

## Calendar No. 55

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SENATE

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### HYDROPOWER IMPROVEMENT ACT

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MAY 18, 2011.—Ordered to be printed

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Mr. BINGAMAN, from the Committee on Energy and Natural Resources, submitted the following

### R E P O R T

[To accompany S. 629]

The Committee on Energy and Natural Resources, to which was referred the bill (S. 629) to improve hydropower, and for other purposes, having considered the same, reports favorably thereon with an amendment and recommends that the bill, as amended, do pass.

The amendment is as follows:

On page 10, line 21, strike “(b)(3)” and insert “(b)(4)”.

#### PURPOSE

The purpose of S. 629 is to improve and increase hydropower production in the United States.

#### BACKGROUND AND NEED

Hydropower represents approximately two-thirds of the renewable electricity generation in the United States and is currently providing almost seven percent of the country’s total energy generation. About forty-five percent of all hydropower in the United States is generated at federally-owned facilities. With only three percent of the nation’s approximately eighty thousand federal and non-federal dams currently generating hydropower there is great potential to increase hydropower production. Additional hydropower can be sited, constructed, and operated in a responsible manner to reduce or avoid environmental damages. S. 629 seeks to encourage development of additional hydropower through efficiency improvements or capacity additions at existing facilities, including conduits, adding hydropower to non-powered dams, small hydropower development, and pumped storage projects.

Further research will aid in the development of more efficient and environmentally sound hydropower technologies. Improving the licensing process will also help ensure that additional hydropower can be developed while maintaining environmental protections and the opportunity for public input into the licensing process. Through the workshops and pilot projects called for in S. 629, it is anticipated that the Federal Energy Regulatory Commission (FERC), the Bureau of Reclamation and the resources agencies will develop processes that will improve existing procedures.

#### LEGISLATIVE HISTORY

Senator Murkowski introduced S. 629 on March 17, 2011. The bill is co-sponsored by Senators Begich, Bingaman, Cantwell, Crapo, Murray, Risch, Whitehouse, and Wyden. The Committee on Energy and Natural Resources held a hearing on S. 629 on March 31, 2011 (S. Hrg. 112- ) and considered the bill and adopted an amendment at its business meeting on April 12, 2011. The Committee ordered S. 629 favorably reported, as amended, at its business meeting on April 12, 2011.

#### COMMITTEE RECOMMENDATION

The Senate Committee on Energy and Natural Resources, in open business session on April 12, 2011, by voice vote of a quorum present, recommends that the Senate pass S. 629, if amended as described herein. Senators Lee and Paul were recorded as opposing the measure.

#### COMMITTEE AMENDMENT

During its consideration of S. 629, the Committee adopted an amendment. The amendment made a technical clarification to the bill.

#### SECTION-BY-SECTION ANALYSIS

*Section 1* provides the short title of the bill and table of contents.

*Section 2* contains findings relating to the potential for development of additional hydropower in the United States.

*Section 3* defines terms used in the Act.

*Section 4* states the Sense of the Senate that the United States should increase the capacity and generation of clean, renewable hydropower to improve environmental quality and support job creation and economic investment.

*Section 5* directs the Secretary of Energy to establish a competitive grant program to support the following efforts: efficiency improvements or capacity additions at existing hydropower facilities; adding power generation to non-powered dams; addressing aging infrastructure concerns; conduit projects, environmental studies; and environmental mitigation measures.

*Section 6* directs the Secretary of Energy to develop and implement a plan for research, development and demonstration of increased hydropower production. The Secretary is also directed to provide technical assistance for applicable environmental analyses.

*Section 7* directs FERC to conduct workshops and pilot projects to investigate whether hydropower development at existing non-

powered dams and closed-loop pumped storage projects can be licensed within two years, and to report back to Congress on the results.

*Section 8* codifies FERC’s regulatory definition of “conduit” and allows conduit projects located on federal land to be eligible for FERC’s existing licensing exemption process. FERC is also directed to enter into a memorandum of understanding with other agencies to establish a more efficient approval process for conduit hydropower projects and to conduct workshops and develop pilot projects to identify ways to improve the approval process for conduit and small hydropower projects while maintaining adequate environmental, health and safety protections. The workshops will also investigate whether the rated capacity for small hydroelectric power projects should be increased from five megawatts.

*Section 9* authorizes FERC to extend the term of a hydropower preliminary permit for two years.

*Section 10* directs the Commissioner of Reclamation to study the barriers to non-federal development at Reclamation projects and to enter into a Memorandum of Understanding with FERC to improve coordination and timeliness of non-federal development at Reclamation projects.

*Section 11* directs the Secretary of Energy to study the potential quantity of hydropower that may be obtained from conduits.

*Section 12* directs the Secretary of Energy, in consultation with the United States Geological Survey, to study and identify suitable pumped storage sites in the country.

*Section 13* directs the President to report to the Senate Energy and Natural Resources Committee and the House Energy and Commerce Committee on the actions taken by the agencies to implement the March 24, 2010 Memorandum of Understanding on Hydropower.

*Section 14* provides that the Act shall not limit the authority of the Bureau of Reclamation to develop new hydropower at existing federal projects consistent with Federal law, power and nonpower operating requirements, and laws governing Federal Power Marketing Administrations. The Act does not limit the authority under existing law of a Federal Power Marketing Administrator in the event that operations at Federal projects with hydropower are modified.

*Section 15* states that the Statutory Pay-As-You-Go Act of 2010 applies.

#### COST AND BUDGETARY CONSIDERATIONS

The following estimate of costs of this measure has been provided by the Congressional Budget Office:

##### *S. 629—Hydropower Improvement Act of 2011*

Summary: S. 629 would authorize appropriations for a variety of activities aimed at promoting the supply and energy efficiency of hydroelectric power. Assuming appropriation of amounts authorized by the bill and estimated to be necessary, CBO estimates that implementing S. 629 would cost \$378 million over the 2012–2016 period. S. 629 would not affect direct spending or receipts; therefore, pay-as-you-go procedures do not apply.

S. 629 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would impose no costs on state, local, or tribal governments.

Estimated cost to the Federal Government: The estimated budgetary impact of S. 629 is shown in the following table. The costs of this legislation fall within budget functions 270 (energy) and 300 (natural resources and environment).

	By fiscal year, in millions of dollars—					
	2012	2013	2014	2015	2016	2012–2016
CHANGES IN SPENDING SUBJECT TO APPROPRIATION						
Estimated Authorization Level .....	113	100	100	100	100	513
Estimated Outlays .....	23	60	95	100	100	378

Basis of estimate: For this estimate, CBO assumes that S. 629 will be enacted by the end of fiscal year 2011 and that appropriations will be provided near the start of each fiscal year. Estimates of outlays are based on historical spending patterns for similar activities carried out by the affected agencies.

