

LaGrande: Needs Assessment and Planning Process

Posted for discussion at the
November 6, 2009
Customer Meeting



Why are we here?

“The LaGrande Reinforcement identified in the NOS Cluster Study presents unique circumstances for BPA and customers. Although BPA has decided not to move forward with the LaGrande Reinforcement at embedded cost rates at this time, this project warrants additional assessment due to the unique combination of factors related to this project, including BPA’s existing reliability obligations and new market-based requests received during the 2008 NOS. As a result, BPA will conduct a separate planning process to develop a more rigorous needs assessment for the Northwest to Idaho connection.”

2008 NOS Administrator's Decision Letter, February 16, 2009



What are the primary purposes of our meeting today?

- Give an update on what BPA has been doing regarding LaGrande and share our analysis thus far.
- Get your thoughts about where we are to date, and where we are going.



LaGrande Load Components

- NT Customer Loads: NT Customers east of LaGrande in Idaho's BA Include: Albion, Burley, Declo, East End, Farmers, Heyburn, Minidoka, OTEC, Riverside, Rupert, South Side, United, Raft River, Wells, Weiser.
- PTP Service: PTP rights total 83 MW.
- USBR Loads and generation:
 - USBR Reserve Power. FCRPS power wheeled to Idaho when pump load exceeds local USBR generation.
 - USBR Generation in Idaho. Nameplate capacity is 81.1 MW—Anderson Ranch, Black Canyon, Boise Diversion, and Minidoka.



LaGrande Load Components (Cont.)

- New Service Requests: As of November 2, 2009, there are no pending transmission service requests in either direction on the LaGrande path.
 - There is one request for 13 MW through Hot Springs with a requested start date of October 2011.
- Losses: System and meter losses combined average 6%.
- With customers' recent submission of Tier 2 choices on November 1, we will review that information to see if any changes to our assumptions are necessary.
- BPA has estimated hourly capacity deficits on LaGrande through 2018. There is ongoing work that will affect this deficit.
 - Update of ATC on our external interconnections.
 - The update will address reallocation between LaGrande and Hot Springs, which may reduce the deficit LaGrande. Reallocation would require coordination with IPC.



LaGrande Hourly Capacity Deficits (MW) - All Lines in Service: 2010-2018

Includes: NT Load Forecast in IPC's BA (1 in 2 NCP), PTP Rights, USBR Pump Load, offsetting USBR Gen (driest 10% of 70 year water record), and 6% Losses.

November 6, 2009

2010	January	February	March	April	May	June	July	August	September	October	November	December
Total Hours												
Max Deficit (MW)												
Average Deficit (MW)												
2011												
Total Hours						39	99					
Max Deficit (MW)						11	25					
Average Deficit (MW)						4	8					
2012												
Total Hours						126	272					
Max Deficit (MW)						32	41					
Average Deficit (MW)						15	15					
2013												
Total Hours						90	260					
Max Deficit (MW)						36	42					
Average Deficit (MW)						13	14					
2014												
Total Hours						118	305					
Max Deficit (MW)						40	43					
Average Deficit (MW)						16	16					
2015												
Total Hours						141	330	1				
Max Deficit (MW)						44	48	0				
Average Deficit (MW)						19	18	0				
2016												
Total Hours					4	187	331	4				
Max Deficit (MW)					7	47	51	3				
Average Deficit (MW)					4	23	20	2				
2017												
Total Hours					9	201	344	9				1
Max Deficit (MW)					15	52	52	5				1
Average Deficit (MW)					7	27	22	3				1
2018												
Total Hours					37	193	353	27				
Max Deficit (MW)					24	58	53	9				
Average Deficit (MW)					9	20	20	3				

Deficits are any hour that the combination of Idaho NT loads, Losses, PTP Rights, and additional power for USBR pump loads (after netting local USBR generation) are expected to exceed BPA's 350 MW NW>Idaho allocation. These inputs may be subject to change.

2010 reflects BPA's and IPC's available capacity at Hot Springs.



How do we currently provide service across LaGrande?

- With all lines in service, although capacity is limited, it has been years since the last curtailment due to schedules exceeding capacity.
 - Forced and planned outages, however, are challenging due to the limited interconnection points with IPC.
- Between BPA and IPC there is sufficient combined capacity at LaGrande and Hot Springs to accommodate 2010 loads.
- However, loads will continue to grow for BPA's NT customers in Idaho's BA, and it is possible that a scenario of low USBR generation in Idaho combined with high PTP and NT loads crossing LaGrande would exceed the line capacity.
 - Hence this effort to identify a long-term solution to the tightening capacity issue.



