

## Mothballing\* the Lower Snake River Dams Would Help Resolve Bonneville Power Administration's (BPA) Financial Issues and Rising Rates



- ***BPA rates are rapidly increasing and will continue to because of the underperforming lower Snake River dams.***  
With mitigation costs in the billions, vastly more expensive rehabilitation cost on just 3 of the 24 turbines, court ordered spill that reduces power output along with the low seasonal flows that limit their output when demand is greatest, ***put these 4 dams in a league of losers that are draining funds from more beneficial BPA hydro projects and wasting wind power.***
- ***The Pacific Northwest region is energy rich.*** Currently there is a 16% surplus of energy.<sup>1</sup> Existing wind production is 3 times the average production of the LSR dams.
- ***“Oversupply” is energy in the regional system for which there is no demand and is “sold” as “surplus” to California in an attempt to make money for BPA.*** Oversupply due to over-generation of hydropower is not new to the PNW. For years, BPA has been forced to deal with this. When hydropower over-generation occurs, often because of heavy rains, runoff from large snow pack, or flood events caused by rapid snow melt, BPA runs excess water through turbines which increases the amount of hydropower entering the transmission grid. This affects BPA’s ability to reliably transmit power as the additional hydropower stresses the system, causing overloads and potential outages.<sup>2</sup> The sale of “surplus” power has also created negative pricing situations for BPA, that is they pay others to take the excess power since they cannot spill more at times without greatly exceeding saturated gas limits that kill fish, especially on the Snake.
- ***Energy load growth rates are low in the Pacific Northwest and are likely to remain low.*** From 1995 through 2012, annual energy loads in the region grew at an average rate of only 0.40 percent, and winter peak loads did not grow at all.<sup>3</sup>
- ***The region’s oversupply problem is growing*** as more and more affordable renewable wind and solar projects come online.<sup>4</sup> In fact, renewable wind and solar plants are being added to the region’s system so rapidly that there are claims that green energy is deluging the system.<sup>5</sup> Nevertheless, wind and solar investors added 4,000 and 2,000 MW respectively to BPA’s Integration que in 2016.
- ***Declining power prices created by oversupply in the region are detrimental to BPA as it erodes income necessary for dam operation, maintenance, and investment.*** This is a major factor in why BPA has raised their rates 28% in the past 8 years.
- ***Due to energy oversupply, BPA at times pays wind generators to take energy off the grid.*** “We can’t find enough demand for the amount of energy created by Mother Nature,” said BPA spokesperson Doug Johnson. BPA curtailed wind 45 times in 2017 and over 139,000 MWh were wasted.<sup>6</sup> The wind does blow in the summer months and tends to in the evening,
- ***Spill and low flow combined with continual on-going maintenance virtually eliminate peak power demand benefits.*** Indeed, these dams are expensive, underperforming assets that are subsidized by the other dams in the Federal Columbia River Power System (FCRPS), at rate/taxpayer expense. In the past 5 years, during each year’s hour of greatest demand, only 75% of the LSR dam turbines have been available (due to maintenance) and less than 40% have been utilized (due to low river flow).<sup>7</sup>

- **The LSR dams are not used to meet within-hour load variability.** Power production for within-hour load variability is usually met with McNary, John Day, and The Dalles dams, not the four LSR dams.<sup>8</sup>
- **Regional power demand is highest in December thru February, the coldest months, and again in July and August, the hottest months.** During these months, the LSR dams are usually limited to spinning just one or two turbines at each dam due to lower water flows and court-mandated spill to improve juvenile migratory fish survival, thereby eliminating their ability to contribute power to peak demands.
- **The four LSR dams are not as critical to grid stability/reliability as reported.** McNary dam can fill that role during summer demand peaks along with wind and automatic demand response. In winter, all four LSR dams have recently been completely idled at night.
- **The cost per megawatt-hour of the four LSR dams is driving up BPA's energy production costs.** Operation, maintenance, and associated fish mitigation costs of the four LSR dams is twice the average FCRPS cost of power generation. The \$2 billion juvenile fish bypass "improvements" alone have helped push BPA debt to about \$16 billion and according to a BPA budget official, give it the highest asset to debt ratio, 93%, of any public utility in the Nation, save two bankrupt ones. Interest payments alone are almost 25% of annual revenues and increasing every year. BPA must borrow to make these interest payments.
- **None of the endangered salmon stocks have recovered despite \$16 billion in expenditures on their recovery.** Snake River spring Chinook returns declined 56% in 2017 vs. the 10 year average. Summer Chinook salmon are down 48%, Sockeye salmon are down 79%. And steelhead are having their worst year in decades, with a 90% reduction.<sup>9</sup> Juvenile survival through the 4 LSRD's is about 72% not the 96 or 98% as some groups are claiming;
- **Nearly one third of BPA rates are associated with fish and wildlife costs.** Much of this cost goes towards habitat restoration projects which will be ineffective until endangered Snake River stocks are recovered. The habitat created is not being utilized because adult escapement is not increasing. Also impacted by reduced Snake runs are habitat recovery efforts in Puget Sound, estuaries and coastal rivers since these stocks are taking an ever increasing percentage of the take from harvest and predation.

\*"Mothballing" in Corps of Engineers terminology means to place in a "non-operational" status.

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<sup>1</sup> Anthony Jones, *Lower Snake River Dam Alternative Power Costs*, 6/22/15, pp. 7-8, <https://srkwcsi.files.wordpress.com/2015/06/2015-tony-jones-lsd-hydropower-replacement-costs.pdf>.

<sup>2</sup> Washington Journal of Environmental Law & Policy, Pearsall, Drew, *Bonneville's Energy Curtailment Problem*, 2013, p. 87, <https://digital.law.washington.edu/dspace-law/bitstream/handle/1773.1/1260/3WJELP079.pdf?sequence=1>.

<sup>3</sup> BPA Focus 2028, Wrap Up, 2/12/16, p. [https://www.bpa.gov/Finance/FinancialPublicProcesses/2028/doc2028/Wrap-Up Session.pdf](https://www.bpa.gov/Finance/FinancialPublicProcesses/2028/doc2028/Wrap-Up%20Session.pdf); Northwest Power Council, *Low Load Growth, and What It Means for Utilities, Electricity demand in the Northwest has been flat since the mid-90s--is this the new normal?*, 1/21/14, <https://www.nwcouncil.org/news/blog/load-growth-trends/>.

<sup>4</sup> Jones, *Lower Snake River Dam Alternative Power Costs*, *supra*, p. 15.

<sup>5</sup> *Id.*

<sup>6</sup> BPA Retrospective Reports 2017 <https://www.bpa.gov/Projects/Initiatives/Oversupply/Pages/Retrospective-Reports-2017.aspx>

<sup>7</sup> BPA FERC-714 Annual Power System Reports, 2011 – 2016 <https://transmission.bpa.gov/Business/Operations/FERC714/>

<sup>8</sup> US Army Corps of Engineers 2017 Fish Passage Plan, Appendix E- Fish Operations Plan, p. 6 [http://www.nwd-wc.usace.army.mil/tmt/documents/fpp/2017/final/FPP17\\_AppE.pdf](http://www.nwd-wc.usace.army.mil/tmt/documents/fpp/2017/final/FPP17_AppE.pdf)

<sup>9</sup> Fish Passage Center Adult Salmon YTD Comparison Table [http://fpc.org/web/apps/adultsalmon/R\\_yearodatecomparisonable\\_results.php](http://fpc.org/web/apps/adultsalmon/R_yearodatecomparisonable_results.php)