S. 629 would specifically authorize the appropriation of \$510 million over the 2012–2016 period for a variety of activities aimed at promoting hydroelectric power. That amount includes:

- \$50 million annually over the 2012–2016 period for the Department of Energy (DOE) to provide grants to support projects to add new hydroelectric-generating capacity, projects to increase the energy efficiency of existing facilities that generate hydroelectric power, and analyses and implementation of measures to mitigate the environmental impact of such projects;
- \$50 million annually over the 2012–2016 period for DOE to establish a program to research, develop, and demonstrate innovative means of increasing the use, generation, energy efficiency, and environmental quality of hydropower; and
- A total of \$10 million for the Federal Energy Regulatory Commission to establish pilot projects to demonstrate the feasibility of small hydroelectric-power facilities and projects to generate hydroelectric power using water flowing through agricultural, municipal, or industrial conduits.

In addition, CBO also estimates that funding various studies, reports, and regulatory activities under the bill would require appropriations totaling \$3 million in 2012. In total, assuming appropriation of the authorized and estimated amounts, CBO estimates that implementing S. 629 would cost \$23 million in 2012 and \$378 million over the 2012–2016 period, with additional spending occurring in later years.

Pay-as-you-go considerations: None.

Intergovernmental and private-sector impact: S. 629 contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on state, local, or tribal governments.

Estimate prepared by: Federal Costs: Megan Carroll; Impact on State, Local, and Tribal Governments: Ryan Miller; Impact on the Private Sector: Amy Petz.

Estimate approved by: Peter H. Fontaine, Assistant Director for Budget Analysis.

## REGULATORY IMPACT EVALUATION

In compliance with paragraph 11(b) of Rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact which would be incurred in carrying out S. 629.

The bill is not a regulatory measure in the sense of imposing Government-established standards or significant economic responsibilities on private individuals and businesses.

No personal information would be collected in administering the program. Therefore, there would be no impact on personal privacy.

Little, if any, additional paperwork would result from the enactment of S. 629, as ordered reported.

## CONGRESSIONALLY DIRECTED SPENDING

S. 629, as ordered reported, does not contain any congressionally directed spending items, limited tax benefits, or limited tariff benefits as defined in rule XLIV of the Standing Rules of the Senate.

## EXECUTIVE COMMUNICATIONS

The testimony provided by the Federal Energy Regulatory Commission, the Bureau of Reclamation and Department of Energy, at the March 31, 2011, Full Committee hearing on S. 629 follows:

STATEMENT OF MICHAEL L. CONNOR, COMMISSIONER,  
BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR

Chairman Bingaman, Ranking Member Murkowski, and members of the Committee, I am Mike Connor, Commissioner of the Bureau of Reclamation (Reclamation). I am pleased to be here alongside the Department of Energy (DOE) and the Federal Energy Regulatory Commission (FERC) to discuss activities underway at the Department of the Interior (Department) as they relate to S. 629, the Hydropower Improvement Act of 2011.

Hydropower is a clean and efficient way to produce energy and is a renewable resource. Each kilowatt-hour of hydroelectricity is produced at an efficiency of more than twice that of any other energy source. Where hydropower does have environmental impacts, particularly on fish species and their habitats, we work with our partner bureaus and agencies to evaluate and mitigate these impacts. Further, hydropower is very flexible and reliable when compared to other forms of generation. Reclamation has nearly 500 dams and dikes and 10,000 miles of canals and owns 58 hydropower plants, 53 of which are operated and maintained by Reclamation. On an annual basis, these plants produce an average of 40 million megawatt (MW) hours of electricity, enough to meet the entire electricity needs of over 9 million people on average.

Reclamation is the second largest producer of hydroelectric power in the United States, and today we are actively engaged in looking for opportunities to encourage development of additional hydropower capacity at our facilities. This afternoon, Reclamation will publish the Hydro-

power Resource Assessment at Existing Reclamation Facilities (Assessment), a comprehensive review of power potential at all Reclamation facilities. The Assessment benefitted from public comment received this past winter. The Assessment will detail our findings on hydropower potential, providing information on whether or not hydropower development at existing Reclamation facilities would be economically viable and warrant further investigation. In addition to the Assessment, Reclamation will be publishing two Federal Register notices in the near future regarding Lease of Power Privilege opportunities at Granby and Pueblo dams in Colorado (two facilities that were identified to have good hydropower development potential in the Assessment). Reclamation and DOE are also working on a funding opportunity announcement to conduct several pilot studies on a low-head hydropower unit at Reclamation facilities.

I am pleased to report on these recent activities as they relate to the directives in S. 629. Subsection 10(a) of the bill calls for study of non-Federal hydropower development at Bureau of Reclamation projects. Reclamation is directed to conduct a study of barriers to non-Federal hydropower development at Reclamation projects. This provision may duplicate efforts already underway. For example, the constraints analysis outlined in Chapter 3 of the Assessment, titled Site Analysis Methods and Assumptions (specifically, Chapter 3.5 of the Assessment), examines how land or water use regulations and legal requirements could potentially affect development of hydropower. These factors were taken into account when assessing the potential for hydropower development on existing Reclamation facilities. Further, the identified regulatory constraints have been mapped within Reclamation's regions using Geographic Information System (GIS) data. Local information for fish and wildlife and fish passage constraints, issues that could add significant development costs to a project site but are important to address from an environmental and natural resource standpoint, were identified by Reclamation's regional and area offices and accounted for in the Assessment as well.

Subsection 10(b) of S. 629 calls for Reclamation and FERC to develop and issue a memorandum of understanding to improve the coordination and timeliness of the non-Federal development of hydropower resources at Reclamation projects. Reclamation and FERC already have an MOU, signed in 1992, that addresses the establishment of processes for early resolution of issues related to the timely development of non-federal hydroelectric power at Bureau of Reclamation facilities. Reclamation and FERC recently met to discuss how to improve the timeliness of the processes developed in that MOU and other issues.

Section 8 of the bill would allow low-head hydropower development on Reclamation-owned conduits to be eligible for inclusion in FERC's conduit exemption program. Currently, Reclamation is assessing the potential for devel-

oping low-head hydroelectric generating capacity on our Federally-owned canals and conduits. A report, similar to the Resource Assessment, is expected to be released for public review by the end of this year. We expect that the provisions in Section 8 of the bill would help address uncertainty in the approval process for new licenses and would facilitate the development of new capacity at existing facilities. Reclamation supports the opportunity to enter into new agreements with private or quasi-public entities to develop low-head hydropower potential in an environmentally-sustainable manner.

