

Uncommon Dialogue on Hydropower, River Restoration, and Public Safety

Working Group Descriptions

The following provides an overview of each of the Uncommon Dialogue’s Working Groups. The descriptions are subject to change as the Working Groups continue to meet and advance these topics.

Working Group #1: Accelerate Development of Hydropower Technologies and Practices that Improve Generation Efficiency, Environmental Performance and Solar and Wind Integration

There are significant opportunities to accelerate the development and deployment of advanced hydropower-related technologies in two areas. The first is to better leverage hydropower’s capability to integrate rapidly increasing amounts of variable solar and wind generation with advancements such as software for hydropower dispatch and closed loop pumped storage capacity. The second opportunity is to accelerate progress in mitigating the environmental impacts of dams (including potential impacts from the increased use of hydropower as peaking units) and increasing the climate resilience of U.S. rivers. The hydropower industry currently invests hundreds of millions of dollars annually to improve the health of our nation’s rivers, but there is more to do. This area of opportunity includes the development and deployment of 8 various technologies such as safe and effective fish passage strategies, new monitoring technologies, innovative “restoration hydro” projects, conduit hydropower, and improved dam rehabilitation, retrofit, removal and inspection technologies and techniques.

To advance these goals, the Uncommon Dialogue effort is exploring the following topics:

- Increased hydropower-related research, development, demonstration, and deployment (RDD&D) funding at DOE and the National Labs;
- Demonstration and validation of the enhanced efficiency, environmental performance, and reliability of new hydropower and pumped storage technologies to increase developer, investor and NGO confidence; and
- Related policy supporting these research, development, demonstration, and deployment (RDD&D) efforts.

Working Group #2: Advocate for Improved U.S. Dam Safety

Fewer than 10% of U.S. dams are federally regulated, either by agencies such as the Federal Energy Regulatory Commission (FERC) which oversees non-federal U.S. hydropower dams or by the federal agency owners of U.S. government dams. Instead, most U.S. dams are regulated by states under individual dam safety programs, which are often understaffed and underfunded. While many of these dams are properly staffed, funded, and maintained, some have safety issues that need to be addressed. Although some federally-owned and federally regulated dams have safety issues, given the more than 80,000 U.S. dams under state oversight – and the significant related regulatory and resource challenges – the Uncommon Dialogue has focused its primary attention on these facilities.

To advance these goals, the Uncommon Dialogue effort is exploring the following topics:

- Advocate for greater state dam safety authority over non-federally regulated high hazard and significant hazard dams by encouraging states to avoid broad exemptions of these dams from state safety regulation. States have primary responsibility over non-federally regulated dams. In carrying out this responsibility, states should ensure that their dam safety regulators have, like FERC, adequate authority to require key elements of dam safety such as emergency action plans, prescribed inspection schedules, and penalties for violations of dam safety requirements.
- Encourage the federal government to provide its substantial expertise and resources to states to support improved safety at state-regulated dams. Such dams should be expected to achieve a similar level of safety as expected of federally-regulated dams. FEMA, given its national dam safety responsibilities under the 1996 NDSP Act, is important to this effort and should receive increased direction and funding from Congress.
- Advocate for legislative support at the federal and state levels for dam safety-related oversight, rehabilitation, retrofit, and removal.

Working Group #3/5: Increase Basin-Scale Decision-Making and Access to River-Related Data and Advance Effective River Restoration through Improved Off-Site Mitigation Strategies

Basin-Scale

U.S. dam relicensing, retrofits, removals, and environmental mitigation decisions are typically analyzed on a dam-by-dam basis. Yet basin-wide approaches, considering the full complement of dams, regional water supply and security needs, and related natural systems in a watershed, can reveal efficiencies and opportunities that might not be apparent in a site-by-site analysis. A voluntary basin-scale approach may help increase the resilience and flexibility of the hydropower fleet in the face of climate change and could make possible innovative, system-scale approaches to environmental restoration and mitigation. Among various options is the potential for simultaneous FERC relicensing of multiple dams in a basin. This comprehensive, basin-wide approach, pursued on a voluntary basis, could decrease the time, cost, and complexity associated with the FERC relicensing process – reducing workloads for licensees, stakeholders, resource agencies and FERC – while also enhancing environmental and climate objectives.

There are two high-potential areas where federal investments, guidance, and incentives can be developed to increase consideration of, and participation in, basin-scale decision-making: 1) promoting basin-scale approaches in the FERC relicensing process; and 2) improving access to river-related data.

