



Columbia River System Operations EIS

Columbia River System Operations CRSO EIS

Columbia River Policy Advisory Group
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Birgit Koehler, Bonneville
Jason Sweet, Bonneville
Eric Rothwell, Reclamation



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Current Status

Columbia River System Operations EIS Process



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POWER ADMINISTRATION





Key Findings for Power

- Preferred Alternative leads to a 2.7% upward wholesale rate pressure relative to No Action. (Current operations, BP-20, already absorbed some of the costs.)
- MO3 (includes removing four lower Snake River dams) would require replacement resources for reliability and could cost
 - \$250 million/year for natural gas resources
 - \$400 million/year for zero-carbon (but range could be twice that) with upward wholesale rate pressure of 20.6% (12% to 50% range)
- With carbon reduction goals and planned retirement of several coal plants, replacing lower Snake River generation is even harder.
 - Replacing coal generation and lower Snake generation *together* is more difficult than the sum of replacing either individually.



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Public Comments

- 45-day public comment period with virtual meetings
- 58,000+ submittals, including 55,000 form letters
- Support for preferred alternative
 - Balancing hydropower, navigation/transportation, irrigation, species
- Support for breaching lower Snake River dams
 - Impacts to salmon/ killer whales
 - Economic impacts (recreation economy, commercial fishing)
- Advocacy for fish passage/reintroduction above Chief Joseph and Grand Coulee Dams
- Inadequate NEPA compliance and integration with cooperating agencies



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Public Comments on Power

- Keep the LSN dams; low-income communities cannot afford higher electricity rates
 - Keep the carbon-free power; keep LSN dams
 - Calculate the economic costs of blackouts of LSN dams removed
-
- The dams' power is all surplus
 - The dams cost more than they produce in power value
 - The dams' power is easy to replace cheaply with EE and new renewables (e.g. NWECC's analysis)
 - BPA did not do a rigorous analysis and inflated costs of replacement resources



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Notable Revisions to Power Analysis

All Alternatives:

- **Added Council's 8th Power Plan (2021 Power Plan) costs** for replacement resources, including NREL's forward cost curves for 2022 and 2032
- Also used Council's **15-year lifetime for batteries** and reducing financing to 15 years (from 30)

Preferred Alternative:

- Corrected minor modeling error, Reduced average generation by 50 aMW, firm generation by 30 aMW
- **Bonneville Wholesale PF** upward rate pressure unchanged within rounding, **+2.7% relative to NAA** (not relative to current rates BP-20)

MO3:

- **Adjusted quantity of replacement resources** to match NAA's LOLP
- **Net effect: PF rate pressure slightly higher** (fewer new resources but higher battery cost)



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Fish Analysis in Final EIS

- No changes in analysis or results between Draft and Final EIS
- Updated several subsections to provide additional context
 - Included NMFS's ocean condition information (i.e. ocean stop-light chart)
 - Included information on current survival through CRS in addition to dam specific survival estimates in the DEIS
- Updated discussion of quantitative models with results from Independent External Peer Review panel
 - Panel found no fundamental flaws with modeling approach
 - Highlighted uncertainty in model output due to latent mortality
- Response to public comments
 - Cleaned up errors in data tables for MO3 (labeling, not data)
 - Minor clean up figures and charts



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Key Findings for Fish

- NOAA and USFWS Analyzed the Biological Effects of the Preferred Alternative for their Biological Opinions
 - Flexible Spring Spill Operation
 - Increased exposure to TDG; slightly reduced travel times
 - Slight increases or decreases to direct survival depending on species
 - Potentially improves survival and productivity (if CSS hypothesis proves true) for interior basin species
 - Adaptive management sufficient to address in-season passage issues (adult delay, etc.)
 - Effects of Non-spill Operations
 - Generally minor/slight adverse effects from hydro flexibility actions
 - Small average McNary flow reductions (less than 2 kcfs) in some months
 - Beneficial effects anticipated from Non-Operational actions
 - Estuary habitat, tributary habitat, predator management, conservation and mitigation hatcheries; RM&E



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Key Findings for Fish

- NOAA and USFWS found that the proposed action is **not likely to jeopardize** the continued existence of the species for all 13 Salmon and Steelhead ESU/DPSs, bull trout, Kootenai River white sturgeon, and eulachon
- The proposed action **will not result in the destruction or adverse modification** of the designated critical habitat of these species



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Water Quality

Measures that drive the water quality results across MOs:

1. Fish passage (different spill measures in each alternative including PA)
2. Modified summer draft of Dworshak (MO1)
3. McNary Flow Target (MO4)



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Water Quality

MO1

MO2

MO3

MO4

Water Temperature

Dworshak measure, which was designed for temperature improvements, had moderate negative consequences

Minor water temperature improvements below Libby and Hungry Horse

Temps would respond to air temp fluctuations, faster cooling in fall/warming in spring. Warmer summer water temperatures could be expected at times, with temps >20°C during hot weather events.

Minor upper reservoir impacts which could impact resident species

Moderate Changes

Minor Changes

Major Changes*

Minor Changes

Total Dissolved Gas

No Major changes

Minor TDG reductions throughout basin

Major TDG reductions in the lower Snake, Moderate TDG increases in lower Columbia as compared to NAA due to 120% TDG operation. Reduced lower Columbia TDG in August after spill curtailment

Major increases in the lower Snake and Columbia due to the 125% TDG operation.

No Major Changes

Minor Changes

Major Changes

Major Changes

* There are short-term negative impacts to water quality (dissolved oxygen) associated with dam breaching.

Preferred Alternative: temperatures differences are negligible compared to NAA; there is major increase in seasonal TDG in the lower system.



Water Quality

Temperature TMDL: Similarities in the TMDL and CRSO EIS modeling direct comparisons are not appropriate given the differences between scenarios and assumptions made among the two projects.

Table 2-1. Comparison of TMDL and CRSO EIS Analyses.

	Preliminary TMDL Analysis	CRSO EIS Analysis
Tools Utilized*	RBM10 (1D)	CE-QUAL W2 (2D) & HEC-RAS (1D)
Temperature Metric	Daily average	Daily maximum
Calibration Period	2011 – 2016	2011-2015
Time step	Daily	Hourly
Meteorological Data Inputs	Prioritized stations with long term dataset, i.e. airports (1970-2016)	Prioritized stations with highest spatial resolution, includes airports and Agrimet.
Focus of Analysis	Analysis is used as an assessment of the sources of thermal load.	Analysis is focused on operational changes (timing, magnitude and route of water passage) of the CRSO dams.

Source: CRSO FEIS Appendix D.



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Next Steps

- Select an Alternative and complete a Record of Decision for all three agencies by Sept. 30.
- Continue engagements at DC-level
 - DOI, Reclamation, Corps, OASA(CW), OMB, DOE, CEQ
- Engagement
 - Governors' offices
 - Congressional delegation
 - Tribes
 - Fish Accords



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Questions?

