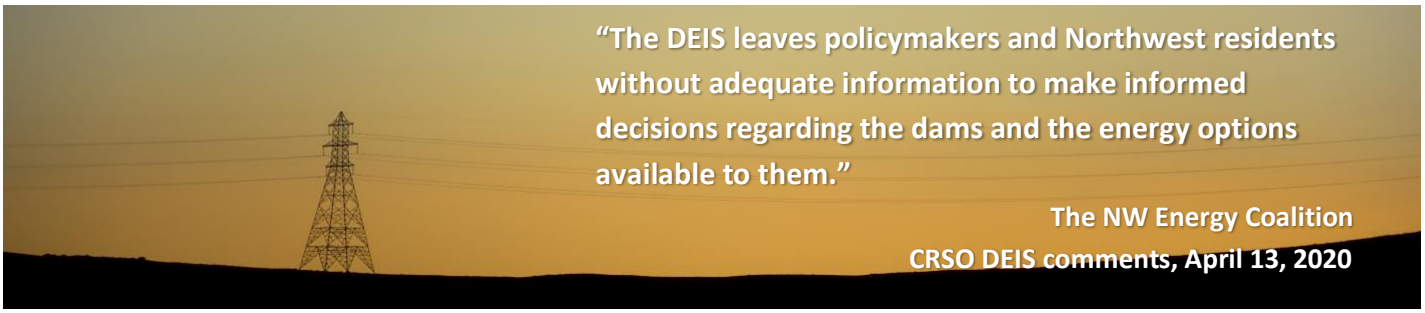
Summary of the NW Energy Coalition's formal response to:

The Columbia River System Operations Draft Environmental Impact Statement

April 13, 2019



The NW Energy Coalition and partners, including the Idaho Conservation League and the National Resources Defense Council, have submitted comments regarding sections of the DEIS relating to the replacement of energy and system services provided by the four lower Snake River dams. In the comments, we find:

The DEIS confirms that dam breaching and clean energy power replacement can maintain electric system reliability while providing the best chance for fish restoration.

- The DEIS acknowledges that a replacement portfolio of new, clean energy resources can meet electricity needs without compromising system reliability.
- The DEIS found that dam breaching is the only option that, with additional improvements, could increase fish return rates to a level that may support recovery and preservation of at least some salmon and steelhead populations.

The DEIS fails to meet energy industry resource planning standards, resulting in numerous inaccuracies and an exaggerated cost for clean energy power replacement.

- The errors stem from a failure to adequately consider a full range of possible replacement resources, a failure to optimize the selected replacement resources to achieve the most efficient outcome, and outdated and incomplete cost assumptions for replacement resources.
- These shortcomings were exacerbated by the use of inconsistent time frames for different elements of the analysis, the use of a static year rather than a multi-year analysis of the replacement portfolio, and by the arbitrary assumption of a 2022 implementation date.
- The result is an exaggerated estimate of clean energy replacement costs leading to a similarly exaggerated estimate of impacts to consumer electricity bills.

Because the DEIS fails to provide the accurate information needed to make informed decisions, a new, more rigorous study is required.

A study that meets the standards of the region's utilities and the Northwest Power and Conservation Council for integrated resource planning (IRP) would examine energy and capacity needs over a span of 20 years, fully explore demand requirements and resource options, and test and optimize combinations of possible replacement resources. The result would be:

- Significantly lower costs to acquire wind, solar, storage, and demand-side resources.
- Less need for new generating and transmission resources because demand response and energy efficiency would make larger contributions than the DEIS assumes.
- A more efficient and cost-effective system that could improve region-wide reliability and greatly reduce the impact on customer rates.

The integrated resource planning (IRP) standard

In April 2017, the NW Energy Coalition and the Idaho Conservation League submitted scoping comments to the Bonneville Power Administration, the US Army Corps of Engineers and the Bureau of Reclamation. We recommended that the CRSO EIS energy analysis adopt widely accepted practices for utility integrated resource planning (IRP), using a scenario assessment approach aided by a combination of advanced computer modeling tools to identify the least cost/least risk scenario. The recommendations included:

- Creation of a technical review panel that would consist of a broad range of stakeholders and solicit public input.
- The use of transparent, consistent and commonly accepted IRP analytical methods.
- Evaluation of the current operations of the LSR hydrogeneration within the context of the Columbia River System, the Northwest and the Western Interconnection.
- The use of scenario assessment modeling to study a range of future system conditions for 20 years or more.
- Development of an optimized, least cost/least risk clean energy replacement portfolio.
- Comparison of the optimized clean energy portfolio with LSR hydropower, considering not only energy generation but also capacity, flexibility, reliability and environmental costs and benefits.

Of these recommended practices, which are commonplace in utility integrated resource planning, none were fully embraced in the development of the DEIS. And the recommendation that an independent technical review panel be convened was disregarded altogether. The failure to adopt these recommendations had substantial consequences for the DEIS results.

- The DEIS does not include a full assessment of energy and capacity needs over a multi-year timespan.
- It does not adequately assess the full range of clean energy resource options, including solar, wind, energy storage and customer-side resources including demand response, energy efficiency, and distributed resources.
- The DEIS does not adequately test and optimize combinations of replacement resources to achieve a reliable and least cost/least risk replacement portfolio.
- The DEIS assumes public power consumers will pay all costs and does not consider options that would enable a fairer sharing of the effort to protect salmon and steelhead.

