

NOS 2009 Commercial Infrastructure Financial Analysis

Updated April 22, 2010

(Initially presented via customer conference call on April 6,
April 6, 2010)

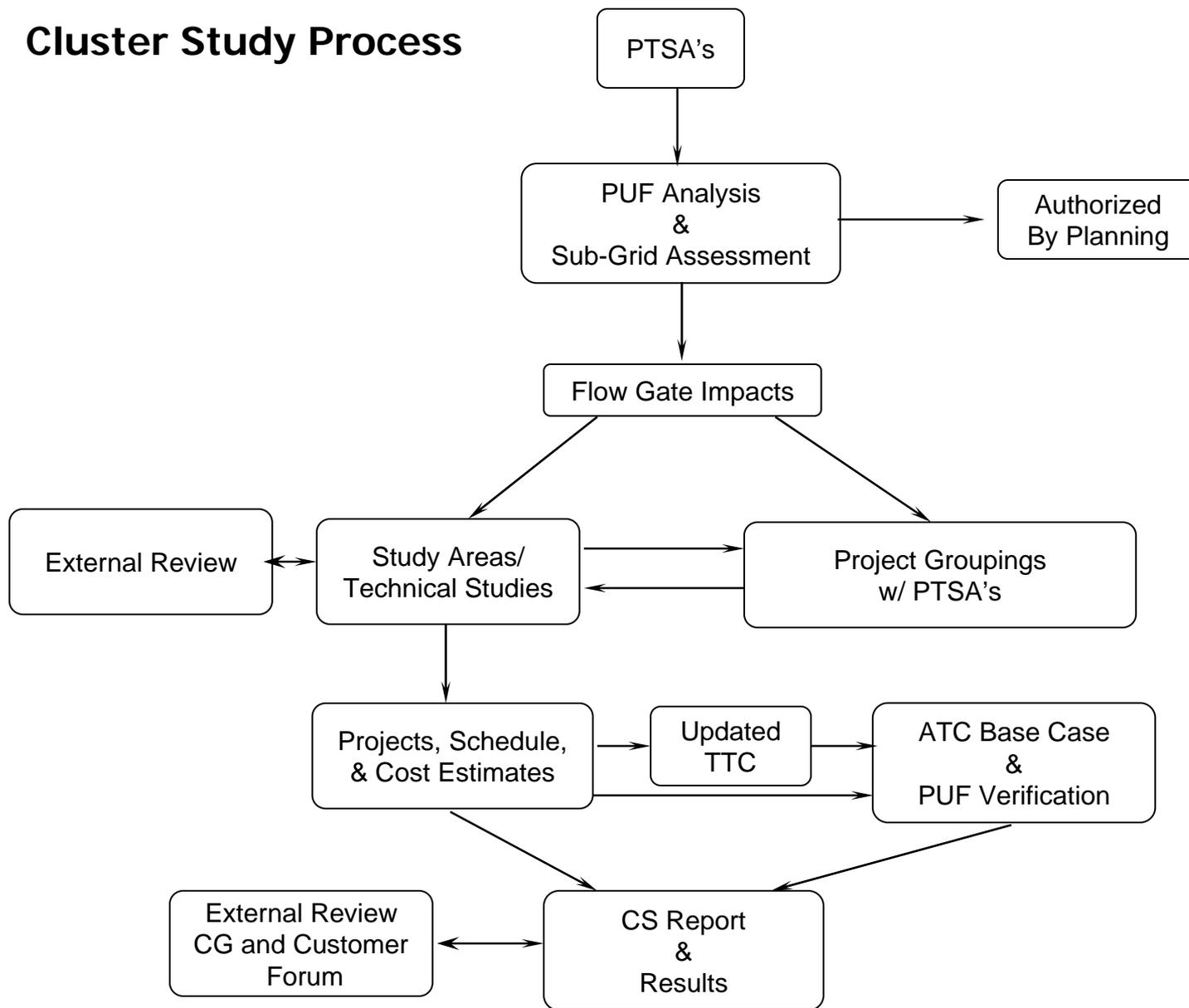


Agenda

- NOS 2008 Messages and Rate Impact Crosswalk
- NOS 2009
 - NOS 2009 Messages
 - Net Present Value
 - Rate Pressure
 - Capital Investment Cost per Enabled MW of Subscription
- Appendix



