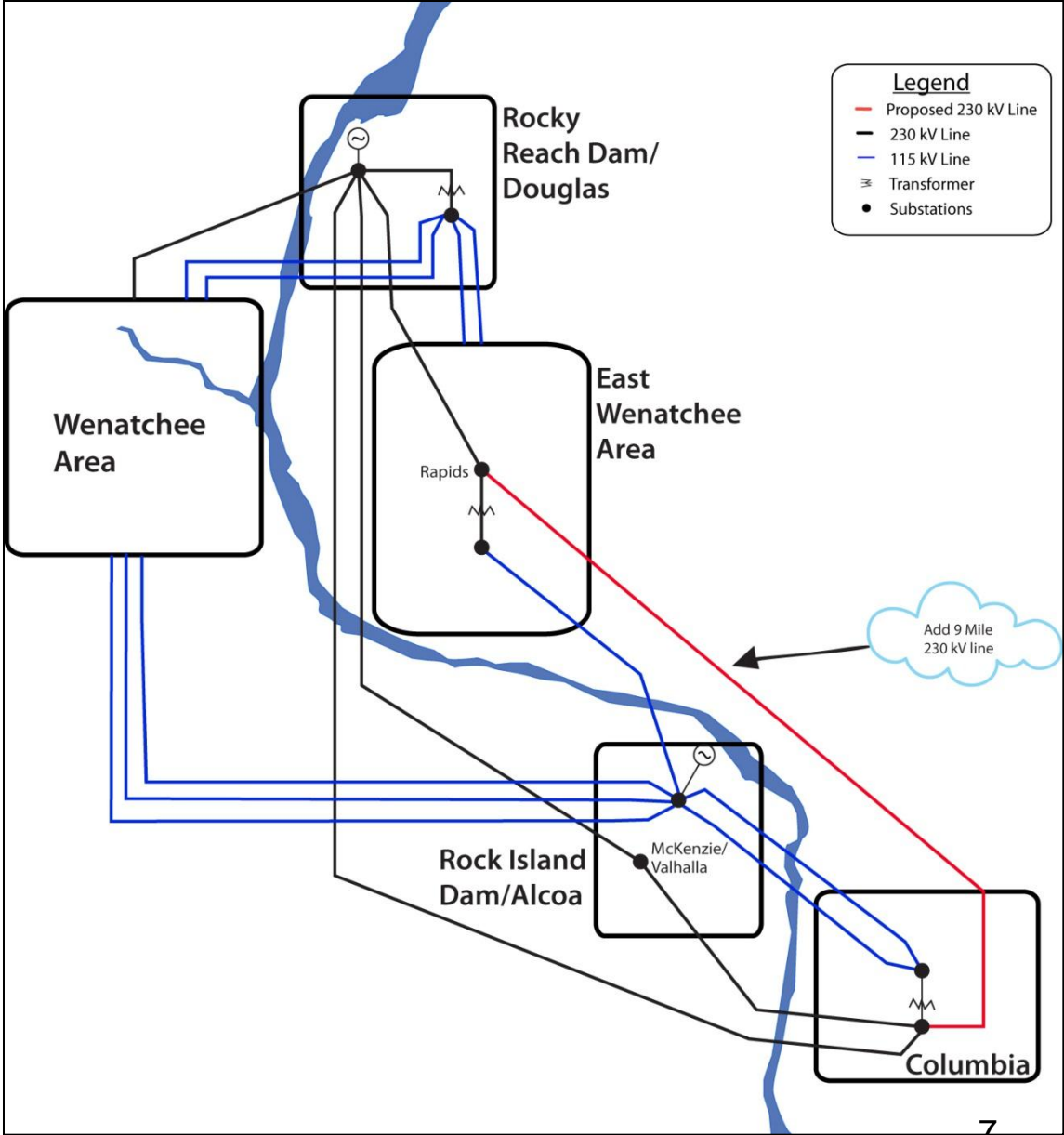


# Puget Sound Area Study Team Plan for Supporting South to North Transfers








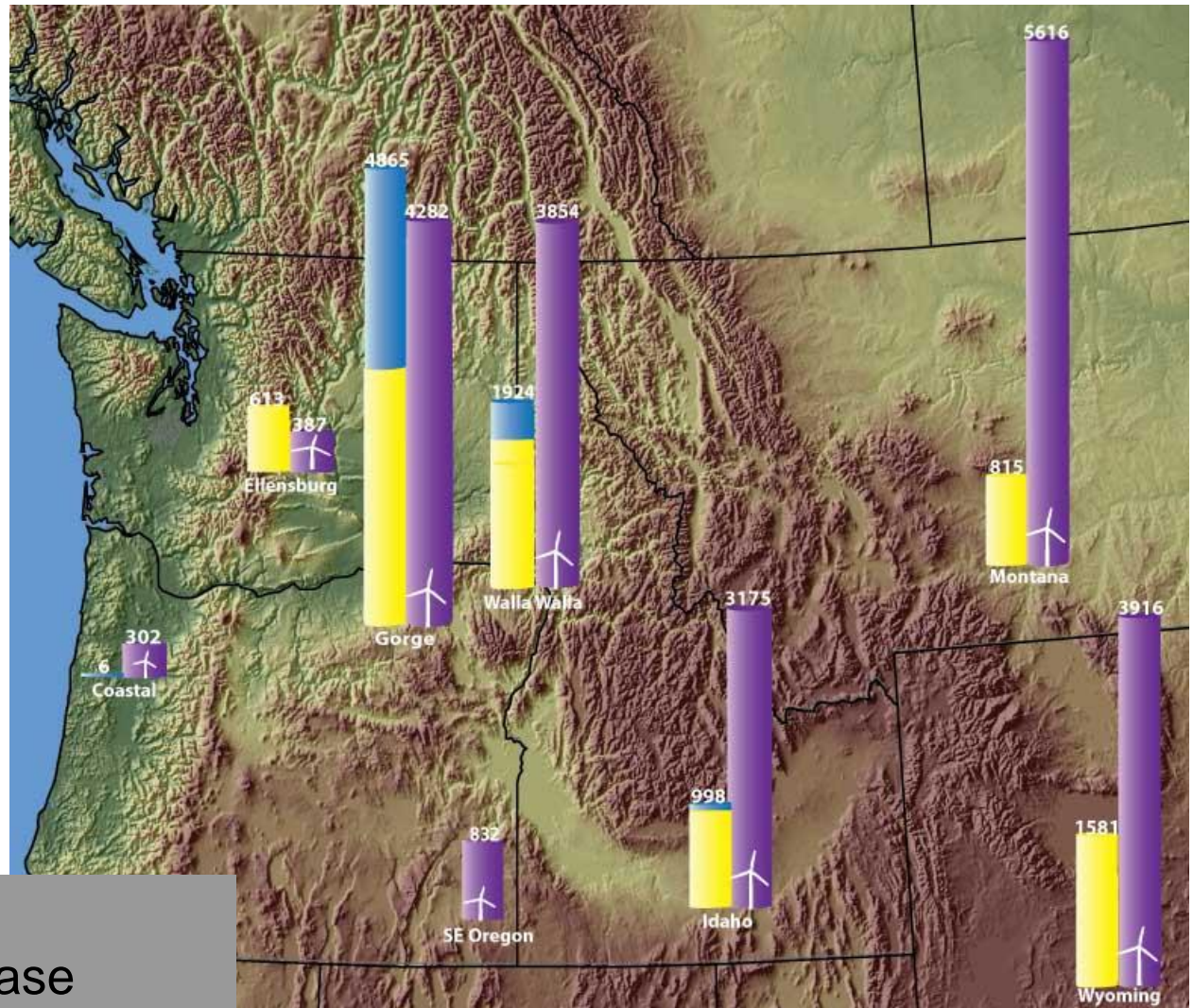
