

# **Small Hydro Council Initial Report**

**July 2010**

**National Hydropower Association  
[www.hydro.org](http://www.hydro.org)**





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## Foreward

The proposed solutions contained in this Interim Report do not necessarily represent policies yet adopted by the NHA Board. This Report reflects the commitment of numerous NHA members, through six Working Groups of the Small Hydro Council, to respond to the questions posed by the NHA Board – what are the barriers to development of small hydropower in the U.S. and how can those barriers be removed so that the hydro industry can achieve its potential. We hope that this Report stimulates additional dialogue on issues and proposed solutions, and that this Report and subsequent activities of the Council will facilitate enhanced small hydro development.

Nancy Skancke, Small Hydro Council, Co-Chair  
Chuck Alsberg, Small Hydro Council, Co-Chair  
Jessica Matlock, Small Hydro Council, Vice Chair

## Executive Summary

Based on new incentives and increased interest in renewable energy, the U.S. hydropower industry is primed for responsible growth. However, small hydro development faces some unique challenges. This Report sets out the issues determined by the Council's Working Groups to have the highest priority (*i.e.*, the issues with the potential to create the greatest benefit to the development in the near term). Proposed solutions in this Report are identified as involving: (i) policy or process changes (*i.e.*, that could be implemented immediately or in the short-term); (ii) regulatory changes (*i.e.*, requiring a public rulemaking proceeding); and (iii) legislative changes. In summary, the following issues and solutions are discussed herein:

- Proposed modification to Preliminary Permit process to accommodate licensing.
- Proposed two-year licensing process for certain new hydro at existing dams.
- Proposed improvements to the capacity amendment process.
- Proposed improvements to the exemption process.
- Proposed clarification of projects eligible for conduit exemptions.
- Proposed enhancements to approval process/coordination at Army Corps dams.
- Proposed enhancements to coordination at Bureau of Reclamation dams.
- Proposed research and development efforts to assist small hydro development.
- Proposed enhancements to coordination on operation and maintenance issues.
- Proposed modifications to financial incentives (*i.e.*, parity, coverage of soft costs, coverage of additional low-impact and rehabilitation of existing).
- Proposed education and outreach to financial, local and environmental community on scope of benefits of hydro (energy and non-energy).



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## **I. Introduction**

Based on new incentives and increased interest in renewable energy, the U.S. hydropower industry is primed for responsible growth. Numerous opportunities are available to expand this country's hydropower base while at the same time providing responsible environmental stewardship of the nation's rivers. However, small hydro development faces some unique challenges. Recently, Federal Energy Regulatory Commission (FERC) Commissioner Philip Moeller affirmed "Small and micro hydropower has enormous potential, but these projects often cannot be developed under traditional licensing methods."

Over the past five-plus years the issues faced by small hydro have been recognized by NHA in documents filed at the agencies and in a paper entitled "NHA White Paper on Small Hydro" (in draft in April 2005) and in the NHA's "Barriers to the Development of Small Hydroelectric Projects and New and Emerging Hydro Technologies" (dated June 24, 2005). As acknowledged in the 2005 NHA White Paper, the investment of time and money necessary to obtain a license for a small hydro facility has become a significant burden, which has had an impact on the speed at which potential small hydro is being developed. To fulfill the potential of small hydro, the regulatory processes need to become smarter and more efficient, the coordination between regulating agencies needs to become smoother and less duplicative, and other barriers to development need to be addressed, without compromising appropriate environmental protection.

The Small Hydro Council was established in the summer of 2009 with the purpose of addressing barriers to the development of small projects with a particular focus on traditional hydro resources such as conventional hydro, development at non-powered dams, irrigation power, and conduit power. The Council coordinates with NHA's Committees and with the Ocean, Tidal and New Technologies Council on proposed initiatives for small hydro

## **II. Background**

### **A. The Council's Structure**

All NHA members are eligible to participate on the Small Hydro Council through the Council's list-serv. The Council is led by Co-Chairs, Chuck Alsberg and Nancy Skancke, and by Vice Chair, Jessica Matlock. Work of the Council is conducted through the following six Working Groups:

- Group #1 – FERC Regulatory: New Development (Permits/Licenses)  
Co-Leaders: Maureen Winters and Paul Bernhardt
- Group #2 – FERC Regulatory: Incremental Hydro (Amendments)  
Co-Leaders: Mike Swiger and Sonya Reiser
- Group #3 – FERC Regulatory: Exemptions  
Co-Leaders: Gia Schneider and Cliff Malm
- Group #4 – Regulatory-Other Agencies (Federal/State)  
Co-Leaders: Mark Stover and David Sinclair
- Group #5 – Research & Development and Operations & Maintenance  
Co-Leaders: Ken Kemp and Jason Redmond
- Group #6 – Finance and Funding  
Co-Leaders: Joe Blankenship and Jeanne Hilsinger