LaGrande Service: Alternatives to Evaluate

- BPA participation in the Boardman to Hemingway project or other construction
- Examine BPA-TS capabilities at Hot Springs
- OATT service from another Transmission Provider
- Procure output of a resource in Idaho
- Explore resale of existing PTP rights
- Load management or Demand Response measures
- Explore options with existing infrastructure



LaGrande Service Alternatives

Participation in the Boardman to Hemingway (B2H) or Gateway West projects.

BPA is reviewing the option of participation in either of two proposed 500 kV transmission projects offering service into Idaho. A cross-agency team is tasked with the analysis of BPA participation in projects proposed by other Transmission Providers.

Preliminary Cost Estimate: B2H or Gateway West cost estimates are pending.

Pros:

- Provides long-term reliable, bi-directional transmission capacity between Idaho and the NW.
- Participation in both projects could conceivably provide direct transmission links to our Idaho transfer customers.
- Could provide additional bi-directional capacity for future TSRs.

Cons:

- Construction of B2H may affect current NW>Idaho path allocations and thus may increase capacity deficits on our LaGrande interconnection.

Next Steps:

- Corporate Strategy to complete internal analysis of B2H and Gateway West in cooperation with Transmission and Power Services as well as other affected work groups.



LaGrande Service Alternatives

Examine capabilities at Hot Springs

There is 80 MW at Hot Springs to go through to Idaho that could be used to take pressure off of LaGrande.

Preliminary Cost Estimate: No additional cost. Hot Springs is currently a POD in relevant NT contracts.

Pros:

- Optimizes existing capacity
- No additional costs

Cons:

- Reallocation to Hot Springs may not alleviate LaGrande capacity constraint entirely.
- Would need to secure transmission on the other side of Hot Springs in IPC's BA.
- This solution provides limited, if any, additional capacity for future TSRs.

Next Steps:

- Complete internal ATC updates and reallocation
- Discuss long-term capabilities through Hot Springs for service into Idaho with IPC.



LaGrande Service Alternatives

OATT service from another Transmission Provider:

BPA has identified OATT service from another Transmission Provider (TP) as a potential solution to capacity constraints on BPA's allocation of the NW>Idaho path.

Preliminary Cost Estimate: As an example, Avista posts available ATC at \$16.79/kW for yearly firm transmission on its BELLWESTSIDE>LOLO path.

Pros:

- Simpler, quicker solution than construction

Cons:

- Would require a TSR from BPA that is granted by another TP
- BPA would need to establish a new cost allocation agreement internally
- Would need establish a new delivery point in Idaho for our NT customers
- Only W>E capacity
- Cost exposure because other TP's transmission rates are subject to change

Next Steps:

- Review ATC offerings and consider placing a request in their transmission queue.



LaGrande Service Alternatives

Procurement of a resource in Idaho:

A resource serving NT load on the east side of the LaGrande constraint may be a viable option to meet load service obligations for our NT customers in Idaho. BPA Power Services has determined that the most feasible approach to this solution would be a resource purchase due to the illiquid power market in Idaho and the need for reliable energy. Thus, the recommended resource assumption for this solution is a 50 MW Natural Gas Reciprocating Generating Station.

Preliminary Cost Estimate: \$17.13/kW-month, first year cost. These costs are based on conservative assumptions -- they reflect an assumed IPP capital structure of 70% debt at 7% interest, and 30% equity earning a 15% after-tax return. This is typical of the resource offers we could expect from a competitive procurement.



LaGrande Service Alternatives

Procurement of a resource in Idaho (Cont.):

Pros:

- Could provide long-term, reliable service for Idaho customers
- Surplus power a source of additional revenue

Cons:

- Would provide little additional transfer capacity to support future TSRs
- BPA would need to develop an internal cost allocation policy for an option essentially providing generation in lieu of transmission.
- Additional approvals required. BPA acquisition of the output of resource greater than 50 aMW or for longer than 5 years requires Northwest Power and Conservation Council approval.

Next Steps:

- Continue internal analysis of the pros and cons of this option as compared to others.



LaGrande Service Alternatives

Explore purchase of other parties' existing PTP rights:

There are two existing PTP rights-holders on BPA's 350 MW allocation on the path totaling 83MW. If either party were interested in a resale or transfer of those rights the additional capacity could be made available to other customers.