# Northern Mid-Columbia Study Team



# Wind Integration Study Team

## Wind Resources as of June 2011

-  Under Construction
-  Operating
-  Proposed



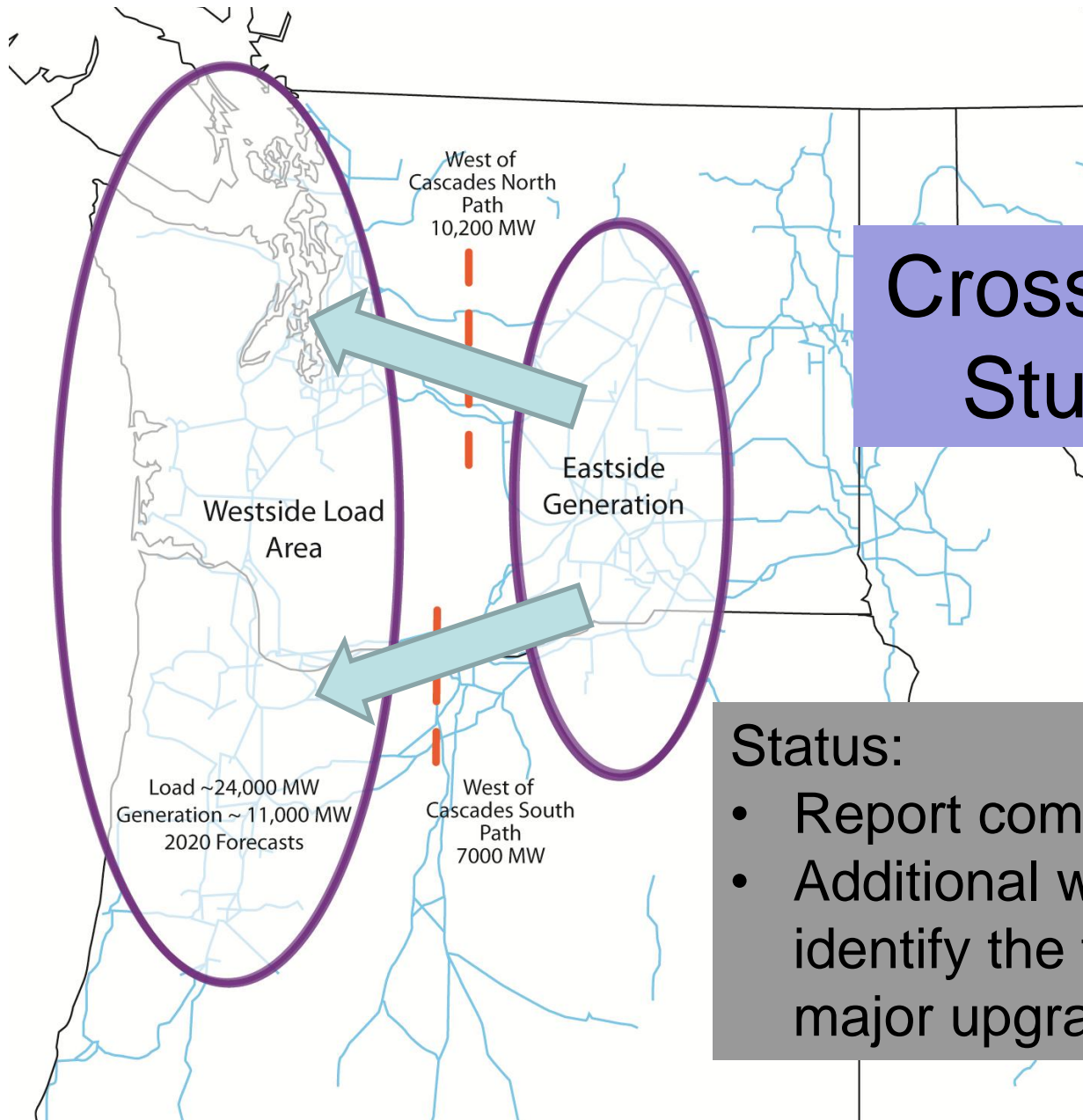
### Status:

Continuing work to increase dynamic transfer capability



# Dynamic Transfer Capability

- Phase One Report which scoped the DTC issue was completed in March 2011
- Phase Two Report which developed a study methodology was completed in July 2011
- Phase Three Report which tests the study methodology was completed in December 2011
- Additional work planned to further analyze technical concerns and to address commercial issues

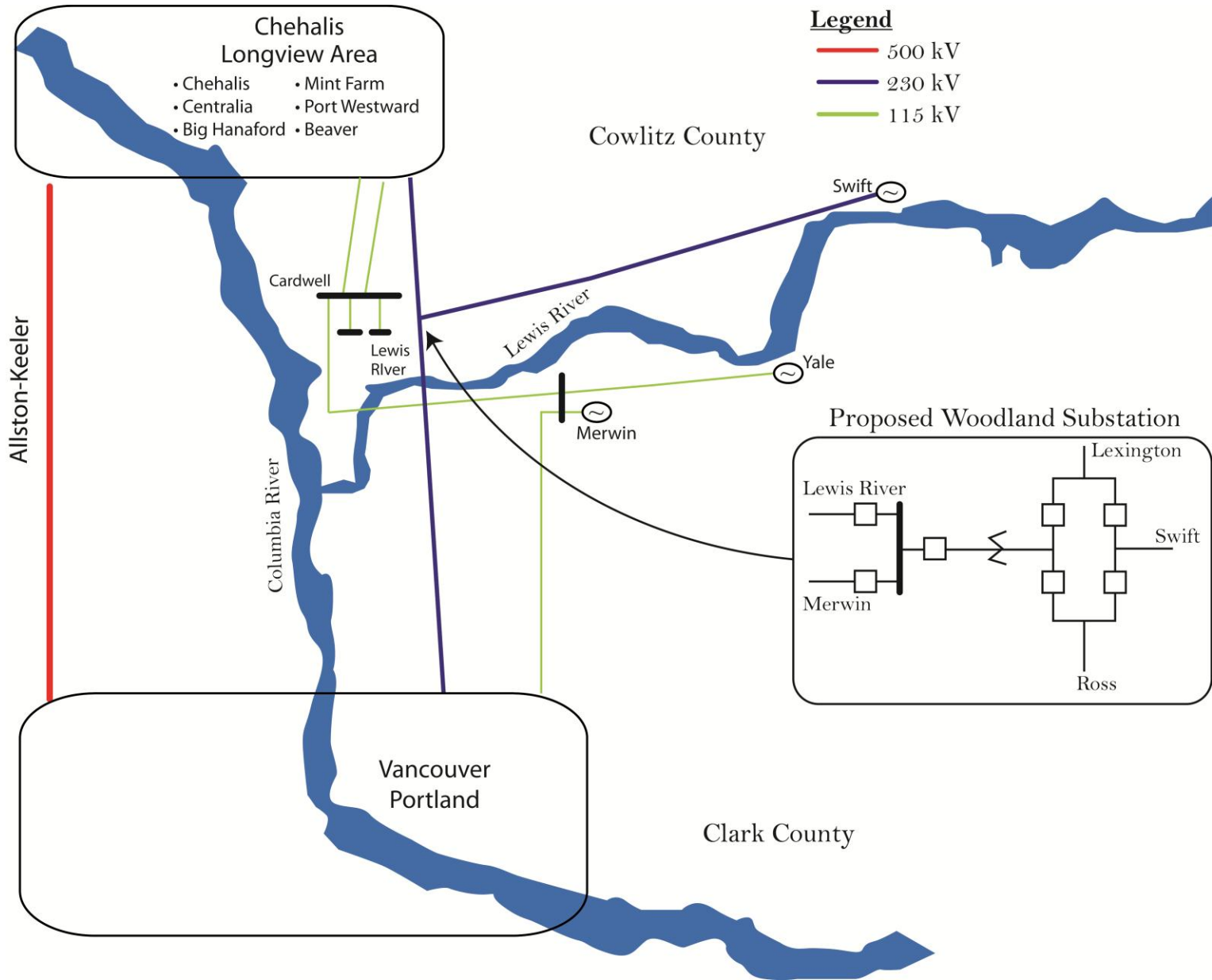


# Cross Cascades Study Team

## Status:

- Report completed in April 2012
- Additional work planned to identify the triggers for the next major upgrade