## **B. The Work of the Council To-date and Recent Small Hydro Initiatives**

Since its establishment, the Small Hydro Council has worked through Regional Meetings and industry conference calls to develop a comprehensive listing of potential (either actual or perceived) barriers to the development of small hydro. The Council's Working Groups have reviewed the results of these outreach efforts, prioritized the issues, and developed proposed solutions. Based on this work, the types of barriers to development of new small hydropower in the U.S. have been classified as involving issues relating to Federal and/or State regulation, research and development, operations and maintenance, and financing and funding. The results of some of the preliminary work of the Council have been used in a number of recent agency proceedings as summarized below.

The U.S. Army Corps of Engineers (USACE) held a workshop in November 2009, to address the issue of new development of small hydro at USACE dams. NHA Staff and members of the Council participated in that workshop and presented some of the ideas developed through Working Group #4.

In December 2009, the FERC held a technical conference in its proceeding entitled "Small Hydropower Development in the United States," FERC Docket No. AD09-9. NHA's Executive Director, Linda Church-Ciocci spoke at that technical conference and shared some of the results of the analysis of Working Groups #1 through #3. In addition, on February 4, 2010, NHA filed written comments in Docket No. AD09-9, further amplifying on Linda's oral statement and reflecting analysis developed by Working Group #1 through #3.

On March 24, 2010, the Secretary of Energy, Secretary of Interior, and the Assistant Secretary of the Army (Civil Works, for the USACE) signed a Memorandum of Understanding for Hydropower. The purpose of the MOU is to facilitate more closely and to align priorities in support of hydro development at Federally-owned facilities and to explore opportunities for new development of low-impact hydropower. Representatives from industry and NHA were present as this important step – a move consistent with the proposals

from Working Group #4 to update and implement MOUs addressing interagency coordination.

In coordination with the Department of Energy (DOE), NHA and the Hydro Research Foundation hosted a Small Hydro Summit on April 7-8, 2010. The purpose of this Summit was to examine where research and development (R&D) money would best support hydro development and, as part of that consideration, to examine the key cost drivers affecting the cost of small hydro development. The issues identified included many from Working Group #5.

On April 15<sup>th</sup>, in response to comments received in Docket No. AD09-9, the FERC announced a series of administrative initiatives to benefit small hydro development. These initiatives include: (i) adding new web-based resource tools; (ii) updating its MOUs with the USACE and other agencies to improve interagency coordination; (iii) continuing its small hydro hotline and email resource to answer questions; and (iv) implementing a new education and outreach program. This FERC plan reflects many proposals contained in NHA's written comments filed in February 2010. The FERC Staff confirmed that this was an initial step in its efforts to address small hydro development concerns.

The purpose of this Initial Report is to set out the issues determined by the Working Groups to have the highest priority (*i.e.*, the issues that have the potential to create the greatest benefit to the development of small hydro in the near term). Additional items being considered in the longer term are listed at the end of each Working Group's section. Proposals are identified as involving: (i) policy or process changes (*i.e.*, that could be implemented immediately or in the short-term); (ii) regulatory changes (*i.e.*, requiring a public rulemaking proceeding); and (iii) legislative changes.

### **III.**

#### **FERC – Processes for Permitting and Licensing of New Small Hydro Development (Working Group #1)**

##### **A. More Efficiently Coordinate Preliminary Permit Timeframes and Extensions**

a) Brief statement of the problem: Under the Federal Power Act (FPA) Preliminary Permits are issued by FERC for a maximum term of three years. This three-year window may have historically been acceptable for Permit holders ultimately utilizing the Traditional Licensing Process ( TLP), but today even the TLP process can require more than three years to complete if there are significant multi-year studies needed.

Importantly, the three-year Permit timeframe does not accommodate the new Integrated Licensing Process (ILP) schedule (which was developed most particularly for relicensing), in which a final license application may not be filed for 4-5 years after the filing of a notice of intent. Therefore, a Preliminary Permit holder can expend significant resources and could be mid-way through the ILP process when its Permit expires. At that

point a successive Permit must be sought, but the existing regulatory process opens the door for another applicant to file a Preliminary Permit application for the site and potentially be awarded the Permit. This raises serious concerns for Preliminary Permit holders and can make it difficult for them to obtain financing (e.g., because investors may view this as a significant risk). Further, the result of a new Permit being issued to a different applicant may be increased costs and delay in getting the project going (including delaying the benefit of increased renewable power and increased jobs).