Overall, the Department shares the Committee's view that interagency coordination can leverage Federal and private sector investment in additional hydropower development. This consideration was foremost in the Department's signing a Memorandum of Understanding with the Department of Energy and U.S. Army Corps of Engineers on March 24, 2010, to increase communication between federal agencies and strengthen the long-term relationship among them to increase in a sustainable manner hydropower production at existing Federal facilities.

In conclusion, Reclamation recognizes the importance of hydropower. We hope that the Assessment and the new efforts described will provide a lasting contribution to the power supplies of our nation. We will of course continue to coordinate with other agencies and look forward to working with the Congress in this important area to avoid duplication, and utilize existing authority and resources.

This concludes my written statement. I am pleased to answer any questions the Committee may have.

TESTIMONY OF JEFF C. WRIGHT, DIRECTOR, OFFICE OF ENERGY PROJECTS, FEDERAL ENERGY REGULATORY COMMISSION

Chairman Bingaman, Ranking Member Murkowski, and Members of the Committee: My name is Jeff Wright and I am the Director of the Office of Energy Projects at the Federal Energy Regulatory Commission (Commission or FERC). I appreciate the opportunity to appear before you to discuss S. 629, S. 630, and S. 1462. As a member of the Commission's staff, the views I express in this testimony are my own, and not those of the Commission or of any individual Commissioner.

I. BACKGROUND

The Commission regulates over 1,600 hydropower projects at over 2,500 dams pursuant to Part I of the Federal Power Act (FPA). Together, these projects represent 54 gigawatts of hydropower capacity, more than half of all the hydropower in the United States. Hydropower is an essential part of the Nation's energy mix and offers the benefits of an emission-free, renewable, domestic energy source with public and private capacity together totaling about nine percent of U.S. electric generation capacity.

Under the FPA, non-federal hydropower projects must be licensed by the Commission if they: (1) are located on a navigable waterway; (2) occupy federal lands; (3) use surplus water from a federal dam; or (4) are located on non-navigable waters over which Congress has jurisdiction under the Commerce Clause, involve post-1935 construction, and affect interstate or foreign commerce.

The FPA authorizes the Commission to issue either licenses or exemptions for projects within its jurisdiction. Licenses are generally issued for terms of between 30 and 50 years, are renewable, and carry with them the right to exercise federal eminent domain to obtain property necessary for the construction, operation, and maintenance of a project. Exemptions are perpetual, and thus do not need to be renewed, but do not permit the use of eminent domain. Congress has established two types of exemptions. First, section 30 of the FPA allows the Commission to issue exemptions for projects that utilize for generation only the hydroelectric potential of manmade conduits that are operated for the distribution of water for agricultural, municipal, or industrial consumption, and not primarily for the generation of electricity. Conduit projects must be located on nonfederal lands, and have a maximum capacity of 15 megawatts (40 megawatts if the exemptee is a state or local government entity). Second, in section 405(d) of the Public Utility Regulatory Policies Act, Congress authorized the Commission to grant exemptions for small hydroelectric power projects having an installed capacity of 5,000 kilowatts or less. To qualify for this type of exemption, a project must be located at an existing dam that does not require construction or the enlargement of an impoundment, or must use the hydropower potential of a natural water feature, such as a waterfall. Both types of exemptions are subject to mandatory fish and wildlife conditions provided by federal and state resource agencies.

The Commission has established three licensing processes, with the intent of allowing parties to select the process that is best suited to individual proceedings. The integrated licensing process (ILP) frontloads issue identification and environmental study to the period before an application is filed, and is thus well-suited to complex cases with substantial issues. The alternative licensing process (ALP) allows participants significant flexibility to tailor licensing procedures in a manner that may work well for unique cases. The traditional licensing process (TLP), in which environmental and other work can occur after the application is filed appears to work best for less controversial matters. The TLP may be the process that is best-suited for many simple cases involving exemptions or small, low impact licenses. Commission staff has also developed a pilot licensing process for hydrokinetic projects in which, with the assistance of federal and state resource agencies, a project can be licensed in as little as six months.

It is extremely important to note that project developers and other stakeholders, not the Commission, in most in-



stances play the leading role in determining project success and whether the regulatory process will be short or long, simple or complex. The first key issue is site selection and proposed project operation. For example, the processing of applications tends to be expedited when applicants propose projects that: (1) are located at an existing dam where hydropower facilities do not currently exist, (2) would result in little change to water flow and use, (3) are unlikely to affect threatened and endangered species and are unlikely to need fish passage facilities, and (4) involve lands and facilities that are already owned by the applicant. To the extent that a proposed project, even one of small size, raises concerns about water use and other environmental issues, it may be difficult for the Commission to quickly process an application. It is important to remember that the small capacity of a proposed project does not necessarily mean that the project has only minor environmental impacts.

Another, and related, factor is the extent to which project developers reach out to affected stakeholders. If a developer contacts concerned citizens, local, state, and federal agencies, Indian tribes, and environmental organizations, and works with them to develop consensus as to what information is needed to understand the impacts of a project and what environmental measures may be appropriate, and to develop support for the project, the application and review process is likely to be simpler and quicker. Where a project comes as a surprise to affected entities or where a developer does not respond to expressed concerns, the Commission's job becomes much more difficult, because the Commission must, and does, ensure that all expressed concerns are addressed.

A final, and again related, matter is the development of the full record that the Commission needs to act on an application. A potential applicant needs to work with Commission staff and with federal and state resource agencies and other stakeholders to determine what information is needed to support an application, and to provide the Commission with a complete application. Where Commission staff or other stakeholders must ask an applicant to provide information that is missing from an application, the regulatory process slows down.

The other entities with roles in the licensing and exemption process regarding small hydropower projects are also key to its success. The quickest, most efficient process can be achieved only where federal and state agencies, as well as other stakeholders, devote the resources early on to help project review move ahead, and where they display the flexibility to look at the merits of individual projects and the willingness to shorten the process in appropriate cases. Commission staff is dedicated to making the regulatory process as short and cost-effective as possible. We can only do that where applicants, resource agencies, and other stakeholders serve as willing partners in the process.

## II. COMMISSION EFFORTS REGARDING SMALL AND INNOVATIVE PROJECTS

The majority of the hydropower projects regulated by the Commission are small projects, with about 71 percent having an installed capacity of 5 megawatts (MW) or less. In recent years, the Commission has seen a greatly increased interest in small hydropower projects, in innovative hydrokinetic projects, and in pumped storage projects, particularly closed loop pumped storage, which does not involve regular water withdrawals from rivers or other water sources. The Commission has responded by implementing a number of measures to facilitate efficient review of project proposals. In 2007, in order to provide personalized, responsive service to entities seeking to develop small hydropower projects, Commission staff established a dedicated phone line and email address for inquiries on small hydropower, developed a brochure to provide guidance to potential developers of small, low impact hydropower projects, and put these resources and a list of frequently-asked questions on the Commission's website.