Cluster Study Process



Definition of Terms

- TSR¹ – Transmission Service Request
- Authorized TSRs – Requests that can be granted without a capital project based on available transmission capacity.
- Rate Pressure – Rate pressure is the expected impact to rates across all network customers (PTP and NT), all else remaining equal as a result of moving forward with the project(s).
 - 20 year rate pressure is the average rate pressure over 20 years.

¹ In the CIFA analysis MW demand for NT and PTP redirect requests are excluded.



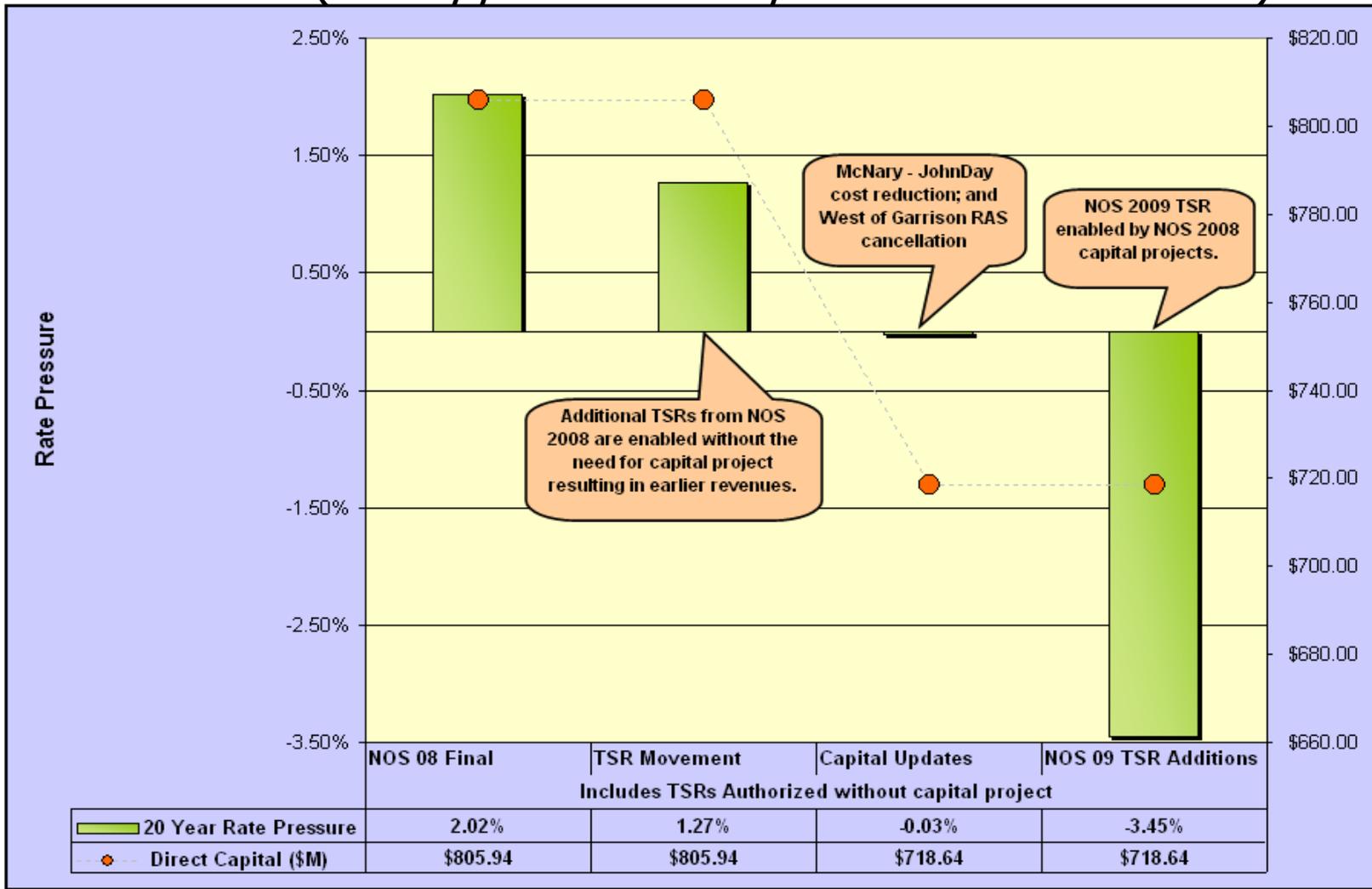
NOS 2008 Messages

- **Since the CIFA analysis for the NOS 2008, additional TSR authorizations and capital cost reductions result in little or no rate pressure due to the recommended projects for NOS 2008.**
- In February 2009, BPA agreed to move forward five projects at rolled-in rates: McNary-John Day, Big Eddy-Knight, I-5, Central Ferry-Lower Monumental, and West of Garrison RAS.
- NOS 2009 provides additional requests that would require these projects. The increase in subscriptions from NOS 2009 further reduce the rate pressure and supports BPA's decision to move forward with the projects approved through the NOS 2008 process.



NOS 2008 Rate Pressure Crosswalk

(see Appendix for explanation of this chart)



Notes:

- NOS 2008 Projects include WOMR, I-5, Central Ferry-Lomo, and West of Garrison RAS.
- No deferrals assumed.
- Analysis does not include NT or Redirect requests.



NOS 2009 Overview

- There are 293 MW of demand that can be offered (authorized) without a capital project from NOS 2009.
- The cluster study identifies new builds needed for 139 MW:
 - West of Garrison (WOG) Reinforcement can enable 14 MW with a direct capital cost of approximately \$91.0 M.
 - Northern Intertie (NI) can enable 100 MW with a direct capital cost of approximately \$225.1M. To enable those 100 MW Central Ferry-Lomo and WOG Reinforcement are also required. Therefore an allocation of capital for each of those projects was made based on the share of requested MW. This analysis used a total direct cost of \$315.0 M.
 - Harney can enable 25 MW with a direct capital cost of approximately \$241.9 M.
 - The Harney plan of service was determined to be a direct assignment and is not included in the CIFA analysis.
- Based on the Commercial Infrastructure Financial Policy (CIFP), the Commercial Infrastructure Financial Analysis (CIFA) was performed on the NI and the WOG.
 - The CIFP requires projects to have a positive Net Present Value (NPV) in order to pass.