# Woodland Study Team



# Findings - Transmission Issues

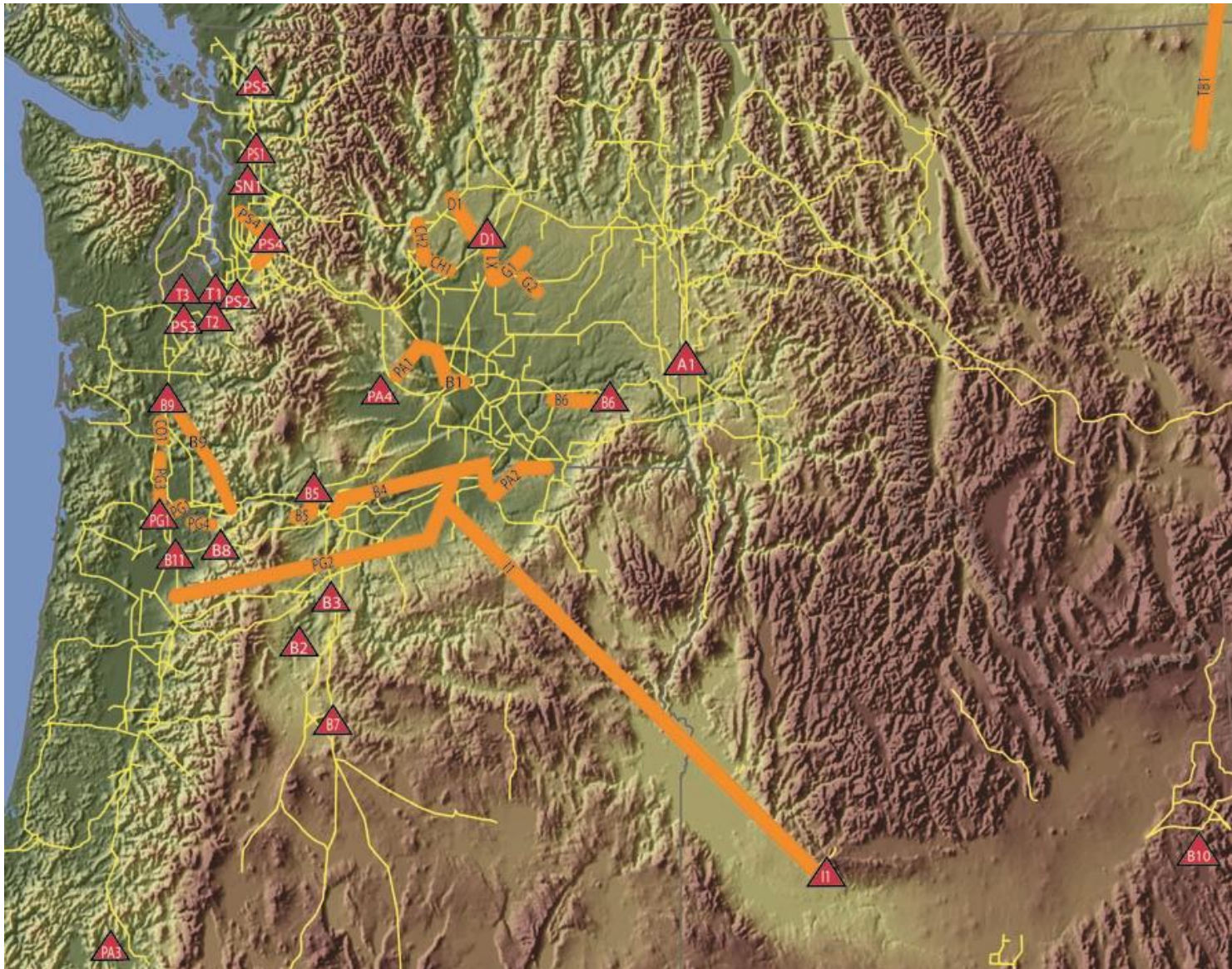
## Joint Transmission Issues from System Assessment

1. Northern Olympic Peninsula	8. Salem-Eugene Area
2. Olympia-Shelton Area	9. Bend Area Voltage Stability
3. Puget Sound 500/230 kV Transformation	10. Benton-Taunton-South Othello 115 kV Line
4. Centralia Area	11. Spokane Area Transformation
5. Interaction of Proposed Cascade Crossing Project	12. Moscow-Pullman Transformation
6. Interaction of Proposed I-5 Corridor Project	13. Sandpoint Area
7. Pearl-Sherwood Area	

- Identified “placeholder” projects to address each issue until final projects are developed

