

Summary of Key Executive Branch Considerations for 2016 Breach on Lower Granite Dam Followed by Remaining 3 Lower Snake River Dams each Year

Authority/legal basis. The operable Environmental Impact Statement (EIS) for these four projects/dams contains dam breaching as the only remaining alternative. Given the Courts rejections over the last 14 years of all the Biological Opinions that were written to support non-breach alternatives in this EIS, the only alternative that is reasonable and prudent is Breaching. Meanwhile, over this period of 12 years, recovery of the listed salmon stocks has made no improvements, which is ground truth that the non-breach alternatives were and still are a failure. As such, the 2002 EIS and the Record of Decision are the decision documents providing the Corps a legal framework for breaching. Moreover, Congress has given the USACE the responsibility to insure that authorized projects result in an economic benefit to the nation and do not damage the environment or general social well being. With a .15 BCR—that is 15¢ of benefit for each dollar spent and no recovery of endangered species, these four dams fail at this. The Salmon White paper (Nov 2015), Executive/BPA policy and funding approach (Feb 2016), corrected Economics (Mar 2016) and Breach Plan reevaluation (Feb 2016) establish that the breaching alternative in the EIS remains valid. The economics and biology papers in their own right, even more so when considered collectively, clearly show that continuing the non-breach Alternatives in the 2002 EIS is neither reasonable nor prudent and show that these four dams are failing to meet the minimum conditions of an authorized project. Indeed, the biology facts indicate that executing the Breach Alternative of the EIS has less negative and far more positive impact on the environment in 2002 or today. This shows that the 2002 EIS was and is today a stronger document when the breach alternative is used. Thus it is the actionable document as written and should be used as the basis for an immediate breach decision by the Administration.

The reevaluation of the Breach Plan, aka, Appendix D, Natural River Drawdown Engineering of the 2002 EIS, shows that the Corps selected method of breaching, channel bypass around the concrete structures was correct but the cost were vastly over stated and over engineered. The main engineering/construction difference is the revised plan hydraulically breaches 35 feet of the dams earthen berm height whereas the original plan breached 20 feet. Also, the revised plan indicates breaching one dam per year instead of two as a cost saving measure. Moreover, there is likely no time left to modify the turbine outlets of Lower Granit to allow breaching a second dam this year. However, given the urgency, the next two dams could be breached in 2017.

Breaching of Lower Granite this year also provides the only meaningful solution to reducing summer temperatures in the reservoirs behind the dams. The reservoirs higher temps and slower speeds have always been a factor in fish mortality but 2015 provided to be even more deadly with 98-99% of the Idaho Sockeye run lost. NOAA's seasonal forecast predicts higher than normal temperatures once again in 2016. This forecast is proving to be correct with above average temperatures so far this year in the downstream reservoirs. Therefore, drawdown of Lower Granite should begin as the spring high flows pass in June instead of November shown in the breach plans. This will provide immediate temperature reduction behind Lower Granite dam as well as the downstream reservoirs. Technical teams charged with monitoring the situation are relying on water temps to "trigger" actions, however, drawdown takes about 30 days and needs to be done in anticipation of higher temps. Since drawdown is one of the first steps in breaching it is covered by the 2002 EIS allowing rapid decisions and implementation given the emergency situation we are now facing. While modifications to the fish ladders would be necessary to maintain adult passage the contractor currently on site installing the juvenile bypass improvements could do this work quickly as was done at Wanapum dam when it was quickly drawdown 2 years ago.

Source of funding. As described in the February 2016 Executive Branch Considerations, approximately 91% of

all costs of the lower Snake River dams are allocated to the hydropower purpose of the dams, with the remaining costs allocated to navigation. Decommissioning the dams is thus largely the responsibility of BPA. BPA funding comes from the sale of electricity to ratepayers at a cost sufficient to pay for hydropower costs, including mitigation for fish losses and for preventing the extinction of threatened and endangered salmon and steelhead. BPA is also responsible for repaying the U.S. Treasury for the cost of dam construction and capital improvements for mitigation financed by the Corps. However, BPA is applying credits against their U. S. Treasury debt for “fish mitigation” as a result of “non power” related activities, the breach cost is a fish mitigation alternative as covered in the EIS. BPA quotes the authority to apply these credits under the Northwest Power Planning and Conservation Act (PL96-501) section 4(h)10(c). Given this, and noting the failure of the \$800 million spent on structural improvements and another \$100-\$200 million on transportation to improve juvenile fish bypass over the last 15 years, with little if any improvement in returning wild stocks, a far more Reasonable and Prudent Alternative for “fish mitigation” is breaching. These “4h10c” credits should be used to pay for this to be consistent with allocation rules and the congressional intent of PL(92-501) as implemented for many years by BPA. Another way of comparison is to assume parity in the BC ratio for running the dams to simplify the math and note that Juvenile Fish Bypass Improvements at Lower Granite dam under way now with expenditures around \$50 million will likely be close to \$150 million when all the phases are complete in 2018. This is more than enough to pay for the breaching of the first two dams. So in terms of mitigation efficiency, it is far cheaper to obtain much higher survivability around the dams with breaching than with construction of expensive bypass hardware and the equally expensive O&M, R,R & R. So whether 4h10c credits are applied or not, BPA and the Corps through federal taxes, rate payers or credit forgiveness are collectively paying far more than an equitable return on investment. This money, no matter how it is scored, can be better spent or saved someplace else. Why are we doing this? Especially given the loss of this ecosystem and the legacy of failure that this Administration will be left with and noted for.

While it is true that a good business case can be made for BPA to pay the full cost of breaching as a cheaper way to pay for fish mitigation, a portion of each project has non-hydro benefits that may need to be financed elsewhere. Ninety-one percent is the average allocation for hydropower, but each dam has a different rate. The allocation percentages for non-hydropower, that is navigation, given in the 2002 EIS are 1.6 for Lower Granite, 6.7 for Little Goose, 5.9 for Lower Monumental and 21.4 percent for Ice Harbor, (dams listed in their breach order). The revised Breach Plan gives an estimate of approximately \$50 million (2017 dollars) for Lower Granite, thus \$800,000 in non-BPA funding. The Corps Columbia River Fish Mitigation Program (CRFM) that is authorized to pay the cost of fish passage improvements could pay this portion of the breach cost. As noted above, CRFM has funded over \$800 million with no wild fish recovery improvements. As a matter of comparison, over \$100 million is currently being spent at Lower Granite Dam that is considered to be no more than a make work project for Walla Walla District. This work should be stopped immediately. The remaining funds should be allocated to emergency drawdown and breaching. Note that 92% of CRFM expenditures should be paid back, to the US treasury, by BPA, so immediate full funding by the Corps is also a possible option.

As an independent action, the Corps should use its Section 216 Authority, Study of Existing projects, to determine the disposition of project lands. Significant additional economic activity can be gained if just 4000-5000 acres of the 40,000 acres of project land is put back into vineyards, orchards, and ancillary business such as wineries, restaurants, etc. If conveyed to the State of Washington, proceeds from the sale or lease of land would go into states school budgets. \$20,000 is available to USACE Divisions to scope such a disposition study.

Previously submitted documents are available on request.

Prepared by Jim Waddell, PE, Civil Engineer, USACE Retired, 360-775-7799