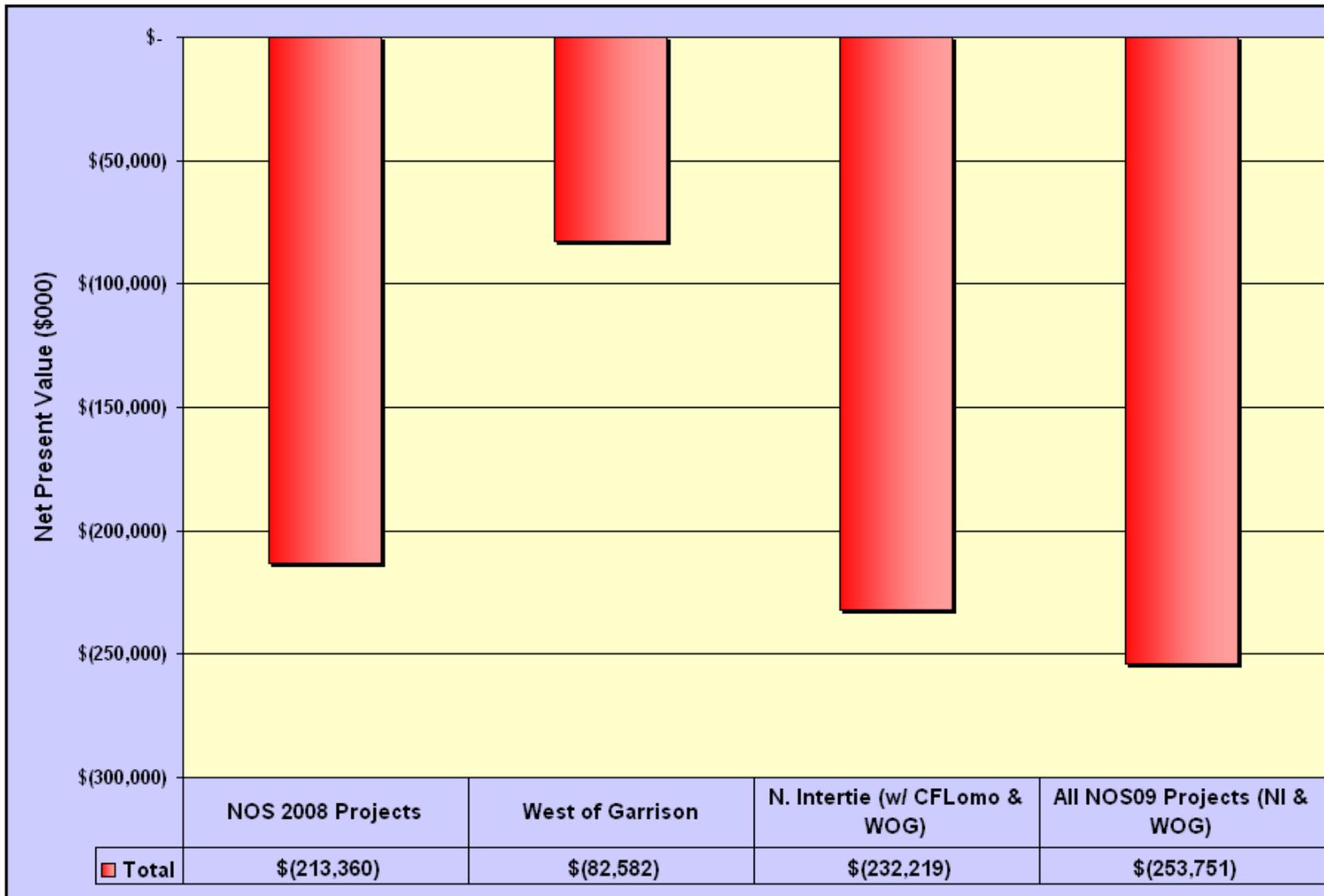


NOS 2009 CIFA Results

- NPV for both proposed projects is a negative and does not pass the CIFP (slide 9).
- Positive rate pressure indicates insufficient subscription revenues to cover the project costs (slide 10).
 - The rate pressure of 2009 plan-of-service over 20 years for:
 - WOG (14 MW demand) is 1.5%.
 - NI (100 MW demand) is 5.3%.
 - WOG and NI (114 MW demand) with and without authorized TSRs is 4.7% and 5.5%, respectively.
- There are no reliability benefits currently identified for the NOS 2009 projects.



NOS 2009 Project Scenario Net Present Value (NPV)