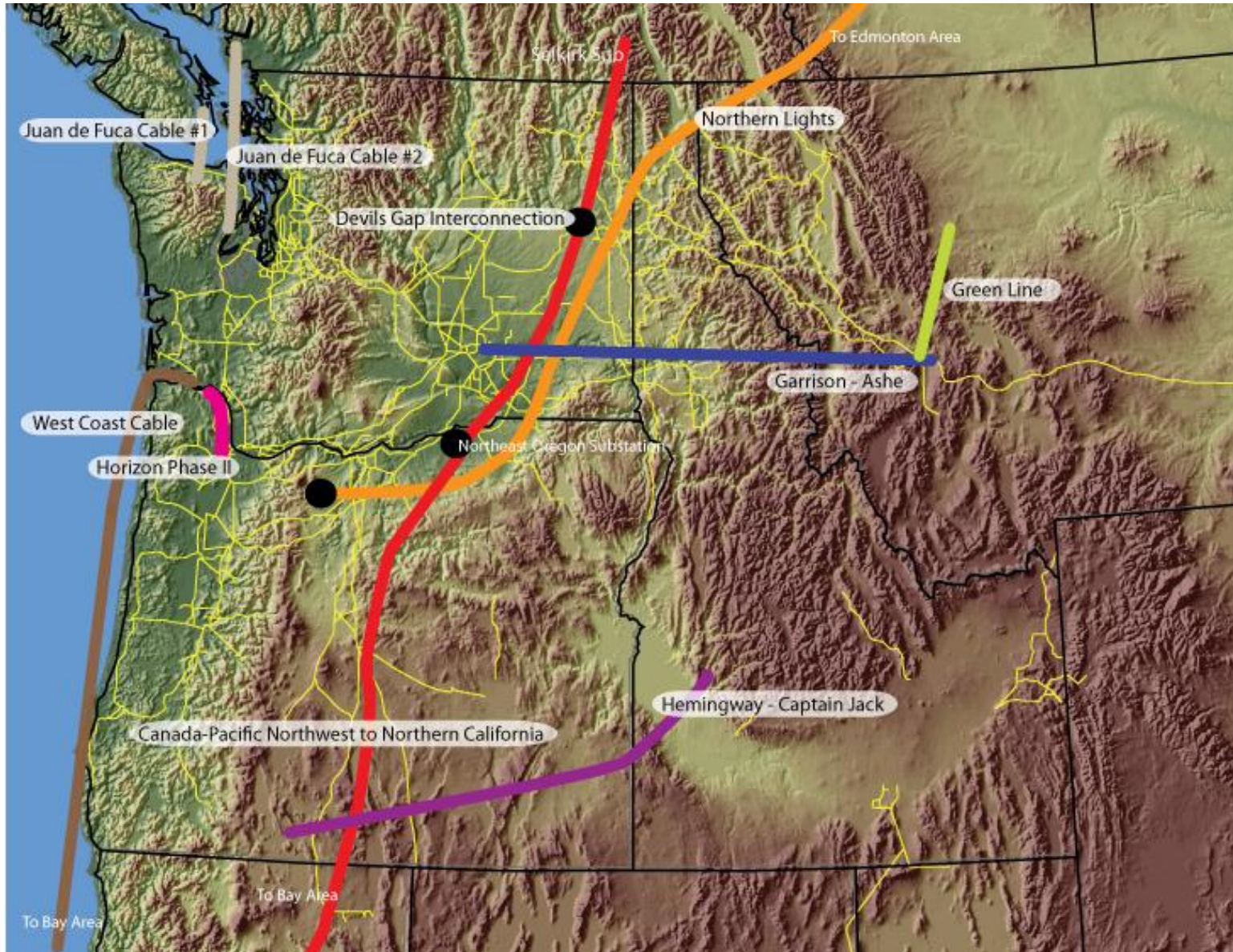


# ColumbiaGrid Ten-Year Plan





# Other Potential Transmission Projects



# Ten Year Plan

## Changes from last year

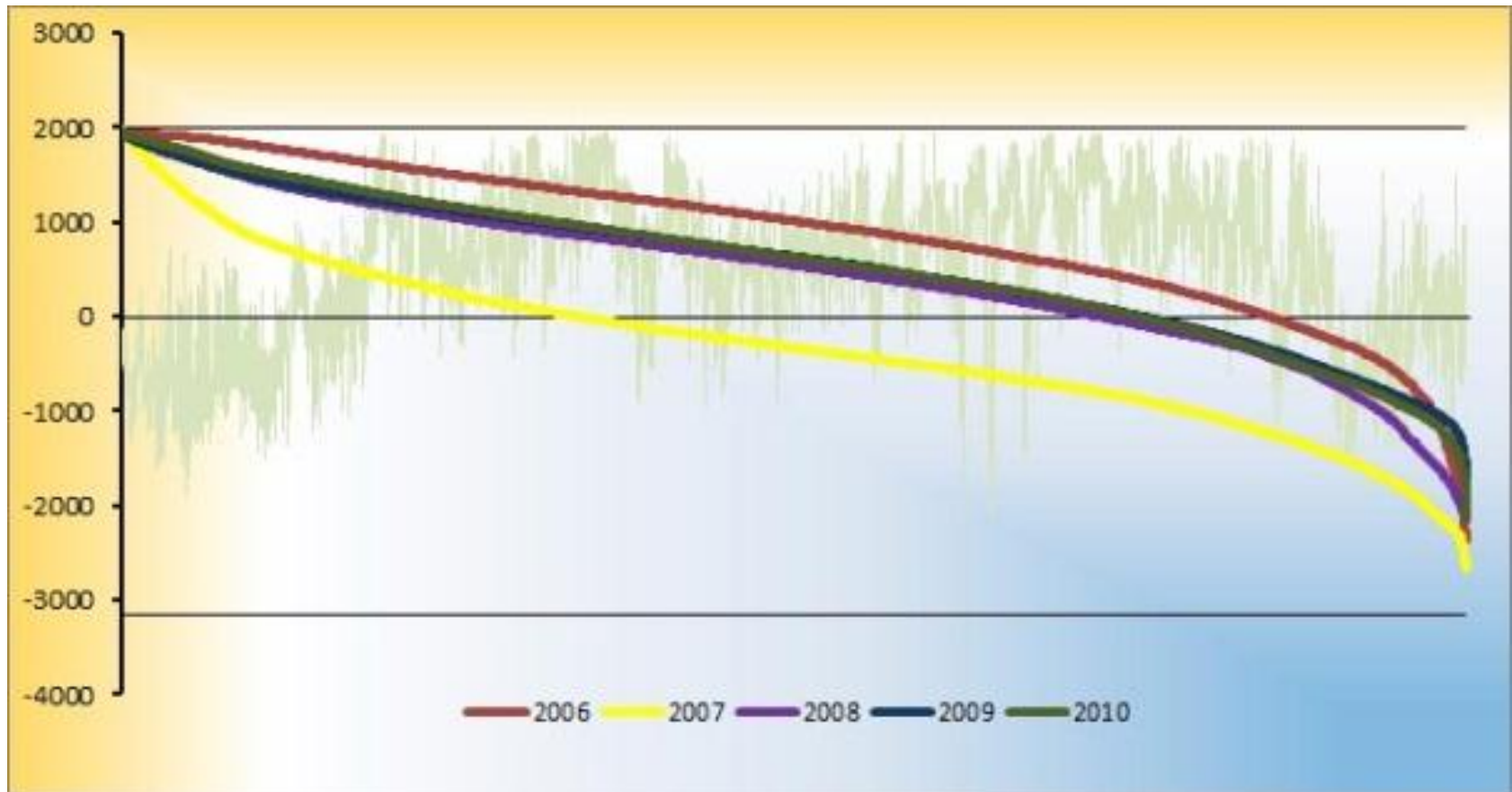
- Some long term projects moved into Ten Year Plan
  - Colstrip Upgrades
  - Blue Lake-Gresham 230 kV line
  - South Puget Sound 500/230 kV transformation
  - Other Puget Sound Expansion Projects
- Several projects completed