To advance these goals, the Uncommon Dialogue effort is exploring the following topics:

- Collaborate with key resource agencies on piloting voluntary basin-scale relicensing efforts, meet with FERC to express their joint interest in developing related guidance, issue a report exploring potential basin-wide relicensing opportunities nationwide, with technical support from DOE, and explore the potential for federal legislation providing direction and incentives for basin-scale efforts.
- Support an ongoing DOE effort to demonstrate the value of improved water data access for energy and water planning stakeholders in three geographically-diverse watersheds with a long term goal of identifying potential pathways to improve access, discovery, sharing, and usability of water data.

Offsite River Mitigation

Over the next ten years, the federal licenses for over three hundred hydropower dams will expire and require a new license for continued operation. Under current regulations, policies and guidance,

including related requirements under the Federal Power Act, Clean Water Act, Endangered Species Act, and National Environmental Policy Act, there is a strong preference for on-site protection, mitigation and enhancement measures that address environmental effects at individual dams. In some cases, however, limiting mitigation alternatives to on-site measures can unnecessarily constrain both dam owners and the potential ecological benefits of mitigation investments. Building from basin-scale successes, the parties have agreed to jointly assess the national potential for greater use of voluntary off-site mitigation tools that have demonstrated potential to increase the ecological effectiveness of mitigation investments and improve the flexibility and efficiency of mitigation alternatives for dam owners seeking FERC licensing, in order to maintain valuable hydropower assets.

To advance these goals, the Uncommon Dialogue effort is exploring the following topics:

- Undertake a process to develop a more robust framework for voluntary off-site mitigation in the FERC hydropower relicensing process. The process will first focus on three voluntary mitigation tools: effective river restoration through dam removal, particularly at non-powered facilities; effective flow restoration; and river protection mechanisms.
- Implement this process by: assessing the technical, legal, economic, and environmental feasibility of off-site mitigation; then, if parties are willing, identifying potential guidance, policy or legislative proposals to implement off-site mitigation; and, finally, depending on progress, developing mechanisms for improving the selection of high-priority mitigation projects, increasing their replicability in other dam relicensing projects, and reducing regulatory concerns.

Working Group #4: Improve the measurement, valuation of, and compensation for hydropower flexibility and reliability services and support for enhanced environmental performance.

Working Group 4 explores how the beneficial services hydropower provides should be appropriately measured, valued, and compensated to meet both clean energy and environmental performance goals. The Working Group also supports the work of the DOE and other experts to develop a tool to assist with the measurement and valuation of these services.

Organized regional energy markets often do not fully recognize or compensate hydropower and other generating sources, for flexible generation and grid reliability services (such as frequency control, operating reserves, voltage regulation, and black start). This is an increasing problem, as demand for these flexibility and reliability services expands, particularly with increasing variable solar and wind generation and decreasing grid reliability under more intense weather and rising cybersecurity threats.

At the same time, federal and state legislators and other public policy decisionmakers offer hydropower operators few economic incentives to provide enhanced environmental services or that meet explicit environmental performance standards. For example, existing hydropower resources are often not eligible to participate in state Renewable Portfolio Standards, although several states encourage enhanced environmental performance by allowing existing facilities that are certified as “low impact” to qualify.

The objectives of Working Group 4 are to:

- Work together to see that organized regional energy markets fully value the various attributes that hydropower provides the grid;
- Support the work of the DOE and other experts to develop a tool to assist with the measurement and valuation of grid services and aid decision-making in various contexts;

- Work together to find potential areas of agreement on how different hydropower technologies (existing hydropower, new hydropower, low-impact hydropower, pumped storage, etc.) should be valued in potential state and federal clean energy standards or other mechanisms

Working Group #6: Improve federal hydropower licensing, relicensing, and license surrender processes.

Working Group 6 will examine improvements to the licensing, relicensing, and license surrender processes that will benefit federal and state agency decision-making, license applicants, and interested organizations and which can be adopted without compromising environmental outcomes or public engagement.

The objectives of Working Group 6 are to:

- Explore improvements that would bring greater certainty to the licensing and relicensing process, reduce costs, enhance environmental protection, and improve agency data gathering and decision making regarding non-federally owned hydropower.
- Examine legislative and/or regulatory improvements in order to:
 - Encourage timely decision-making by federal and state agencies in licensing and relicensing;
 - Preserve the ability of federal and state resource agencies to assemble the data and conduct the environmental reviews and public engagement necessary to determine and impose mandatory conditions addressing a project's effects;
 - Establish a mechanism for reasonable and timely resolution of disputes between the various federal and/or state permitting agencies; and
 - Provide greater clarity regarding hydropower decommissioning and license surrender, and other opportunities to promote effective river restoration.

Working Group #7: Policy, Strategy and Implementation of U.S. Dam Rehabilitation, Retrofits, and Removals.