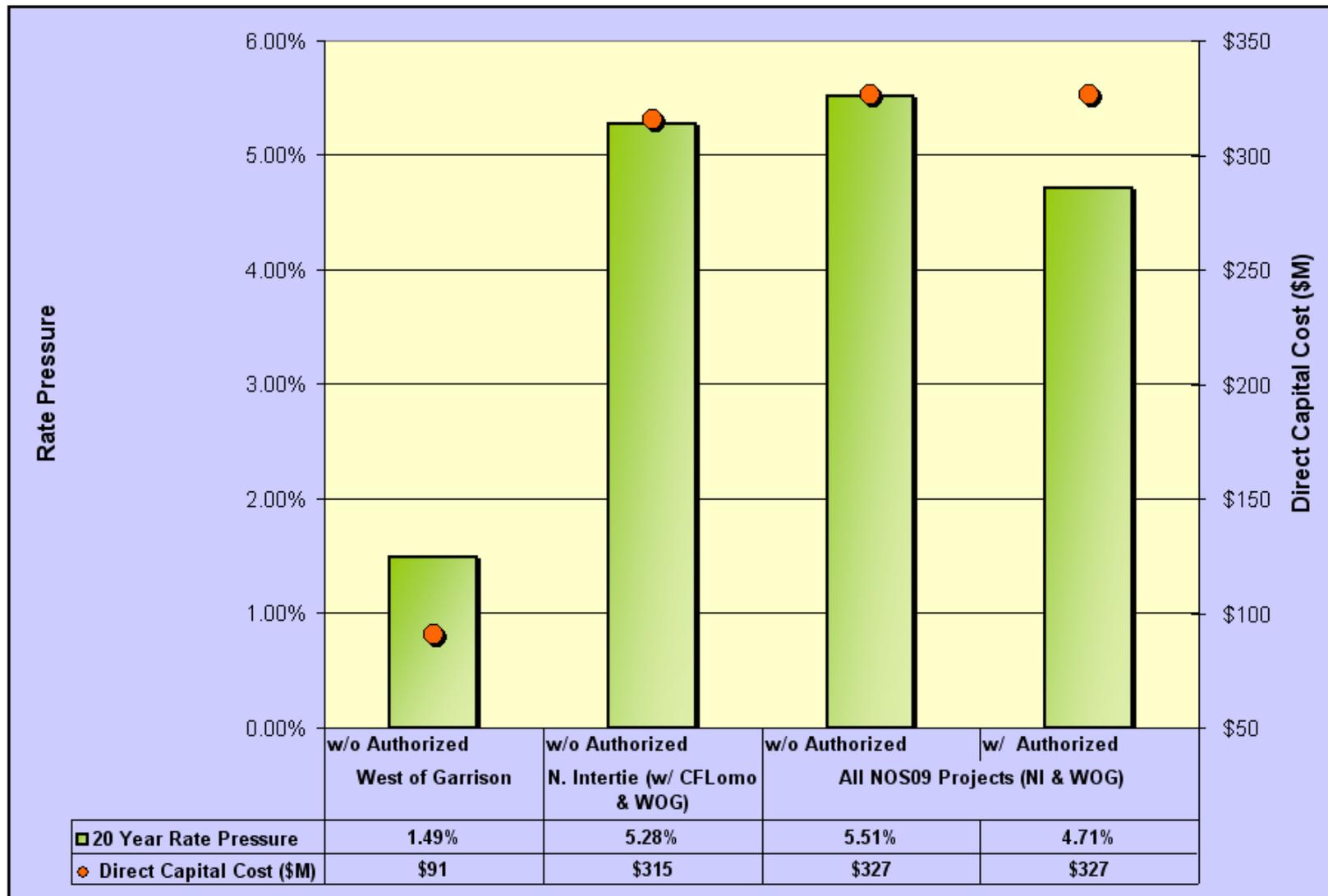


Note:

- No deferrals assumed.



NOS 2009 Project Scenario Rate Pressure



Note:

- No deferrals assumed.
- Authorized TSRs submitted in NOS 2008 were not included.



Comparative Cost per MW by Cluster Study Group

- Direct cost per MW provides an indicator of the comparative cost between cluster groups to enable the currently associated subscription demand requests (slide 12).

Note the \$ (in thousands) per MW on the left axis and the direct capital cost (in thousands) in on the right axis.