# Projects Energized Last Year

- John Day-McNary 500 kV
- Canyon Substation and 230/115 kV Transformer
- Cowlitz 230/115 kV Transformer Replacement
- Vantage-Midway 230 kV line Upgrade and Sectionalizing Breakers
- Horse Ranch 230 kV Substation
- COI Upgrades
- Second 230/115 kV Transformer at Redmond
- Relocation of McKenzie-Wenatchee Tap 115 kV line



# Historical Data Example – Northwest to British Columbia

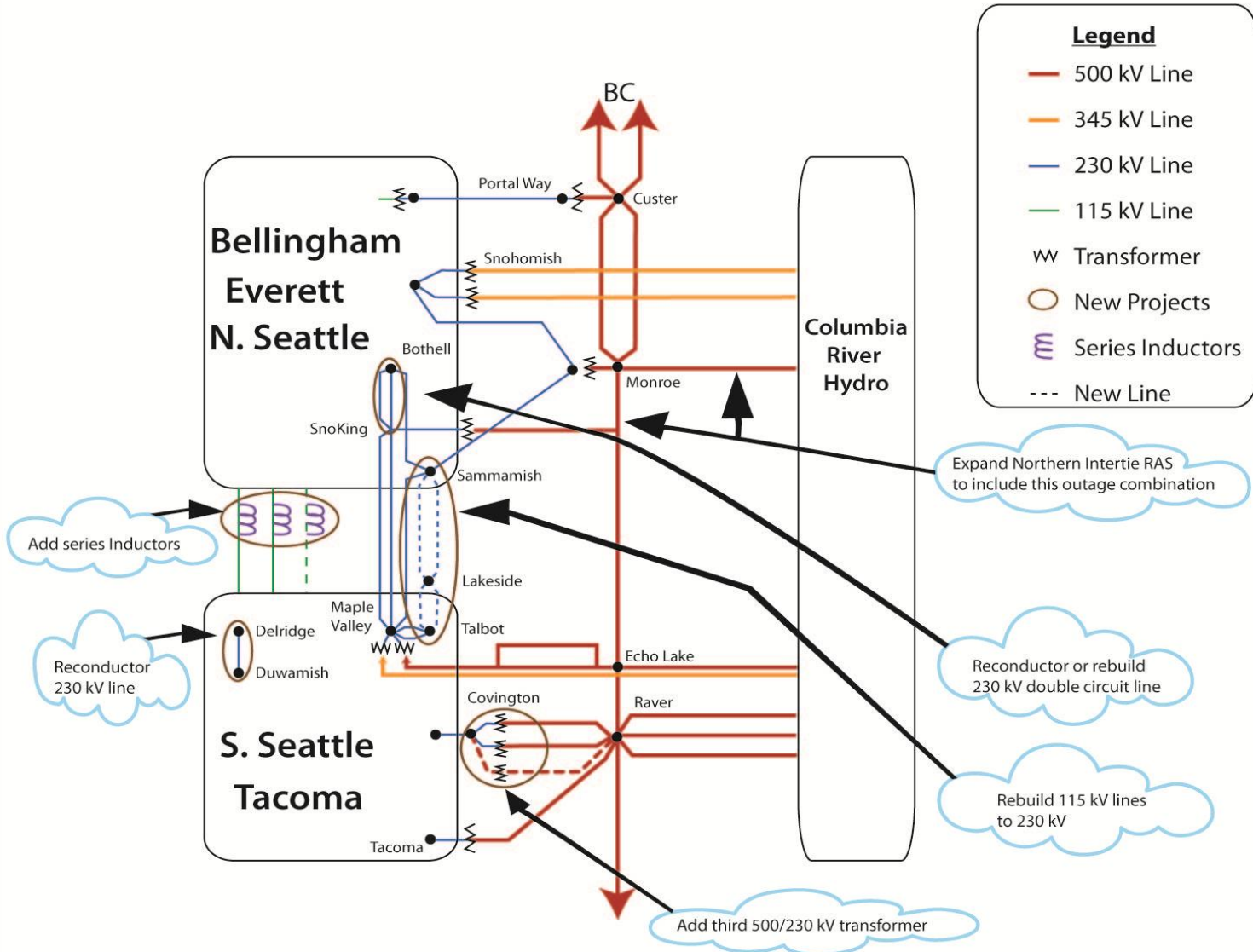


# Puget Sound Area Transmission Expansion Plan

# Puget Sound Area Transmission Expansion Plan

- Initiated in August of 2009
- Completed in October of 2011
- Utilities reached agreement on cost allocation in January of 2012
- In-service date 2016 or 2017 at a cost of approximately \$150 million
- Plan Goal - Provide reliable service to load and 1500 MW of transfer capability to Canada even with a single transmission facility out of service
- Developed by the Puget Sound Area Study Team using ColumbiaGrid staff