Preliminary Cost Estimate: Negotiated Price

Pros:

- Requires no construction
- Faster implementation than construction or resource options

Cons:

- Requires a willing seller
- The theoretical maximum capacity available is 83 MW – this much capacity is very unlikely
- Only W>E capacity

Next Steps:

- Complete internal review of the desirability of this option
- Begin discussions with other parties if appropriate



LaGrande Service Alternatives

Load Management/Demand Response:

A demand side management program may address load (capacity and energy) to keep Idaho NT/pump loads within LaGrande path capacity.

Preliminary Cost Estimate: \$60-\$500/kW-year

- \$60/kW-year based on Draft Sixth Power Plan, Appendix: H, p. H-14
- Other estimate: PG&E programmatic average of \$313/kW-year Filed in A-08-06-001 CPUC
- High end estimate of \$500/kW-year (based on NE-ISO triggers DR at \$500 LMP)



LaGrande Service Alternatives

Load Management/Demand Response (Cont.):

Pros:

- Potentially delays transmission construction
- May defer decision for acquiring additional generation resource
- Resources may stay in place for peak management (and be used for wind integration in demand response program)
- May provide a targeted solution that addresses peak loads at the source

Cons:

- Cost Estimates may be significantly higher than stated in the Draft Sixth Power Plan. (See above)
- May not alleviate LaGrande need entirely
- Does not provide additional capacity for future TSRs
- Potential lack of flexibility in pump loads (e.g. pumping water in canals)
- Resource potential is unknown (i.e. are there willing participants?)

Next Steps:

- Complete internal review of possible solutions (including battery storage) to determine if this option is among the best from a cost/benefit standpoint.



LaGrande Service Alternatives

Explore options with existing infrastructure:

There may be an opportunity to swap or acquire existing transmission assets to provide additional capacity into Idaho.

Preliminary Cost Estimate: TBD

Pros:

- May be faster than a transmission or resource build
- The benefits are limited only by the negotiated outcome reached by parties involved

Cons:

- Uncertain if any parties are interested in discussing this possibility
- There are limited existing infrastructure options

Next Steps:

- Continue internal review of this option
- Discuss feasibility with potentially interested parties



LaGrande Service Alternatives

Why Doesn't BPA just build a line?

- A BPA transmission project was evaluated in the NOS 2008 cluster study and, at the time, there were not enough requests to support a capital build at embedded rates.
- Participation in a construction project is an option to meet capacity needs.
- BPA is now evaluating several different approaches to address capacity needs to determine which one, or combination, looks the best in terms of costs and benefits.

What about all of the GI requests in BPA's and IPC's queues?

- There are GI requests that could use capacity on the LaGrande path in both the BPA and IPC interconnection queues.
- Transmission service and GI queues are treated separately. System expansions required for GI requests in the local area are not necessarily additive to future transmission expansion that would be required for future TSRs. There are no TSRs in the queue as of November 2, 2009.
- BPA transmission planners have determined that adding generation to the middle of the existing 230 kV line between McNary and the Boise area will require additional 230 kV system expansion. And also that to provide a sufficient increase in transfer capability between the Pacific Northwest and Idaho for future obligations or TSRs, an additional 500 kV line would be needed.



LaGrande Financial Analysis Approach and Assumptions

- All LaGrande alternatives will have an economic analysis performed. We will review the Transmission Present Value (PV) and the Transmission Rate impact for each alternative.
- The Transmission PV will have the following assumptions:
 - The fully loaded capital costs
 - O & M for the life of the asset
 - Discounted at 9%
 - Inflation at 2.4%
 - Overheads at 25%
- Transmission Rate impact assumptions:
 - Fully loaded capital costs
 - O & M for the life of the asset
 - Inflation at 2.4%
 - Overheads at 25%
 - Treasury borrowing rate



LaGrande Service Options - Next Steps

- Cross-agency analysis of the costs and benefits of each identified service option is underway. The analysis will consider perspectives such as:
 - Business/Finance: costs, rate impacts, etc.
 - Public Interests: customer, stakeholder, political, etc.
 - Legal issues
 - Environmental Considerations
 - Project Specific: ability to scale to include new service requests, offer bi-directional capacity, etc.
- Communicate with customers and stakeholders as analyses are further developed.
- Expect to recommend a course of action in the first part of 2010.
- If you would like more time to review the presentation, we're opening a comment period. Please e-mail comments to techforum@bpa.gov by 12/4/2009.