Where the DEIS falls short of the IRP standard

The DEIS power replacement analysis is not comprehensive, accurate, or sufficient

Utility IRP planning seeks to achieve a thorough, long-term system assessment and preferred resource portfolio, considering a range of risks and system constraints. This is standard industry practice for resource selection and should have been adopted for the DEIS.

Foundational elements include: (1) a system analysis over a long time horizon, typically 20 years; (2) extensive scenario assessment and sensitivity analyses to consider options across a wide range of conditions; and (3) a least cost/least risk assessment to find the optimum balance between economic efficiency and risk management. However, the DEIS replacement power analysis:

- Focuses only on a single study year – 2022 – not on a 20-year planning horizon.
- Fails to test for a comprehensive range of loads, resources, and interconnection and system conditions over time.

- Conducts a limited review of operating conditions, focusing only on critical and median water rather than a full range of hydro, load, other resource, and power market conditions.
- Does not iteratively optimize resources, an essential step to meet the least cost/least risk criterion over time. Instead, the DEIS considers a single, static metric for resource adequacy in a single year.

By failing to assess the full range of possible conditions over a sustained period of time, failing to optimize a replacement power portfolio, and failing to conduct a least cost/least risk assessment, the DEIS mischaracterizes system requirements and fails to identify the most cost-effective means of meeting them.

The DEIS fails to adequately consider changing conditions in the NW energy system

Over the next twenty years, three factors not adequately accounted for in the DEIS are likely to take hold.

Wholesale prices in both the Northwest and California power markets have been trending downward for years and are expected to continue doing so. While the ongoing need for system flexibility will increase the value of CRS flexibility overall, the LSR dams are less flexible than the mainstem Columbia projects because they are primarily run-of-river facilities. As a result, the relative value of the LSR hydropower will decline. The potential associated loss of revenue is not considered in the DEIS.

Retirements of coal-fired generation will affect the Northwest grid, but not in the manner reflected in the DEIS energy analysis and not in a way likely to increase the energy or capacity value of the dams. In fact, investor-owned utilities in the region are already moving to replace their coal plants with clean energy portfolios and non-utility resource developers continue to build new clean energy projects.

The DEIS also does not estimate the cost of modernizing the LSR hydro facilities if they stay in service. The various generation units are already reaching their 50th anniversary and will likely need major upgrades sooner than acknowledged by BPA. The costs of these upgrades were not considered; no evidence was provided for this omission, nor was the risk that the upgrades will be needed sooner than estimated considered by the analysis.

The DEIS overestimates the cost of replacement resources

The range of prospective replacement energy resources includes new sources of utility-scale wind and solar; storage capabilities, including battery storage and pumped hydro; and customer-side resources including demand response, energy efficiency, and distributed generation. Each of these resources has different characteristics, which, when used in combination, enable them to respond flexibly and efficiently to changing conditions. In short, the whole has significantly greater value than the sum of the individual replacement resources.

The DEIS fails to take advantage of this dynamic in three respects. First, it overestimates the individual costs of wind, solar, and battery storage, while ignoring or shortchanging other available resources. Second, it compounds the overestimation of costs by choosing the impractical and arbitrary implementation date of 2022. As a result, the DEIS does not take advantage of continuing steep price declines for clean energy resources. Finally, the DEIS fails to test alternative combinations of the prospective resources to find the optimum replacement portfolio at the lowest cost.

How we know an IRP-quality study would identify a better, lower cost clean energy replacement portfolio

In 2018, NWEC commissioned an independent study to determine the feasibility of replacing the power and system services provided by the LSR dams with clean energy resources. The NWEC study -- which relied on the same data sources and modeling tools that are used by the region's power planners and which conducted the kind of comparative analysis that the DEIS did not -- found that a portfolio of clean energy resources, including wind power, solar power, energy efficiency, and other customer-side resources can meet the energy needs served by the lower Snake River dams without any loss in reliability and at only

about one-third the incremental cost suggested by the DEIS. Moreover, the cost of power replacement may be even lower than the 2018 NWEC study found, thanks to the steeper-than-expected declines in the cost of renewable resources since that time, and because the NWEC study did not fully optimize the resource portfolios that it examined. In fact, the NWEC study concluded by specifically recommending that a more comprehensive study should be undertaken to complete the optimization process while also addressing other factors associated with the interconnected nature of the federal hydrosystem, dam breaching and power replacement that were beyond the NWEC study's scope.

A study that meets IRP standards is needed

A study that meets the IRP standard would examine energy and capacity needs over a span of years, fully explore demand requirements and resource options, and test and optimize combinations of possible replacement resources. Anything short of that will not provide the information Northwest residents and policymakers need to make evidence-based choices.

Our final DEIS recommendation is to redo the entire energy analysis. However, we know this is unlikely to occur. Therefore, the NW Energy Coalition recommends that, once the CRSO EIS process is complete, an IRP-quality study be conducted to assess options for replacing the energy services provided by the LSR hydropower. The Northwest should put the flawed DEIS behind us and adopt a solutions-oriented approach to put us on a path to restored salmon populations that fairly allocates the costs and benefits of a restored lower Snake River, including a reliable, clean and affordable energy system that supports us all.

NOTE: The NW Energy Coalition DEIS energy analysis comments are available at: www.nwenergy.org, The CRSO DEIS is available at www.crso.info. The primary discussion of the energy analysis is in Chapter 3.7, Power Generation and Transmission, with further detail in Appendix H (Power and Transmission), Appendix I (Hydroregulation), Appendix J (Hydropower) and Appendix Q (Cost Analysis).

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