It should be noted that the original intent of the 3-year maximum term for Preliminary Permits was established to ensure that permit holders worked toward development of the site in the near term, and were not merely “site banking.” Therefore, the proposed solution to this issue needs to provide a reasonable time frame for a Permit holder to submit its license application, while also providing FERC some assurances that the Permit holder is making steady progress towards developing the site.

b) Proposed solution: The proposed solution is to clarify the process for obtaining subsequent preliminary permits – for both projects that do, and project that don’t, have competition – to provide a Permit holder more certainty that it will obtain a subsequent Permit if needed, and would be able to have its final license application filed before its Preliminary Permit expired. Under this proposal, consistent with current policy, FERC retains its authority to terminate a Preliminary Permit if sufficient continued progress is not reported by the Permit holder in its six-month progress reports.

c) Detailed outline of proposed solution: The proposed solution has policy and regulatory components as referenced below.

- (1) TLP Default for Preliminary Permit holders moving into licensing (policy change and potential regulatory change) – The FERC should establish, through a policy statement (potentially reaffirmed in a rulemaking proceeding), that the TLP is the default process for licensing of a project with a Preliminary Permit in effect unless the Permit holder elects to use the ILP.
- (2) Process for subsequent Preliminary Permits (regulatory change) – The FERC should establish a process whereby a Preliminary Permit holder would notify FERC of its interest in obtaining a subsequent Permit in its fifth 6-month report under the existing Permit. Under the regulations, there would be a presumption that the current Permit holder would be issued a subsequent Permit provided that certain specific milestones had been met as of the date of the fifth 6-month report (and documented in that report), with the level of milestones required depending on whether a competing application for Preliminary Permit is filed. The milestones could include:
  - (i) Pre-Application Document (PAD) has been issued;
  - (ii) Study Plans have been issued and agreed upon;
  - (iii) Studies are in progress; or
  - (iv) A settlement agreement has been reached or is in progress.

Before the end of the Permit term, the FERC would notify the Permit holder: (a) whether unsatisfactory 6-month progress reports had been filed (such that a subsequent Permit would not be justified); or (b) whether the Permit holder had fulfilled the milestones necessary for issuance of a subsequent Permit if a competing Permit application were to be filed.

## **B. Implement New Two-Year Licensing Process for New Hydro at Existing Dams**

a) Brief statement of the problem: The License process can be too long, uncertain and not commensurate with the relatively minor impact of new small hydro development at existing dams, particularly where there will be no significant changes in dam operations/flows (or the changes are acceptable to agencies/stakeholders). The length and uncertainty of the current TLP and ILP licensing processes is a deterrent to small hydro developers and can make it difficult to secure project financing.

b) Proposed solution: The proposed solution is for the FERC to develop a new two-year licensing process for new small hydro projects at existing dams. Pending adoption of a formal two-year licensing process, FERC can implement a more efficient licensing process through active use of waivers where appropriate.

c) Detailed outline of proposed solution: Implementing the proposed two-year licensing process would be a regulatory change. The new process proposed here would apply to new generation at an existing dam which would not cause significant environmental impact; further details of the two-year process are currently being developed.

- (1) The project would involve proposed development of new small hydro at an existing dam.
- (2) The project would involve no significant environmental impact.
- (3) At the time of filing the application, the applicant would have rights to access project lands for purposes of conducting studies and other necessary activities at the dam site pre-licensing. Right, title or interest in all land needed to operate project would need to be demonstrated post-licensing (*e.g.*, standard License Article 5).
- (4) Studies would occur in the first year of the two-year process only. If there were issues that required additional study years the project would only qualify for two-year process if FERC agreed that the specified studies could continue during the second year with results filed prior to issuance of the FERC NEPA document, or agencies and the FERC agreed to the studies being continued post-licensing.

- (5) The two-year process would have “off-ramps,” *e.g.*, if the FERC determined that unanticipated issues had arisen that would prevent issuance of a license in the two-year timeframe, or if the licensee determined that pursuing this “fast-track” was no longer in its best interest.