In light of the continued growing interest in such development, the Commission held a technical conference on December 2, 2009, at its Washington, D.C. headquarters to explore issues related to licensing, and exempting from licensing, small non-federal hydropower projects in the U.S. The December technical conference generated discussion on recommendations that could improve the process for authorizing small hydropower projects. In addition to insights received from the panelists and attendees at the December conference, written comments were solicited and over 40 comment letters were received from industry representatives; federal, state, and local agencies; private citizens; and non-governmental organizations. At the Commission's April 15, 2010 meeting, staff reported on the conference and the comments received, and presented an action plan to assist and expedite the review of small hydropower proposals. The action plan adopted the following immediate changes: (1) adding new web-based resources to the Commission's website ([www.ferc.gov](http://www.ferc.gov)) to make it easier for applicants to understand and complete the licensing process; (2) updating or creating Memoranda of Understanding (MOUs) with other agencies to improve coordination; (3) continuing our small hydropower hotline and email address to answer applicant questions; and (4) educating potential small hydropower developers through a new education and outreach program.

The Commission has, under its small hydro initiative, held numerous outreach meetings with small hydropower developers and interested stakeholders, and implemented web based tools, such as conduit application templates and application checklists, which potential applicants can use to prepare their applications. The small hydro website further contains guidance and sample letters that applicants can use to obtain waivers from fish and wildlife agencies

for part of the pre-filing consultation process. The Commission staff has also relaxed some of the standards, under Section 4.39 of its regulations, for exhibits and drawings for conduit applications. For those applicants that have filed complete and adequate applications, and for which the Commission has determined that impacts are minimal, the Commission has reduced the public notice period from 60 days to 30 days and the reply period from 45 days to 15 days. A number of conduit exemptions have been approved in as short as two months from the date that an application has been deemed complete.

Since the April 15, 2010 Commission meeting, we have signed an MOU with the State of Colorado to expedite the small hydro licensing process (August 2010); launched a small hydro program website (August 2010); participated in small hydro workshops in Oregon (September 2010), Massachusetts (October 2010), and New Hampshire (November 2010); conducted two webinars on our small hydro website (November/December 2010); and updated our small hydro brochure. Upcoming outreach efforts will include: participating in small hydro workshops in Washington, DC, Vancouver, BC, and California as well as conducting another webinar this summer. We have also completed an update on our MOU with the Army Corps of Engineers.

The MOU with the State of Colorado provides an excellent example of a Federal-State solution for developing a pilot process to find flexible and innovative ways to reduce barriers to small hydro and conduit project development. In order to facilitate the Commission approval of such projects, the MOU provides that Colorado will prescreen any proposals and ensure that the applications are complete and meet Commission regulations before they are filed.

With this background, I will turn to the draft legislation.

### III. S. 629

S. 629, the Hydropower Improvement Act of 2011, has the laudable goal of increasing hydropower capacity and generation in United States. I strongly support that goal, and offer comments on specific sections of the bill.

#### A. SECTIONS 5 AND 6

Sections 5 and 6 of the bill would authorize the Secretary of Energy to issue grants to increase hydropower generation, and to support hydropower research, development, and demonstration projects. I support these sections, which would assist in the development of additional renewable energy.

#### B. SECTION 7

Section 7 would require the Commission to investigate the feasibility of implementing a two-year licensing process, in particular, with respect to hydropower development

at existing, non-powered dams, and for closed-loop pumped storage projects.

I support the goal of an expedited licensing process. Indeed, as I have discussed, it is Commission staff's goal to act on all license applications as quickly as possible, and the Commission has established processes that allow for great flexibility and efficiency. I am thus not certain whether an additional licensing process is necessary. During the last few years, we have been able to issue some licenses in a matter of a few months, where the project proponent had selected a site wisely, stakeholders had agreed on information needs, and state and federal agencies performed their responsibilities quickly. Moreover, the Commission operates under significant constraints imposed by the FPA, and by other legislation affecting the licensing process—the Clean Water Act, Coastal Zone Management Act, Endangered Species Act, and National Historic Preservation Act among them. In the absence of the ability to waive sections of the FPA and other acts, or to set enforceable schedules in licensing proceedings, it is not clear that the Commission, under its existing authorities, can mandate a shortened process.

#### C. SECTION 8

Section 8 would establish various measures to promote conduit and small hydropower projects. Again, this goal is consistent with Commission policy and has been a major focus of Commission's staff's effort in the last few years.

Section 8(a)(1) would amend section 30 of the FPA to allow conduit projects to be located on federal lands. I support this provision, which would remove the current bar on siting conduit projects on federal lands. This section would also amend the FPA to provide conditioning authority to federal land management agencies. These agencies already have the ability to impose conditions on proposed projects through the requirement that developers obtain special use authorizations under the Federal Land Management and Policy Act, so this amendment may not alter the current regulatory regime. As a general matter, however, I do have some concern that authorizing additional mandatory conditioning authority may slow down the licensing process and result in increased potential bars to hydropower development.

Section 8(a)(3) would require the Commission and the Commissioner of Reclamation to conduct regional public workshops on reducing barriers to conduit hydropower projects and thereafter report any recommendations to Congress. We have worked successfully with the Bureau of Reclamation in the past and are prepared to join Reclamation in this effort.

Section 8(b) would require the Commission to conduct regional public workshops on reducing barriers to small hydropower projects, and to report the results of this effort to Congress. Noting the outreach efforts described above,

we are prepared to undertake this additional effort should Congress deem it helpful.

#### D. SECTION 9

Section 9 would amend the FPA to authorize the Commission to extend the term of a preliminary permit issued under FPA section 5 once for up to two years. Preliminary permits grant the permittee a “first-to-file” preference with respect to license applications for projects being studied under a permit. Commission staff has heard anecdotally that developers are concerned that the need for environmental studies in some instances makes it difficult to complete a license application within the current maximum three-year term of a permit, with the result that a developer which has invested substantial time and money studying a project may face the possibility of losing its project based on competition from other entities—particularly those with statutorily-granted municipal preference—if it needs to seek a subsequent permit. I therefore support the proposed FPA amendment, which could ameliorate this problem. It might be worth considering, as an alternative, authorizing the Commission to issue permits for terms of up to five years, which could avoid the need for developers to go through the process of seeking an extension.