# Puget Sound Area Study Team Transmission Expansion Plan





# Example of Series Inductor

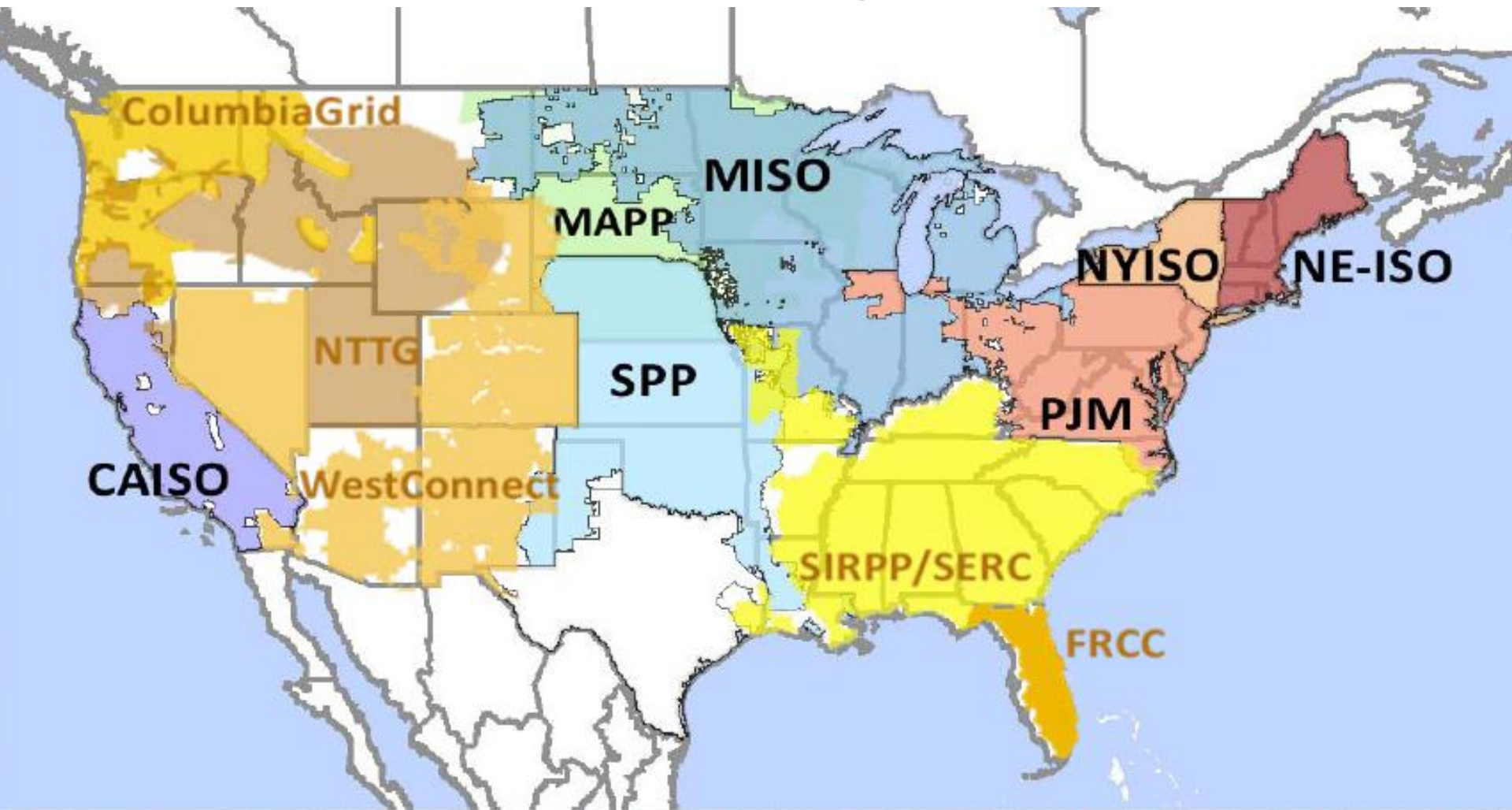


# FERC Order 1000

“Requires transmission planning at the regional level to consider and evaluate possible transmission alternatives and produce a regional transmission plan”

“Requires the cost of transmission solutions chosen to meet regional transmission needs to be allocated fairly to beneficiaries”

# Likely Regions



# ColumbiaGrid Response to Order 1000

- ColumbiaGrid's review is being completed by an Order 1000 Coordination Group which includes legal, policy, and planning representation from PEFA Parties
- Regular stakeholder meetings are being held to provide briefings and to receive stakeholder input
- Review to date indicates that the current ColumbiaGrid Planning process meets the majority of Order 1000 directives
- Individual utility intra-regional compliance filings are due in October 2012
- Will initiate work on inter-regional requirements in the next few months

# Relationship with FERC Directives

- Several PEFA Parties' rely on PEFA in meeting FERC's Order 890 regional planning and cost allocation requirements
  - Avista, BPA and Puget Attachment Ks are on file with FERC
  - Seattle City Light and Tacoma Power have open access transmission tariffs with similar Attachment Ks that are not on file with FERC
- It is expected that PEFA Parties will continue to rely in substantial part on PEFA for Order 1000 compliance

# Issue #1 - Qualifications

- The PEFA currently allows non-incumbent developers to become a PEFA Party and submit their proposed projects for development through the ColumbiaGrid Planning and Expansion Process
- Under Order 1000, the PEFA is being reviewed to ensure that it appropriately addresses qualification criteria and protocols to govern the submission and evaluation of proposals for transmission facilities to be evaluated and qualification criteria for determining an entity's eligibility to propose a project in the regional transmission planning process, whether that entity is an incumbent transmission owner or a non-incumbent transmission developer



## Issue #2 - Public Policy Requirements

- Already part of the ColumbiaGrid planning process
- ColumbiaGrid primarily relies on its planning participants to bring public policy requirements into the planning process
- Under Order 1000, the PEFA is being reviewed to ensure that it appropriately addresses consideration of transmission needs driven by public policy requirements established by state or federal laws or regulations



# Capacity Increase Projects

- The existing planning process for CIPs is being reviewed by the Order 1000 Coordination Group to ensure that it adequately addresses Order 1000 provisions, for example:
  - **Issue #3** - Does the process provide for the development of “more efficient and cost effective” alternatives consistent with Order 1000?
  - **Issue #4** - Does the process have enough specificity as far as to how cost allocation recommendations are made for CIPs?