### **C. Increased Outreach and Education on the Preliminary Permitting and Licensing Processes**

- a) Brief statement of the problem: The Preliminary Permit and License processes are viewed as complicated to potential small hydro developers.
- b) Proposed solution: Outreach by the FERC and enhanced education and outreach tools on the FERC website could provide greater understanding of the regulatory processes.
- c) Detailed outline of proposed solution: These proposed solutions could be implemented with internal FERC process and policy changes, and with or without regulatory changes.
  - (1) FERC should develop a plan for enhanced education and outreach to increase knowledge and understanding of the Preliminary Permit and License processes (and the Amendment process as discussed below in Part III, and the Exemption process as discussed below in Part IV) – not only for potential small hydro developers, but also for financial institutions (as discussed below in Part VII), for local governments and communities, and for manufacturing entities in support of small hydro development.
  - (2) FERC should host regional outreach meetings for developers, potential and current applicants and permittees/licensees (potentially in coordination with NHA Regional Meetings):
    - (i) To review the permit/license application processes.
    - (ii) To facilitate interaction with relevant Federal/State resource agency representatives for that region to raise the level of awareness and education of when and where each entity should engage in the process, and to facilitate direct interaction between other agencies and applicants.
    - (iii) To review regulatory responsibilities once a Preliminary Permit or License has been issued.
  - (3) FERC should develop additional education and outreach tools, including clearer guidelines (on the FERC website) on the requirements for small hydro to qualify for waivers of specific parts of the licensing regulatory process. This should include an update by FERC to the small hydro permitting/licensing handbook, and inclusion of that handbook, updated periodically, on the FERC website.



- (4) FERC should implement an online (on FERC's website) template for submission of applications for Preliminary Permits and Licenses (and Amendments as discussed below in Part III, and Exemptions as discussed below in Part IV) for small hydro.

#### **D. Additional Issues to be Considered**

- a) Development of a process for selection between competing Preliminary Permit applications that provides consistency of approach for the benefit of applicants and investors.
- b) Development of a process for Preliminary Permit holders faced with a License application in competition with an application for subsequent Permit.
- c) Notice procedures by FERC to holders of existing Permits that may be affected by new Permit applications in the vicinity of the existing Permit site.
- d) Review of study requirements for small hydro to determine if there is a less burdensome way to obtain necessary environmental data prior to regulatory approvals.
- e) Development of categorical environmental analyses under NEPA for certain types of small hydro technology (through Federal R&D funding), for use by small hydro developers subject to specific site proposal modifications.
- f) Evaluation of alternatives to protection, mitigation, and enhancement measures for a small hydro License or Exemption that would better control costs while fulfilling environmental responsibilities.
- g) Development of guidelines or policy addressing full analysis of economics benefits of hydropower.
- h) Development of provisions to allow for the limited temporary sale of power (*e.g.*, not to the interstate grid) for testing new small hydro projects before completion of the licensing proceeding.
- i) Enhancement of the ability of small hydro projects to obtain access to markets and interconnects to the interstate grid.
- j) Establishment of a demonstration/pilot process for new small, low-head and/or conduit technologies.

**IV.**  
**FERC – Processes for Incremental New Development  
of Small Hydro (Amendments) (Group #2)**

**A. Increase Efficiency of License Amendment Process**

a) Brief statement of the problem: The process for amending FERC licenses to add incremental capacity at existing hydroelectric plants is viewed as complicated. Additions of even small increments of capacity that trigger a capacity amendment process and/or a full 3-stage consultation may be discouraging for the small hydro developer/owner. In some cases, the costs involved in pursuing an amendment can outweigh the incremental capacity gain for a small addition of capacity.

b) Proposed solutions: Changes should be made to the existing regulations governing amendments, including raising the thresholds for qualification of a proposed change as a non-capacity amendment, and to waive the three-stage agency consultation process for proposed project modifications that are non-controversial. In addition, the standard one-stage consultation process should be expressly applicable to small capacity additions to larger projects.

c) Detailed outline of proposed solutions: The solutions discussed below involve regulatory and policy changes.

(1) FERC should increase the thresholds for project modifications qualifying for a “non-capacity” amendment under the regulations. Consider potential new thresholds of: (i) expansion of up to 10 MW (currently 2 MW), and (ii) hydraulic flow increase of up to 20% (currently 15%).

(2) FERC should revise the triggers that move a proposed project modification from a “non-capacity” to a “capacity” amendment per 18 C.F.R. § 4.38(a)(4)(v) (FERC Regulations). Examples of situations that should be considered “non-capacity” amendments (rather than a “capacity” amendment) under this proposed solution would be:

- (i) Proposal to add a new turbine at an existing plant unless the other criteria for a “capacity” amendment (*e.g.*, capacity change, flow increase) are also triggered; and
- (ii) Proposal to modify an existing dam that minimally raises effective net head, but that does not significantly affect the environment, or that may even improve operations resulting in an environmental benefit (*e.g.*, replacing manually-set flashboards with rubber flash boards or a rubber dam top to provide more consistent year-round pond elevation).

(3) FERC should adjust the requirements for the three-stage comment period to:

- (i) Expressly exclude proceedings from the three-stage consultation requirement where the Federal/State resource agencies either support, or do not oppose, the proposed change irrespective of whether the proposal is classified as a “capacity” or “non-capacity” amendment.
- (ii) Expressly exclude small non-capacity amendment proceedings from the three-stage consultation requirement (*e.g.*, license amendments for small additions of capacity to larger projects, with an exception for amendments resulting in a substantial project expansion equivalent to an original licensing process).