#### E. SECTION 10

Section 10 would require the Commissioner of Reclamation, in consultation with the Commission, to study barriers to non-federal hydropower development at Bureau of Reclamation projects and to develop a memorandum of understanding to improve the coordination and timeliness of such development. We have already begun working with the Bureau of Reclamation on this matter, and we have no objection to Section 10.

#### IV. THE MARINE AND HYDROKINETIC RENEWABLE ENERGY PROMOTION ACT OF 2011

S. 630 would authorize the Secretary of Energy to take various steps to promote marine and hydrokinetic renewable energy technology. As a general matter, the bill is consistent with the Commission’s initiatives to support the development of appropriate marine and hydrokinetic projects, which I have previously described. I have only two comments on the bill.

Section 3 of S. 630 would allow the Secretary of Energy to issue grants to support national testing facilities for marine and hydrokinetic technology research, development, and demonstration. Commission staff has informally discussed this concept with DOE staff over the last year or so, and I believe that testing centers could be extremely helpful in the development of new renewable technologies. Section 3 provides that test centers may be nonprofit institutions, state or local governments, national laboratories,

or National Marine Renewable Energy Research, Development, and Demonstration Centers established pursuant to section 634 of the Energy Independence and Security Act of 2007. The Federal Power Act contains no provisions allowing the Commission to authorize the testing of jurisdictional hydropower facilities; accordingly, with some limited exceptions, tests centers operated by private entities or by state and local government may be required to be licensed by the Commission. Moreover, if a test center were to use a variety of technologies with differing environmental impact, the Commission might be required to issue separate authorizations for individual tests. This would not be the case for centers under the aegis of other federal entities, such as DOE, which do not fall within the Commission's jurisdiction. Therefore, to allow for the maximum flexibility and simplicity, it may be worth considering either placing any test centers under the authority of DOE or another federal agency or providing an exemption from the provisions of Part I of the FPA for such test centers.

Second, section 6 of the bill would authorize the Secretary of Energy to issue grants to advance the development of marine and hydrokinetic renewable energy; to help fund the costs of environmental analysis, the collection and dissemination of environmental data; and to support demonstration projects. The provision of grant funding to address the environmental information needs surrounding these new technologies directly addresses an issue of concern to federal agencies and other stakeholders. Environmental information is essential to the development and regulation of energy projects, yet, because marine and hydrokinetic technology is relatively new, and because these projects may be sited in areas, such as coastal zones, where the environment is not as well understood as on-shore areas, much necessary information has yet to be developed. The cost of obtaining environmental information falls in large part on pioneering developers, and may thus discourage their efforts. The Commission and other federal agencies are partnering to reduce this burden by assembling and sharing environmental information. However, there are still issues which will require new studies, some of which are relevant to many developers. Federal funding to support gathering such information will help the regulatory process and advance the development of the technology as a whole.

#### V. THE AMERICAN CLEAN ENERGY LEADERSHIP ACT OF 2009

Title I, subtitle D of the American Clean Energy Leadership Act deals with the integration of energy and water resources. While this subtitle would not impose any direct requirements on the Commission, I note that the Commission recognizes the link between energy development and the use of our Nation's water resources. In siting natural gas and hydropower projects, the Commission conducts thorough analyses of the impact of proposed projects on water resources, authorizes only those projects that appro-

privately balance energy development and environmental protection, and imposes mitigation measures to ensure that approved projects are developed in an environmentally responsible manner.

#### VI. CONCLUSION

There is a great deal of potential for the development of additional hydropower projects throughout the country, including small projects and marine and hydrokinetic projects. Working within the authority given it by Congress, the Commission continues to adapt its existing, flexible procedures to facilitate the review and, where appropriate, the approval of such projects. Commission staff remains committed to exploring with project developers, its sister federal agencies, Indian tribes, the states, local government, and other stakeholders every avenue for the responsible development of our nation's hydropower potential. The legislation under consideration will, as I have testified, assist in realizing that potential.

This concludes my remarks. I would be pleased to answer any questions you may have.

STATEMENT OF STEVEN G. CHALK, CHIEF OPERATING OFFICER & ACTING DEPUTY ASSISTANT SECRETARY FOR RENEWABLE ENERGY, OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY DEPARTMENT OF ENERGY

Chairman Bingaman, Ranking Member Murkowski, Members of the Committee, thank you for the opportunity to discuss the three pieces of legislation before us today: S. 629, the Hydropower Improvement Act of 2011; S. 630, the Marine and Hydrokinetic Renewable Energy Promotion Act of 2011; and Title I, subtitle D of the American Clean Energy Leadership Act of 2009 (ACELA, S. 1462 from the 111th Congress).

In his State of the Union address in January, President Obama referred to America's need to transition to a clean energy economy as "our generation's Sputnik moment," a goal so important that we need to "reach a level of research and development we haven't seen since the height of the Space—Race."<sup>1</sup> S. 629 and S. 630 would dramatically increase the federal government's investment in both conventional hydropower and marine and hydrokinetic (MHK) renewable energy technologies.

The provisions being considered from ACELA address the interdependence of our energy and water consumption. Water is an integral component of many traditional and alternative energy technologies used for transportation, fuels production and electricity generation. Energy-related water demands are beginning to compete with other demands from population growth, agriculture and sanitation. This competition could become fiercer if climate change increases the risk of drought, making our water supply more

<sup>1</sup> <http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address>.

vulnerable. The Department of Energy (DOE) has initiated many activities over the last few years to address this energy-water nexus.<sup>2</sup>

Since fiscal year 2008, when DOE restarted its Water Power Program, it has made significant strides in advancing next-generation water power technologies, assessing existing resources, promoting deployment opportunities, and cooperating with other government agencies to accelerate water power development. About 45 percent of all hydropower in the United States is generated at Federally-owned facilities, providing clean, renewable power to the grid.<sup>3</sup> DOE's estimates indicate that there could be an additional 300 gigawatts of hydropower through efficiency and capacity upgrades at existing facilities, powering non-powered dams, new small hydro development and pumped storage hydropower.<sup>4</sup>

DOE works on both conventional hydropower and on marine and hydrokinetic (MHK) technologies. The combined FY 2012 Budget Request for conventional hydropower and MHK technologies is \$38.5 million. Conventional hydropower—energy derived from water using dams, diversionary structures, or impoundments for electric power—generates more electricity than any other renewable energy source in the U.S. Conventional hydropower represented 65 percent of U.S. renewable electricity generation in 2010, and seven percent of total U.S. electricity generation that year.<sup>5</sup> Conventional hydropower principally serves as a baseload electricity supply, but can also function as a dispatchable resource to balance variable renewable energy technologies such as wind and solar.