- The direct cost per MW for:
 - NOS 2008 projects from NOS08 Final ~ \$1,070 per MW
 - NOS 2008 projects with NOS09 TSRs ~ \$720 per MW
 - West of Garrison ~ \$27,000 per MW
 - Northern Intertie ~ \$13,000 per MW
- There is only limited MW demand enabled by NOS 2009 projects compared to NOS 2008 projects:
 - For the NOS 2008 final decision, 2% rate pressure for the NOS 2008 projects could enable 3,699 MW of subscription at \$1,070 per MW.
 - Comparatively, West of Garrison has a 1.5% rate pressure that can enable only 14 MW of subscription at \$27,000 per MW.



Annual Average Direct Capital Cost Per Enabled MW Subscription



Note:

- No deferrals assumed.
- Authorized TSRs not included.



Summary of Messages

- Given current assumptions and updates, the recommended projects from the NOS 2008 show little or minimal rate pressure.
- Additional requests submitted in NOS 2009 bring subscription levels high enough to cover the NOS 2008 project costs supporting BPA's 2008 decision on which plans should move forward.
- No plans of service resulting from the NOS 2009 Cluster Study passed the CIFP.
- CIFA results will be considered as part of the BPA recommendation for NOS 2009.



Appendix



Summary of NOS 2008 Project Demand MW

- NOS 2008 Projects enable 4,428 MW demand including MW for NT and redirect requests
 - 6,410 MW of requests were submitted in NOS 2008.
 - Less: 929 MW associated with plans of service not approved in the NOS 2008 process.
 - Less: 1,782 MW authorized without need for new facilities in NOS 2008 cluster study.
 - Less: 403 MW authorized without need for new facilities after the NOS 2008 cluster study.
 - Add: 1,121 MW of additional requests requiring these facilities submitted in the NOS 2009 cluster study.
 - Equals: 4,417 MW that require NOS 2008 projects.



NOS 2008 Rate Pressure Crosswalk Explanation (For Use with Slide 6)

- NOS 2008 projects include McNary–John Day, Big Eddy-Knight, Central Ferry-Lomo and West of Garrison RAS. Authorized TSRs are included in the rate pressure analysis.
- Note the chart includes expected 20 year rate pressure on the left axis and anticipated direct capital cost on the right axis.

The following numbers correspond to the columns of the chart on page 8.

- 1) The base point, “NOS 2008 Final”, shows a 2% 20-year rate pressure as part of the BPA decision criteria for NOS 2008 in February 2009. Analysis includes TSRs that require the NOS 2008 projects, as well as TSRs authorized without requiring a capital project.
- 2) The column labeled “TSR Movement” reflects expected revenue increase in earlier periods due to earlier than expected start dates reducing the 20-year rate pressure to 1.3%.
 - 403 MW of demand is enabled without requiring a build.
 - 50 MW of demand is enabled by McNary-John Day instead of Big Eddy-Knight.
 - 80 MW of demand is enabled by Big Eddy-Knight instead of WOG RAS.



NOS 2008 Rate Pressure Crosswalk Explanation (For use with Slide 6)

- 3) "Capital Updates" shows 20-year rate pressure reducing to 0% (as compared to the scenarios described in the first two columns) due to capital cost reductions caused by the cancellation of the West of Garrison RAS project (~\$2M) and the cost reduction for McNary-John Day (~\$85M).
- 4) "NOS 2009 TSR Additions" further reduces the 20-year rate pressure to a -3.5% due to additional subscription revenue from requests submitted as part of NOS 2009 that will can be offered due to NOS 2008 projects. The requested MW demands breakdown as follows:
 - 266 MW authorized without a capital project.
 - 805 MW require McNary-John Day and Big Eddy-Knight.
 - 12 MW require I-5.
 - 125 MW require both I-5, McNary-John Day, and Big Eddy-Knight.