## **B. Increased Outreach and Education on the License Amendment Process**

a) Brief statement of the problem: The process for amending Licenses is perceived as excessively complex, particularly for small hydro developers.

b) Proposed solution: Outreach by the FERC and enhanced education and outreach tools on the FERC website could provide greater understanding of the amendment process.

c) Detailed outline of proposed solution: These proposed solutions could be implemented with internal FERC process and policy changes, and with or without regulatory changes.

- (1) As part of its enhanced education and outreach on Preliminary Permit and License processes (discussed above in Part II) and the Exemption process (as discussed below in Part IV), FERC should include a discussion on the process for “capacity” and “non-capacity” License amendments.
- (2) FERC should host regional outreach meetings for developers, potential and current Licensees (potentially in coordination with NHA Regional Meetings):
  - (i) To review the regulatory process for amendments.
  - (ii) To facilitate interaction with relevant Federal/State resource agency representatives for that region to raise the level of awareness and education of when and where each entity should engage in the process, and to facilitate direct interaction between other agencies and applicants.
  - (iii) To review regulatory responsibilities once an amendment has been issued.
- (3) FERC should develop additional education and outreach tools, including clearer guidelines (on the FERC website) on the requirements for amending small hydro Licenses. This should include an update by FERC to the small hydro permitting/licensing handbook, and inclusion of that handbook, updated periodically, on the FERC website.

- (4) FERC should implement an online (on FERC’s website) template for submission of applications to amend Licenses for small hydro, particularly for non-capacity amendments.

### **C. Additional Issues to be Considered**

- a) Development of guidelines for definitions of key terms (e.g., “substantial” changes, “substantial alteration or addition”).
- b) Evaluation of the potential to shorten comment periods (even three-stage consultation) where there is no opposition to the proposed project.

## **V.**

### **FERC – Processes for Exemptions (both <5 MW and Conduit) (Group #3)**

#### **A. Clarification and Increased Education on the Exemption Process**

- a) Brief statement of the problem: The Exemption application process should be made clearer in several ways. First, the current handbook needs to be updated and should be more helpful in communicating the Exemption process. Second, the handbook covers both small hydropower and conduit Exemptions together, when the requirements for each are not necessarily the same; therefore, separating this material into two handbooks would help clarify matters further. In addition, the requirements for hydro operators once they are issued an Exemption need to be more clearly identified.
- b) Proposed solutions: The Exemption application process can be clarified through implementation of several internal process/operational changes. The hydro Exemption handbook needs to be updated, and then kept updated as any relevant regulations change – showing both how to apply for an Exemption and the ongoing requirements once an Exemption is issued. In addition, the Exemption handbook should be complemented with additional web-based tools that help applicants identify relevant resource agencies and navigate the application process.
- c) Detailed outline of proposed solutions: The proposed solutions involve multiple activities all of which can be accomplished without changes to the FERC’s Regulations.
  - (1) FERC should create separate handbooks for each Exemption application process – one for small hydropower Exemptions and one for conduit Exemptions – and include instructions on ongoing regulatory requirements for a hydro operator once the Exemption is issued.
    - (i) Define clear criteria for when and how to use waivers in the Exemption application process.

- (ii) Provide clarification on ways to seek shortened comment periods during the Exemption application process.
  - (iii) Create a FAQ section in the handbook and on the FERC website drawn from common questions seen by FERC Staff regarding Exemptions (*i.e.*, before and after the Exemption is issued).
  - (iv) NHA/Small Hydro Council can offer to review the draft handbook and provide suggestions and comments before the handbook is printed and posted.
  - (v) Keep handbooks online and up-to-date as relevant policies and regulations change.
- (2) FERC should create an Exemption Hotline (this may already be part of the existing Hydropower Hotline) to answer questions. One challenge to newcomers is simply finding out whom to contact, which process would be simplified with a hotline. Ideally the hotline would have at least one technical person and one legal person staffed on it or available at all times.
- (3) FERC should create an overview flow chart of the License *vs.* Exemption process for all small hydropower and identify key decision points between the Licenses and Exemptions; and between small hydro and conduit Exemptions. Newcomers to the process would be helped by being able to view an overall flow chart or decision tree of the License/Exemption process. This would enable them to see what their logical options are, given their site characteristics. Further, such a flow chart would be able to highlight the points where an Exemption could switch into the licensing process.
- (4) FERC should turn the overview chart mentioned above into a web-based tool that applicants can use to determine which process they should follow. Such a web-based tool could use a series of questions to guide the applicant to focus on the most relevant licensing path, and then suggest a list of relevant entities to contact, such as the relevant resource agencies, etc.
- (5) FERC should create a web-based resource page for Exemption applicants which:
  - (i) Lists, by state, relevant resource agencies and other parties typically involved in an Exemption application;
  - (ii) Lists relevant orders, regulations and laws for reference (with links);
  - (iii) Lists areas of particular areas of confusion to applicants/parties with answers (*i.e.*, the FAQ suggested above); and
  - (iv) Describes the process for surrendering an Exemption.
- (6) FERC should have each pending Exemption application assigned to a specific staff person and have the applicant notified of that contact person. In that way the applicant will know who to call if there are any questions.