Working Group 7 will explore opportunities for a more coordinated approach to increasing public and private investment in the 3Rs of the nation's dams (rehabilitate, retrofit, remove). Potential funding options may include but are not limited to: federal and state grants and loans for dam rehabilitation and innovative energy projects; infrastructure-related funding; federal dam removal funding; tax credits; private activity bonds; master limited partnerships; state carbon programs; and philanthropic investment in river restoration and dam removal. The WG may also evaluate the creation of a broad-based coalition to advocate for the funding of the three Rs and thereby advance renewable energy, river conservation, and public safety.

The objectives of Working Group 7 are to:

- Explore opportunities for a more coordinated approach to increasing public and private investment in rehabilitation, retrofits and removals of the nation's dams and improve related processes. Potential funding options may include but are not limited to: federal and state grants and loans for dam rehabilitation and innovative energy projects; infrastructure-related funding;

federal dam removal funding; tax credits (including renewable energy and storage tax credits and hydroelectric production incentives); private activity bonds; master limited partnerships; state carbon programs; and philanthropic investment in river restoration and dam removal.

- Evaluate the creation of a broad-based coalition to advocate for the funding of the three Rs and thereby advance renewable energy, river conservation, and public safety.

Working Group #8: Support the Modernization of the Hydropower, River Restoration, and Public Safety Workforce

Working Group 8 will focus on the future of the hydropower, river restoration, and public safety workforces, driven in part by the coming wave of retirements. The future workforce will be more diverse than today's, thus this Working Group will focus on how to expand and create more equitable and inclusive career pathways within the hydropower, river restoration and public safety workforces. An initial workshop was held in May 2023 at the Waterpower Week conference in Washington, DC, to begin convening and exploring challenges and opportunities.

Potential WG8 goals (initially brainstormed by the UCD's Planning Group):

- Explore opportunities and take actions that represent a cross-section of interests and that directly contribute to hiring and maintaining a skilled, modern, diverse workforce.
- Enhance Diversity, Equity, Inclusion, and Access (DEIA) in the existing hydropower, river restoration and public safety workforces through education and training, resource sharing, and overall capacity-building.
- Assess gaps and build understanding about the needs of both the existing workforce and the future workforce.

Uncommon Dialogue on Hydropower, River Restoration, and Public Safety

Working Group Co-Chairs

1. Working Group 1: Accelerate Development of Hydropower Technologies and Practices to Improve Generation Efficiency, Environmental Performance, and Solar and Wind Integration
 - Co-Chair, Maryalice Fischer, Low Impact Hydropower Institute
 - Co-Chair, Miles Hall, Natel Energy
 - Co-Chair, Chris Hayes, National Hydropower Association
 - Co-Chair, Jose Zayas, Eagle Creek Renewable Energy
2. Working Group 2: Advocate for Improved U.S. Dam Safety
 - Co-Chair, Brian Graber, American Rivers
 - Co-Chair, Chris Hayes, National Hydropower Association
 - Co-Chair, Thomas Fitzgerald, Schnabel Engineering
3. Working Group 3 and 5 Increase Basin-Scale Decision-Making and Access to River-Related Data/Advance Effective River Restoration through Improved Off-Site Mitigation Strategies
 - Co-Chair, Jeff Opperman, World Wildlife Fund
 - Co-Chair, John Suloway, Gomez & Sullivan
4. Working Group 4: Improve the Measurement, Valuation of and Compensation for Hydropower Flexibility and Reliability Services and Support for Enhanced Environmental Performance
 - Co-Chair, Shannon Ames, Low Impact Hydropower Institute
 - Co-Chair, Michael Purdie, National Hydropower Association
6. Working Group 6: Improve Federal Hydropower Licensing, Relicensing, and License Surrender Processes
 - Co-Chair, Richard Roos-Collins, Water Power Law Group
 - Co-Chair, Chuck Sensiba, Troutman Pepper
 - Co-Chair, Chris Shutes, California Sport Fishing Alliance
 - Co-Chair, Malcolm Woolf, National Hydropower Association
7. Working Group 7: Policy, Strategy and Implementation of U.S. Dam Rehabilitation, Retrofits and Removals
 - Co-Chair, Matt Allen, National Hydropower Association
 - Co-Chair, Shannon Ames, Low Impact Hydropower Institute
 - Co-Chair, Brian Graber, American Rivers
8. Working Group 8: Support the Modernization of the Hydropower, River Restoration, and Public Safety Workforce
 - Co-Chair, Linda Ciocci, Hydropower Foundation
 - Co-Chair, Mel Lewis, American Rivers
 - Co-Chair, Kristina McMillan, Hatch