NOS 2008 Proposed Project Demands by Cluster (For Use with Slide 6)

	(A)	(B)	(C)	(D)	(E)	(F) = (B) + (D)	(G) = (C) + (E)	(H) = (F) + (G)
	NOS 2008 ¹		NOS 2009 ²				NOS 2008 and 2009	
Cluster Group	Demand MW (w/o NT and Redirects)	Demand MW (NT and Redirects)	Demand MW (w/o NT and Redirects)	Demand MW (NT and Redirects)	Total Demand MW Used in CIFA	Total Demand MW (NT and Redirect) Not Used in CIFA	Total Demand MW	
1 Authorized	1,699	486	266	27	1,965	513	2,478	
2 McNary-John Day & Big Eddy-Knight	1,564	147	805	91	2,369	238	2,607	
3 I-5 Reinforcement	150	0	12	88	162	88	250	
4 Central Ferry-Lomo	200	0	0	0	200	0	200	
5 McNary-John Day & Big Eddy-Knight & I-5	495	0	125	0	620	0	620	
6 McNary-John Day & Big Eddy-Knight & Central Ferry Lomo	550	90	0	0	550	90	640	
7 McNary-John Day & Big Eddy-Knight & Central Ferry Lomo & I-5	100	0	0	0	100	0	100	
8 NOS 2008 Proposed Projects Demand Total	3,059	237	942	179	4,001	416	4,417	
9 NOS 2008 Proposed Projects Demand Total Including Authorized	4,758	723	1,208	206	5,966	929	6,895	

/1 NOS 2008 project proposals for Harney (775 MW), Northern Intertie (100 MW), and LaGrande (54 MW) are excluded.

/2 NOS 2009 project proposals for Harney (25 MW), Northern Intertie (100 MW), and West of Garrison (14 MW) are excluded.



Commercial Infrastructure Modeling

#	Cluster Study Outputs that go into the Commercial Infrastructure Model consist of:
1	Direct Costs
	a. By project, by year of construction
2	Demand Megawatts
	a. By project, by year in megawatts
	b. Several projects have multiple streams of megawatts coming on later in the project life.
	c. The demand megawatts are assumed to renew indefinitely if the initial subscription is 5 years or greater.
	d. Only viewing demand megawatts can be misleading considering subscription contract durations and renewals.
	e. NT and redirect demand is not included in the analysis.
3	Benefits from delaying a planned projects
	a. Planned reliability projects identified that can be delayed due to a new project.
	b. Project is modeled as planned, then delayed project is modeled and net cost savings is modeled as a benefit.
	c. Average rate calculations start averaging the first year the projects are energized over 5, 10 and 20 years.



Commercial Infrastructure Modeling

#	Modeling Base Assumptions:
1	Rates
	a. Discount Rate = 9%
	b. Borrowing Rate = 7.15%, 3 rd party taxable rate from 2009 BPA Borrowing and Inflation Rate Assumptions study.
	c. Construction inflation rate = 2%
	d. PTP inflation rate = 1%, used on the PTP rate.
2	Overhead Loadings
	a. For the NPV calculation, an incremental loading cost of \$2 million per project per year of construction on all projects.
	b. For the embedded rate calculation, the average IPR forecasted composite loading percentage of 23% is used.
3	Embedded Rate Calculation
	a. Using the assumption where \$6.2 million = 1% rate pressure, does not inflate over time.
	b. Rule of thumb is divided into incremental costs from repayment assumptions by year.
	c. Average rate calculations start averaging the first year the projects are energized over 5, 10 and 20 years.
4	PTP Rate Calculation
	a. Base PTP rate = \$1.298 / kW-mo, used to calculate subscription revenues.
	b. Incremental PTP rate = calculated by increasing base PTP rate with same subscription MW inputs until NPV is positive.
5	Subscription MW
	a. Less than 5 year subscription contracts are not assumed to renew.
	b. 5 year subscriptions and over are assumed to renew indefinitely.
	c. TSR authorized without project build are not included in individual projects, but are included in project groupings.
	d. TSR assumed in the revenue forecast for the FY10-11 Rate Case are excluded from the authorized TSRs.



2009 Network Open Season Roadmap & Timeline