- (7) FERC should host regional outreach meetings for developers, potential and current Exemption applicants, and Exemption holders (potentially in coordination with NHA Regional Meetings):
- (i) To review the Exemption application process.
  - (ii) To facilitate interaction with relevant Federal/State resource agency representatives for that region to raise the level of awareness and education of when and where each entity should engage in the process, and to facilitate direct interaction between other agencies and applicants.
  - (iii) To review ongoing regulatory responsibilities once an Exemption has been issued.

## **B. Increased Efficiency of the FERC Exemption Application Process**

a) Brief statement of the problems: Projects that qualify for the Exemption process are among those with potentially the least environmental impact, and could deliver new renewable energy and create new jobs more quickly if the Exemption process were more efficient. However, at this time there is no clear way under the FERC Regulations to distinguish high-quality, “clean” Exemption applications and/or “clean” applications to amend an existing Exemption, from those applications that need more scrutiny or are opposed. FERC should place processing priority on “clean” Exemption applications and “clean” applications to amend existing Exemptions, which will expedite processing such requests and allow such projects to come online more quickly. In addition, Exemption applicants appear to find it difficult to track the status of their pending application.

b) Proposed solutions: Several policy/process and regulatory changes could be implemented to improve the overall application process efficiency in a relatively straightforward manner. First, FERC should create a clear set of criteria to distinguish “clean” Exemption applications from those that are incomplete or may have opposition or difficult issues presented. With these criteria, FERC Staff should then give priority to the “clean” applications. Further, defining a clear set of criteria, which if met would result in faster processing, would provide a strong incentive to applicants to submit “clean” applications that meet those criteria. That would help FERC process applications more efficiently; would help other agencies to respond more quickly with respect to “clean” applications and then focus longer efforts on projects with greater problems; and would help bring more low-impact, high-quality, reliable hydropower projects online more quickly.

In addition, establishing a template on the FERC website for submittal of an online Exemption application would help applicants check off the required components of an application. Enhancing the FERC website to track pending applications would allow the applicant to follow the application as it moves through the approval process.

c) Detailed outline of proposed solutions: These solutions involve both policy/internal process changes and regulatory changes.

- (1) FERC should define criteria identifying a “Clean Exemption Application” or “Clean Exemption Amendment Application” as follows:
  - (i) Application or amendment request has all of the required components.
  - (ii) Public and other agencies have had a chance to comment on the application.
  - (iii) No objections are raised during the comment period. Applicant agrees to conditions imposed by mandatory conditioning agencies; or has waivers from those agencies (note that it is desired that applicants obtain waivers before filing the application).
- (2) For Clean Exemption Applications, FERC should commit to expedited processing (*i.e.*, completed technical and environmental review) with goal of issuing an approval within a specified short period after the close of the public comment period (assuming no opposition is filed during that comment period). Time limits for comment periods should be strictly kept.
- (3) Additional FERC Staff should be assigned if necessary to enable meeting the expedited processing period for Clean Applications.
- (4) FERC should add tools on its website for submitting and tracking Exemption applications and applications to amend existing Exemptions. Applicants could fill out the relevant application template and would attach the required exhibits entirely online following a checklist. Through the website an applicant should be able to actively track the status of the submitted application online; for an example of a similar set-up, *see* the process by which Federal grants are handled through both [grant.gov](http://grant.gov) and [fedconnect.net](http://fedconnect.net).

### **C. Clarification and Modification of Definitions Involving Conduit Exemptions**

a) Brief statement of the problem: The definition of what qualifies for the conduit Exemption application process does not always line up well with the real-life circumstances found in sites that clearly should go through the conduit Exemption process, such as irrigation canals. Specifically, the definition states that the conduit Exemption applies for “any facility (not including any dam or other impoundment) constructed, operated or maintained for the generation of electric power that generates energy from the hydroelectric potential of the conduit.” Irrigation canals are designed to use gravity to drive the flow of water at a specific speed, and many include gates or drop structures which are used to dissipate energy and slow the water flow, and to change the level of water in the canal depending on requirements for delivery of water to farmers on the canal. Of concern is that an unnecessarily abstract interpretation of the statutory definition may disqualify the types of hydropower installations that the conduit Exemption program was intended to facilitate.

b) Proposed solution: FERC should clarify, and if necessary amend, the conduit definition regulations to ensure that power facilities receiving water from certain types of structures (for example, an existing irrigation drop) qualify for a conduit Exemption.

c) Detailed outline of proposed solutions: These solutions may involve both policy/internal process changes and regulatory changes.