MHK technologies include energy devices that can extract energy from moving water, including waves and currents in oceans, rivers, and tidal areas, and from ocean thermal and salinity gradients. These resources if also developed in an environmentally responsible manner hold potential for helping our nation meet its clean energy goals.

In a March 2007 report, the Electric Power Research Institute indicated that its conservative estimate was that MHK power (from wave and tidal sources alone) could provide an additional 13,000 megawatts (MW) of capacity by 2025.<sup>6</sup> MHK power and ocean thermal energy are resources that typically can have higher capacity factors than some other renewable energy sources. In addition, they may not present the same level of integration challenges that large-scale development of variable renewable energy sources such as wind and solar may create for electricity grid planners and operators.

Through its Power Marketing Administrations (PMAs), DOE promotes and creates opportunities for new conven-

<sup>2</sup> See, for example, the activities undertaken by the National Energy Technology Laboratory, <http://www.netl.doe.gov/technologies/coalpower/ewr/water/index.html>.

<sup>3</sup> [http://eia.doe.gov/cneaf/electricity/page/eia906\\_920.html](http://eia.doe.gov/cneaf/electricity/page/eia906_920.html).

<sup>4</sup> FY09 DOE Interim Conventional Hydro Resource Assessment, Oak Ridge National Lab.

<sup>5</sup> <http://www.eia.doe.gov/cneaf/electricity/epa/epa.pdf>.

<sup>6</sup> [http://www.aas.org/spp/estc/docs/07\\_06\\_IERPI\\_report.pdf](http://www.aas.org/spp/estc/docs/07_06_IERPI_report.pdf).



tional hydropower technologies and development. PMAs encourage the most widespread use of hydropower possible at the lowest rates consistent with sound business principles. Some PMAs have established an active hydropower modernization program, adding hundreds of megawatts of capacity at existing facilities by updating equipment, while others have faced challenges in arranging financing. Because some of the challenges are statutory in nature, the PMAs and their customers may consult with the Committee on measures that would actively encourage expansion of hydropower capacity through updates to existing facilities.

Last year, DOE, the Bureau of Reclamation, and the Army Corps of Engineers signed a memorandum of understanding (MOM) on hydropower that aims to build long-term working relationships between agencies by prioritizing similar goals and aligning ongoing and future renewable energy development efforts.<sup>7</sup> The objectives of the MOU include deploying new, environmentally sustainable hydropower capacity, including upgrading existing facilities; powering non-powered dams; and research, development and deployment (RD&D) into new hydropower technologies, among other objectives. The pursuit and ultimate achievement of these goals will serve to strengthen our economy, enhance our national security, and protect our environment.

Water is an integral aspect of energy consumption and generation for many energy technologies other than hydropower as well. Many types of energy production make use of water, particularly for cooling, and increasingly, water-efficient technologies are being developed to reduce these impacts and help America use less water to meet its energy demands and use less energy to meet its water demands. Still, power generation from thermal energy sources (which include coal, natural gas and nuclear energy) accounted for approximately 41% of U.S. freshwater withdrawals in 2005.<sup>8</sup> Although most of the water withdrawn for cooling thermal power plants is subsequently returned to the source, this still can have disruptive effects on water flows and temperatures, which in turn negatively affect aquatic organisms, namely fish populations such as salmon. DOE estimates that there are significant opportunities to reduce water consumption for both electricity and fuels production. For example, in the electricity sector, development of hybrid wet-dry cooling systems may reduce water consumption by 70–80 percent compared to recirculating cooling systems. Moving, pumping and treating water and wastewater is in itself quite energy-intensive, representing roughly four percent of U.S. electricity consumption.<sup>9</sup>

The Department, through its National Laboratories and collaboration with universities and the private sector, is

<sup>7</sup> <http://www.energy.gov/news/8793.htm>.

<sup>8</sup> <http://pubs.usgs.gov/circ/1344/pdf/c1344.pdf>.

<sup>9</sup> <http://www.circleofblue.org/waternews/wp-content/uploads/2010/08/EPRI-Volume-4.pdf>.

pursuing three major objectives to address the energy-water challenge. First, to address the increasing limited supplies of freshwater, DOE is considering strategies to increase use of nontraditional water resources in the power sector. Second, DOE is working to reduce the consumption of fresh water when generating electricity, while considering the full life-cycle of various energy technologies to determine how much water they demand and what kind of water quality they need. Finally, DOE is researching water-efficient technologies for the production of alternative or unconventional fuels for transportation.

I am pleased to offer the Department's perspective on these pieces of legislation. I will discuss these bills in the order they appeared in my invitation to testify before this Committee.

#### S. 629: HYDROPOWER IMPROVEMENT ACT OF 2011

The Hydropower Improvement Act of 2011, S. 629, seeks to substantially increase hydroelectric capacity and generation and improve its environmental performance.

A recent report from the Federal Energy Regulatory Commission (FERC) demonstrates that little additional hydropower is in the pipelines.<sup>10</sup> Concerns include environmental issues and nontechnical barriers to reduce the expense and uncertainty of the regulatory process is needed.

The most significant provision of S. 629 is a proposed authorization to DOE of \$50 million per year for competitive grants and \$50 million per year for RD&D to increase hydropower generation. This authorization level is significantly higher than the FY 2012 Budget Request for EERE's conventional hydropower program of \$20 million, and would also represent a substantial increase to the FY 2010 Budget for conventional hydropower of \$13 million. These additional resources, if appropriated would enable increases in renewable hydropower generation, and provide for the accelerated demonstration of innovative technologies that can improve environmental performance.

In FY 2010, DOE funded the Hydropower Advancement Project (HAP) for \$3 million. The HAP is focused on the most cost-effective, least-controversial types of new hydropower development, and seeks to stimulate further hydropower development and generation without new dams. The project has already identified multiple opportunities for adding generation and/or improving environmental performance without sacrificing energy efficiency. Current funding allows for fifty initial facility assessments and three to five detailed engineering design studies. Additional resources would be used to support facility improvements that could result in increased hydropower generation at the most cost-effective sites.

DOE has invested in a three year program of research and development (R&D) to address issues related to the environmental performance and siting of hydropower tech-

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<sup>10</sup><http://www.ferc.gov/legal/staff-reports/03-17-11-energy-infrastructure.pdf>.

nologies. These efforts focus on increasing fish passage, investigating adequate environmental flows and improving water quality and will help ensure that increases in conventional hydropower generation are coupled with concurrent improvements in the environmental sustainability of the industry, issues that DOE has been working on since the mid 1990s. If realized, the additional funding authorized by S. 629 would help scale-up the advanced turbines and optimize operational scenarios.