# Potential Planning Process Changes/Clarifications due to Order 1000

# ColumbiaGrid Planning Process

January

July

December

System Assessment Process

(slide 2)

Biennial Plan or Plan Update

(slide 4)



Study Team Process (slide 3) – to address specific areas or issues

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# System Assessment Process

## Stakeholder Input

- Conceptual or specific project information (specific projects require PEFA Party sponsor):
- Transmission
  - Generation
  - Non-transmission alternatives
  - **Transmission needs (e.g., conceptual or specific projects) which may be driven by Public Policy Requirements or other reasons**



## Planning Group Develops Study Plan

- Study Cases
  - Years for study
  - Seasons and load levels
  - Selection of generation scenarios to be modeled in each case
  - Selection of transmission projects to be modeled or studied through application of Project Screening Principles
  - Contingencies to be studied
- Sensitivity studies
  - Changes in load, generation, or project
- Economic studies
  - Prioritization and selection of scenarios



## Staff Analysis

- Analytical studies
- Identification of issues and needs
- Identification of additional sensitivity studies
- **Development of conceptual transmission solutions and consideration of non-transmission alternatives**



## Stakeholder Review and Development of Conclusions

- Development of conceptual transmission solutions and consideration of non-transmission alternatives
- Identification of additional sensitivity studies
- Assignment of transmission issues to existing or new study teams depending on facilities and systems affected
- Draft and final report with Stakeholder input

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# Study Team Process

## Formation

- Need or issue as identified in System Assessment
- Stakeholder Notification

## Analysis

- Develop Study Plan
- Complete analysis
- Attempt to agree on conclusions
- **Identify and evaluate project alternatives that may be more efficient or cost-effective**
- Study Team attempts to select among alternative projects and non-transmission alternatives through application of Project Evaluation Principles
- Potential project participants work on cost responsibility

## Project Selection and Report

- Document study and recommendations
- ColumbiaGrid selects projects where agreement has not been reached by Study Team

## Order 1000 Cost Allocation

- Cost Allocation method applied if
  - **Requested prior to this stage**
  - Requested project is determined most efficient and cost effective
  - Project and developer are qualified
- Cost allocation initially at ColumbiaGrid staff level, and if necessary by ColumbiaGrid Board

## **Qualification to Request Order 1000 Cost Allocation**

- **Request at any time before Order 1000 Cost Allocation**
- **Initial screening**
  - **Review completeness of information provided regarding the project and project sponsor**
- **Qualify project developer**

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# Biennial Plan or Update

## Inputs

- System Assessment
- Study Team reports
- Historical data
- Sensitivity study results

## Plan Development

- Compiled by ColumbiaGrid
- **Review of projects to identify alternatives that may be more efficient and cost-effective, through application of Project Evaluation Principles**
- Provide feedback to Study Team about alternatives or interactions among alternatives that may not have been considered
- Reviewed by Stakeholders

## The Biennial Plan or Update

- Submitted to ColumbiaGrid Board for Approval

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## Order 1000 Project Sponsor Qualification Criteria

To determine a Project Sponsor's eligibility to propose a transmission project for selection in the regional transmission plan for purposes of cost allocation, ColumbiaGrid will determine whether the Project Sponsor is technically, financially, and otherwise capable of:

- (i) developing, licensing, and constructing the proposed transmission project in a timely and competent manner; and
- (ii) owning, operating, and maintaining the proposed project facilities consistent with Good Utility Practice and applicable reliability criteria for the life of the proposed project.

Such Project Sponsor must be a PEFA Party at the time it submits the proposed project into the ColumbiaGrid planning process. The following factors will be considered in determining such eligibility:

- (a) The current and expected capabilities of the Project Sponsor to finance, license, develop, and construct the proposed facilities and to own, reliably operate, and maintain them for the life of the proposed project;
- (b) The Project Sponsor's existing rights of way and substations that would contribute to the proposed project;
- (c) The experience of the Project Sponsor in acquiring rights of way, and the authority to acquire rights of way by eminent domain, if necessary, that would facilitate approval and construction of the proposed project;
- (d) The proposed schedule for development and completion of the proposed project and demonstrated ability to meet that schedule of the Project Sponsor;
- (e) The financial resources of the Project Sponsor;
- (f) The technical and engineering qualifications and experience available to the Project Sponsor as they relate to the proposed project;
- (g) The previous record of the Project Sponsor regarding construction and maintenance of transmission facilities with respect to facilities such as the proposed project;
- (h) Demonstrated capability to adhere to construction, maintenance, and operating practices consistent with Good Utility Practices with respect to facilities such as the proposed project;
- (i) Demonstrated ability to assume liability for major losses resulting from the failure of or damage to facilities that may be associated with the proposed project;
- (j) Demonstrated cost containment capability and other advantages the Project Sponsor may have in developing and constructing the proposed project.

# Coordination Activities with Other Regions

- Northern Tier Transmission Group
- WestConnect
- California ISO
- British Columbia Coordinated Planning Group

A photograph of a modern building with a prominent curved glass facade. The building is surrounded by greenery, including trees and bushes. A paved area, possibly a driveway or walkway, is visible in the foreground. The overall scene is bright and clear.

# Questions?