

Speed Chess Review Part 2: FERC Licensing & Climate Change, Options for Change

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Review: How climate change affects hydropower and FERC licensing at the broadest level

- Changes in hydrology
- Diminished reliability of using past hydrology
- Changing impacts of project operations
- Changes in habitat suitability
- Changes in ambient weather
- Increased urgency of fish passage

Types of Studies that Could Make Licensing More Responsive to Climate Change

- Studies to evaluate alternative water management mitigations
 - Evaluation of measures like groundwater banking
 - FERC: alternative mitigation outside scope of licensing, NEPA
 - (Districts said groundwater banking not feasible)
 - (San Francisco said groundwater banking not feasible)
 - (Districts and San Francisco propose groundwater banking in “voluntary agreement”)
- Operations modeling with climate change scenarios (“speculative”)
- Evaluation of flood control and dam safety in relicensing
- Study of fish passage even if FERC-regulated dam not terminal dam

One Solution for Evaluating Future Hydrology Nevada Irrigation District 2020

Following completion of the historical unimpaired hydrology data set developed during the 2008 FERC relicensing, as part of the current supply projection update study, HDR updated these data to transform the historical unimpaired hydrology data set to represent projected conditions in 50 years (2070) as a result of three climate change scenarios.

The three climate change scenarios are:

- Median climate change conditions, based on 20 global climate models (GCMs) and representative concentration pathway (RCP) combinations;
- Drier/extreme-warming (DEW) conditions, representing a pessimistic trajectory of greenhouse gas emissions throughout this century; and
- Wetter/moderate-warming (WMW) conditions, representing an optimistic trajectory of greenhouse gas emissions throughout this century.

From NID, Water Supply Analysis TM, August 26, 2020, <https://nidwater.com/wp-content/uploads/2020/11/Water-Supply-TM-Final-20201112.pdf>

Improvements that Could Make Hydropower Projects More Responsive to Climate Change

- Cold water management
 - Carryover storage requirements (also helps manage long-term water supply)
 - Summer flow releases to keep river cold
- Rules and infrastructure for droughts and dry year sequences
 - Flow requirements that share pain, not reduce flow to <10% unimpaired
 - Groundwater banking like San Francisco water bank in Don Pedro Reservoir
- Fish passage
 - Restoration of salmon and steelhead to higher elevation habitat
- Flood control
 - Increase capacity of lower Tuolumne floodway, esp. through Modesto

Response in Don Pedro/La Grange Licensings to Measures That Respond to Climate Change

- Remember: licensee desire to limit regulatory exposure is paramount
- Districts and SF acted start to finish to limit exposure to fish passage
- Districts and SF opposed alternative mitigations (narrow NEPA)
- Districts sought waiver of 401 Certification; FERC denied waiver 5-0
- Districts oppose expansive application of 401 by Water Board
 - Oppose carryover storage requirement
 - Oppose authority to require fish passage
 - Oppose authority to require flow
 - Oppose authority to enforce or reopen Certification
- Districts and San Francisco support voluntary agreement they control

How FERC licensing under existing laws can change to be more responsive to climate change

- FERC can change its policies on licensing studies (future hydrology, fish passage, upstream habitat, alternative mitigation, cumulative effects, flood control, dam safety)
- FERC can change policy not requiring mitigation of cumulative effects
- FERC can expand the scope of its NEPA analysis in subject matter, geography, and treatment of cumulative effects
- FERC can order studies to meet needs of other agencies under their own authorities, and not just FERC's information needs under FPA
- FERC can establish an explicit policy to address climate change in licensing & NEPA analysis (and/or the federal government can issue a global policy)
- States can issue 401's that are clear, defensible, enforceable

Court Decisions that Will Be Important in Determining the Need for Statutory Changes

- Current litigation of Trump-era rules on CWA Section 401, NEPA
- Likely litigation of the ability of states to enforce and modify CWA Section 401 certifications for hydropower licenses
- Likely litigation of the breadth and scope of CWA Section 401
- Likely litigation of NEPA requirements to analyze cumulative effects and climate change in particular
- Likely litigation of the breadth of Section 10(a) of the Federal Power Act (comprehensive planning) and its relation to climate change
- Current litigation (Butte Co. v. DWR) of whether CEQA requires analysis of future hydrology and a climate-resilient alternative

Thank you.