A quicker, two-year FERC licensing process, as proposed by S. 629 would help accelerate development of conventional hydropower resources. A streamlined licensing approach already has been implemented by FERC for small hydropower projects; expanding this quicker process would be welcomed by DOE and the hydropower industry. At the same time, we must be sure that this quicker licensing process does not sacrifice rigorous maintenance of environmental standards and ensures adequate opportunity to allow for public input. Providing a quicker regulatory process when all environmental and public concerns have been addressed is a valuable goal.

S. 629 would require FERC and the Bureau of Reclamation to conduct workshops on small hydropower projects and conduit hydropower.<sup>11</sup> These workshops would provide opportunities for the federal government, including natural resource agencies, industry, environmental organizations and other stakeholders to reach consensus on strategies to overcome barriers to greater hydropower deployment, including conflicting definitions of eligible projects and complicated, poorly understood permitting and licensing processes.

S. 629 would define a “small hydroelectric power project” according to the definition found in Section 4.30 of title 18 in the Code of Federal Regulations. DOE finds this definition problematic in this context, since this definition specifies that a small hydroelectric power project cannot be “owned or operated by the United States or by an instrumentality of the Federal Government.” A majority of the non-powered dams that are proposed to be powered through this legislation are federally-owned by the U.S. Army Corps of Engineers and the Bureau of Reclamation. In fact, initial analysis by DOE for a forthcoming report indicates that the ten largest non-powered dams in the U.S. with potential to produce more than one megawatt are all operated by the Army Corps of Engineers.<sup>12</sup> DOE accordingly recommends that the definition of small hydroelectric power project that appears in this legislation delete the requirement that the dam not be federally-owned or operated.

The Department appreciates that S. 629 recognizes the non-application of this legislation to the PMAs. In addi-

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<sup>11</sup>Conduits are defined as tunnels, canals, pipelines, aqueducts, flumes, ditches, or similar manmade water conveyance systems that distribute water for agricultural, municipal, or industrial consumption and not primarily for the generation of electricity.

<sup>12</sup>The National Hydropower Asset Assessment Project, to be released in April 2011.

tion, the PMAs believe that they should have the approval right for efficiency power or capacity additions, improvements or replacements at Federal projects, made in association with this legislation, where the Army Corps of Engineers and the Bureau of Reclamation seek appropriations.

All other provisions of S. 629 would either build on or support current DOE activities and areas of interest.

S. 630: MARINE AND HYDROKINETIC RENEWABLE ENERGY PROMOTION ACT OF 2011

S. 630, the Marine and Hydrokinetic Renewable Energy Promotion Act of 2011, seeks to accelerate the growth of the MHK industry through additional federal aid, and expansion of the scope and scale of DOE's MHK activities. The additional funding authorized by this bill would represent a significant increase in DOE's program for MHK technologies and is significantly higher than either the FY 2012 Budget Request of \$18 million or the FY 2010 Budget of \$37 million.

DOE already has several MHK systems engineering efforts underway, but the additional systems engineering required by S. 630 would be used to accelerate these programs.

S. 630 would also require DOE to devote more R&D funding to develop open interface standards. This would ensure consistent design and development and allow unbiased comparison between competing technologies to achieve optimal energy generation in resulting systems. As the U.S. market develops, it will be crucial to avoid the pitfalls seen in the development of MHK technologies in Europe, where, despite tremendous strides that have been made in device development and deployment, the interface standards with devices and data are still being developed.

The creation of a competitive grant program for MHK RD&D test facilities would mimic similar innovative activities already sponsored by DOE for other renewable energy technologies. DOE is currently investing in three MHK test facilities that focus on the demonstration of multiple MHK technologies. Investment in these National Marine Renewable Energy Centers (NMRECs) is critically important in order to help MHK technologies realize their full potential and to support their rapid commercialization if done in an environmentally responsible way. Each Center is currently developing plans for the development of open-water test facilities. Further investment in NMRECs, as called for by this legislation, would enable the open-water test berths to be established. Third-party testing and evaluation of device performance and reliability would enable private sector investment in these emerging technologies.

All three of DOE's existing NMRECs are unrestricted in terms of the device types they develop and support. Although none are geographically located for in-stream test-

ing, tidal device research and development can substitute. It is unnecessary to distinguish between “marine” and “hydrokinetic” centers as the existing NMRECs could conduct research on any type of device.

On June 29, 2010, the Department of Energy and the Department of the Interior (DOI) signed an MOU for the coordinated deployment of renewable energy technologies on the OCS. The MOU’s Action Plan includes a number of MHK-related activities, including coordination of studies and other activities to support future BOEMRE-issued MHK research leases, the development of environmental monitoring and mitigation protocols and collaboration on environmental study efforts, and development of a plan for MHK resource management and prediction. Additionally, on August 3, 2010, DOE announced the designation of Florida Atlantic University (FAU) as a national center for ocean energy research and development. With this designation, DOE awarded the new Southeast National Marine Renewable Energy Center \$250,000 to undertake research and development of technologies capable of generating power from ocean currents and ocean thermal energy. FAU has applied for a five-year limited lease under BOEMRE’s Interim Policy. If issued, this lease would allow for limited testing of ocean current devices on the OCS offshore Florida. DOE has also provided funding to the Northwest National Marine Renewable Energy Center to aid in the development of facilities to serve as an integrated, standardized test center for developers of wave and tidal energy, and the Hawaii National Marine Renewable Energy Center for the development of a site for the testing of wave energy conversion devices and ocean thermal energy conversion systems. DOE may seek to obtain research leases from DOI.

If funding is realized under S. 630, development of MHK technologies would be accelerated, speeding their transformation from promising but fledgling technologies to commercially viable, clean, renewable energy sources.

TITLE I, SUBTITLE D OF THE AMERICAN CLEAN ENERGY  
LEADERSHIP ACT OF 2009

Title I, Subtitle D of ACELA contains provisions that would create an energy-water clean technology grant program in DOE and would require several studies on the energy-water nexus.

The grant program created under ACELA could serve as a useful way to spur industry to devote time and resources to develop strategies to minimize water consumption in energy processes. These provisions would also require DOE and other agencies to collaborate on several studies on this subject. The study that would be run by the Natural Academy of Sciences regarding the effects of energy development and production on U.S. water resources would be a useful, in-depth analysis. However, in this legislation, the analysis appears limited to a current assessment. While this in itself would be useful, DOE recommends that any

such study also consider the expected increase in water demand from projected growth in energy production, and the water implications of moving to a clean energy economy. This will be especially important since certain clean energy technologies (carbon capture and storage, bioenergy, concentrated solar power, etc.) may result in increased water demands. The effects of climate change on water availability should also be analyzed in order to better understand the potential vulnerability of the energy sector to water constraints.

One of the other studies included in ACELA would require the Department of the Interior (DOI) to evaluate the amount of energy used in water storage and delivery operations. This study would be useful, but DOE suggests that the proposed study would benefit from consultation with other agencies with expertise in the energy-water area, including DOE.

In general, interagency consultation must be an integral component of our national strategy to address the energy-water nexus. Along with energy production, agriculture uses more water than any other sector in the U.S., so engagement with the U.S. Department of Agriculture will be essential. The U.S. Army Corps of Engineers must also play a vital role in developing more efficient water usage strategies. DOE welcomes efforts to build on existing collaborations with these and other agencies, such as the MOU referenced above.

These provisions would also require DOE to develop an Energy-Water R&D Roadmap to define future RD&D and commercialization efforts necessary to address emerging water-related challenges to future clean energy generation and production. DOE has already produced a report examining these issues, which it transmitted to Congress in January of 2007, and has developed a follow-up report, "Energy-Water Challenges and Research and Development Issues," that we expect will be finalized and transmitted to Congress shortly.

#### CONCLUSION

In conclusion, I would like to again thank this Committee for its leadership in supporting both conventional hydropower and MHK energy technologies and in confronting the challenges associated with the interrelation of our energy and water consumption.

As Secretary Chu stated last year, "While hydropower is the largest source of renewable electricity in the nation, hydropower capacity has not increased significantly in decades. As the single largest owner of hydropower generation in the United States, it is important for the federal government to tap this valuable asset so it can continue to contribute to our clean energy portfolio and energy security."<sup>13</sup> S. 629 and S. 630 both contain provisions that would help realize this goal; however, both bills contain

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<sup>13</sup><http://www.energy.gov/news/8793.htm>.

authorizations significantly in excess of the 2012 Budget request within EERE for Water Programs. The President's FY 2012 budget represents DOE's priorities for applied R&D in energy efficiency and renewable energy technologies.

Transitioning to a clean energy economy will be greatly enhanced if we also identify ways to minimize or eliminate water use associated with energy generation. The ACELA provisions could be the catalyst to finding these solutions.

I would be pleased to address any questions the Committee might have.

#### CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill, as ordered reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italics, existing law in which no change is proposed is shown in roman):

Section 5 of the Federal Power Act (16 U.S.C. 798) is amended as follows:

#### FEDERAL POWER ACT

The Act of June 10, 1920, Chapter 285, as Amended

AN ACT To

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

\* \* \* \* \*

[Each preliminary permit issued under this Part shall be for the sole purpose of maintaining priority of application for a license under the terms of this Act for such period or periods, not exceeding a total of three years, as in the discretion of the Commission may be necessary for making examinations and surveys, for preparing maps, plans, specifications, and estimates, and for making financial arrangements. Each such permit shall set forth the conditions under which priority shall be maintained. Such permits shall not be transferable, and may be canceled by order of the Commission upon failure of permittees to comply with conditions thereof or for other good cause shown after notice and opportunity for hearing.]

(a) *Each preliminary permit issued under this Part shall be for the sole purpose of maintaining priority of application for a license under the terms of this Act for such period or periods, not exceeding a total of three years, as in the discretion of the Commission may be necessary for making examinations and surveys, for preparing maps, plans, specifications, and estimates, and for making financial arrangements.*

(b) *EXTENSION.—The Commission may extend the term of a preliminary permit once for not more than 2 additional years if the Commission finds that the permittee has carried out activities under the permit in good faith and with reasonable diligence.*

(c) *Each such permit shall set forth the conditions under which priority shall be maintained.*

*(d) Such permits shall not be transferable, and may be canceled by order of the Commission upon failure of permittees to comply with conditions thereof or for other good cause shown after notice and opportunity for hearing.*

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Section 30 of the Federal Power Act (16 U.S.C. 823a) is amended as follows:

(a) EXEMPTION QUALIFICATIONS.—Except as provided in subsection (b) or (c), the Commission may grant an exemption in whole or in part from the requirements of this part, including any license requirements contained in this part to any facility (not including any dam or other impoundment) constructed, operated, or maintained for the generation of electric power which the Commission determines, by rule or order—

    (1) is located on non-Federal lands, and

    (2) utilizes for such generation only the hydroelectric potential of a manmade conduit, which is operated for the distribution of water for agricultural, municipal, or industrial consumption and not primarily for the generation of electricity.】

    (1) *is located on non-Federal lands or Federal lands; and*

    (2) *uses for the generation only the hydroelectric potential of a conduit.*

(b) MAXIMUM INSTALLMENT CAPACITY FOR EXEMPTION.—The Commission may not grant any exemption under subsection (a) to any facility the installed capacity of which exceeds 15 megawatts (40 megawatts in the case of a facility constructed, operated, and maintained by an agency or instrumentality of a State or local government solely for water supply for municipal purposes).

(c) CONSULTATION WITH FEDERAL AND STATE AGENCIES.—In making the determination under subsection (a) the Commission shall consult with 【the United States Fish and Wildlife Service, National Marine Fisheries Service and the State agency】 *the Secretary of the department that supervises the land on which the facility is or will be located, the United States Fish and Wildlife Service, the National Marine Fisheries Service and the State agency* exercising administration over the fish and wildlife resources of the State in which the facility is or will be located, in the manner provided by the Fish and Wildlife Coordination Act ( 16 U.S.C. 661, et seq.), and shall include in any such exemption—

    (1) such terms and conditions as the 【Fish and Wildlife Service, National Marine Fisheries Service】 *the Secretary of the department that supervises the land on which the facility is or will be located, the United States Fish and Wildlife Service, the National Marine Fisheries Service,* and the State agency each determine are appropriate to prevent loss of, or damage to, such resources and to otherwise carry out the purposes of such Act, and

    (2) such terms and conditions as the Commission deems appropriate to insure that such facility continues to comply with the provisions of this section and terms and conditions included in any such exemption.

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(f) *SAVINGS CLAUSE.*—*Nothing in the section alters or affects the authority of the Secretary of the Interior under the reclamation laws-*

*(1) to authorize private hydropower development under a lease of power privilege; or*

*(2) to develop other hydropower generation at facilities of the Bureau of Reclamation.*

(g) *DEFINITION OF CONDUIT.*—*In this section, the term "conduit" means any tunnel, canal, pipeline, aqueduct, flume, ditch, or similar manmade water conveyance that is operated for the distribution of water for agricultural, municipal, or industrial consumption and not primarily for the generation of electricity.*