- (1) FERC should clarify that “hydroelectric potential of the conduit” includes energy that is generated both from a gradual slope and across a check or drop-structure in a canal.
- (2) FERC should clarify that canal gates, weirs or check structures that were installed to direct, measure flow or control the speed and/or level of water for purposes of providing lateral distribution, and not mainly for the purpose of generating electricity, can be used by a conduit project as provided in 18 C.F.R. § 4.30(b)(28)(vi) (of the FERC’s Regulations).
- (3) FERC should clarify that conduit project intakes that serve not as part of an impoundment, but rather to receive water released from the bottom of an impoundment, are not "integral to a dam" as that term is used in 18 C.F.R. § 4.30(b)(28)(iv) (of the FERC’s Regulations).

#### **D. Additional Issues to be Considered**

- a) Establishment of a docketing system for Exemption applicants before the Exemption application is filed where the applicant has not first obtained a Preliminary Permit. One option would be for the Exemption applicant to electronically file a notice of intent (NOI) and then automatically receive a pre-filing docket number to track the proceeding.
- b) Development of an expedited process for amending Exemptions with limited changes.
- c) Consideration of potential expansion to FERC current Exemption process within existing FPA authority.
- d) Consideration of a potential legislative change to expand projects eligible for the Exemption process.



**VI.**  
**Other Federal/State Agencies – Regulatory Processes**  
**for Small Hydro Development (Group #4)**

**A. Increased Efficiency for Obtaining USACE Approvals**

a) Brief statement of the problems: Industry members believe there are unnecessary complexities, redundancies and inconsistencies associated with USACE’s licensing processes, actions, timelines, and attitudes from District to District. Obtaining approvals under Clean Water Act Section 404 and Section 14 of the River and Harbor Act codified at 33 USC Section 408 (Section 408), as well as needed post-licensing operational agreements between licensees and USACE, can be particularly time-consuming, costly and/or redundant.

b) Proposed solutions: As confirmed at the USACE workshop held in November 2009, USACE is focusing on addressing problems that have been identified (whether actual or perceived) by industry. The following proposed solutions should be implemented as part of that effort.

- (1) Update the FERC-USACE 1983 MOU, as soon as possible, and reinforce the MOU throughout the USACE via a new Engineering Regulation (ER).
- (2) Establish aggressive timelines within USACE for approvals under Sections 404 and 408 (preferably no more than 90 days), as well as the execution of post-licensing MOUs with licensees (preferably no more than 45 days), so that developers can initiate construction in a timely manner.
- (3) Secure Federal legislation stating that “hydroelectric power production that utilizes surplus water or waterpower at any dam operated by the United States Army Corps of Engineers” is to be considered a project purpose for such dam (USACE may be able to implement an internal policy for immediate implementation; however, it would be preferable to have legislation).
- (4) Delegation of USACE Section 408 approvals, to the extent 408 approval is required, to District or Division level to allow for more efficient licensing process [*i.e.*, the USACE should first make every attempt to use the Commission’s licensing provisions under FPA Section 4(e) such that the Section 4(e) approval normally obviates the need for a USACE permit under Section 408].

c) Detailed outline of proposed solutions: The following proposed solutions may involve policy/internal process changes, regulatory changes, and/or legislative changes.

- (1) The existing 1983 MOU should be updated as quickly as possible and USACE should ensure that the MOU is followed by all field staff.

NHA/Small Hydro Council members can provide assistance to FERC and USACE by identifying what industry sees as the items needing to be updated in the joint MOU. Briefly stated, such items should include:

- (i) USACE will work to streamline the process to obtain, and assist applicants in obtaining, access to necessary data, drawings, and other materials in a timely manner to assist in preparation of applications for FERC Licenses, state permits and associated USACE approvals.
  - (ii) USACE will use FERC's NEPA process to address environmental issues under Sections 404 and 408, with USACE participating as a NEPA cooperating agency and with the FERC as lead agency.
  - (iii) USACE will affirm that all applicable Districts, Divisions and the Headquarters sections (including branches within a District) will participate in coordination and cooperation with the FERC regulatory approval processes to avoid duplication and redundancy.
  - (iv) USACE will strive to implement the terms of the MOU through issuance of new ERs, or revisions to existing ERs, as appropriate.
  - (v) USACE will strive to work with its water operating divisions to identify and implement enhancements to system operations to better facilitate the power production of FERC-licensed projects at USACE sites.
- (2) Through legislative change, to reaffirm an updated USACE-FERC MOU, timelines should be placed for USACE processing of applications under Sections 404 and 408 (*e.g.*, no more than 90 days) so that more certainty and efficiency are injected into licensing projects at USACE facilities.
- (3) Through legislative change, to reaffirm an updated USACE-FERC MOU, USACE should be required to finalize the post-licensing MOU between the USACE and the licensee "within 45 days" of FERC issuing the licensing order for the project.
- (4) Legislation or policy/process changes should provide that Section 408 approval is to be issued at the District or Division level, to the extent that a 408 is required for a particular project.
- (5) Legislation should mandate that "hydroelectric power production that utilizes surplus water or waterpower at any dam operated by the United States Army Corps of Engineers" is to be considered a project purpose for that dam.
- (6) USACE should continue its outreach with industry on a regular basis (*e.g.*, NHA Annual Conference workshop, USACE meeting in Cincinnati) so that better lines of communications/working relationships are established and maintained.

## **B. Increased USACE Coordination on Operations to Maximize Hydro Generation**

a) Brief statement of the problem: Industry members feel that USACE may be unwilling or believes it is unable to adjust head and flows in order to maximize hydro energy production potential at associated or affected hydropower projects.

b) Proposed solutions: Discussions should be held to determine what is needed to enable, and to incentivize, USACE to implement a standard protocol that allows modification of operations to maximize hydro generation at associated or affected power projects without affecting navigation or flood control responsibilities. If necessary, legislation should be enacted to provide that “hydroelectric power production that utilizes surplus water or waterpower at any dam operated by the United States Army Corps of Engineers” is to be considered a project purpose for such dams.

c) Detailed outline of proposed solutions: These solutions may involve policy/internal process changes, regulatory changes, and/or legislative changes.

(1) Through a USACE Headquarters policy guidance and/or regulatory change, USACE should modify, where possible, its operations to identify and implement enhancements to system operations to better facilitate the power production of hydro projects at or affected by USACE sites. One possible route would be to review and revise existing operational rule curves for USACE sites with developers seeking to deploy hydro facilities. NHA/Small Hydro Council members can assist in the drafting of specific language for such a standard protocol (*i.e.*, that would allow USACE to modify operations to maximize hydro generation without affecting navigation or flood control responsibilities).

(2) Although USACE may be able to implement an internal policy change immediately, it would be preferable to secure Federal legislation stating that “hydroelectric power production that utilizes surplus water or waterpower at any dam operated by the United States Army Corps of Engineers is to be considered a project purpose for such dams.”

## **C. Better Coordination by BuREC with Small Hydro Developers**

a) Brief statement of the problem: Industry members feel that there is a need for better cooperation and coordination by BuREC with regard to private development at Federal BuREC dams and for BuREC to adjust head and flows, when possible, to maximize hydro energy production or development of hydro potential.

b) Proposed solutions: A DOI/BuREC mandate should be established that “hydroelectric power production that utilizes surplus water or waterpower at any dam operated by the BuREC” is to be considered a project purpose for such dams, and ensure that BuREC identify those facilities and open them for development by private

developers. Review and, where necessary, modification of the Federal Facilities assessment from EAct 2005 should be undertaken.

c) Detailed outline of proposed solutions: These solutions may involve policy/internal process changes, regulatory changes, and/or legislative changes.

(1) Legislation or language for use in BuREC administrative procedures should be adopted to ensure that BuREC facilitates private development at BuREC dams.

(2) The FERC-BuREC MOU should be updated to clarify that BuREC is able to modify operations to enhance associated or affected power projects so long as such modified operations do not interfere with primary duties of facility (*e.g.*, irrigation, water supply). NHA/Small Hydro Council members can assist with specific proposed revisions to the existing FERC-BuREC MOU to identify to FERC and BuREC what industry sees as the items needing to be updated.

#### **D. Additional Issues to be Considered**

a) Enhancement of coordination and removal of redundancy between State Clean Water Act Section 401 certifications (or waivers of such certifications) and the FERC's licensing processes. Potential facilitation of such discussions by other entities (*e.g.*, DOE and/or the National Governors Association).

b) Enhancement of coordination with the other Federal agencies having mandatory conditioning authority under the FPA (*i.e.*, Department of Interior/Fish and Wildlife Service, Department of Commerce/National Marine Fisheries Service, and Department of Agriculture/Forest Service) with the goal of a greater recognition of the benefits provided by small hydro (*e.g.*, in terms of emissions reduction and the integration benefits in support of other variable renewable sources, such as solar and wind). Potential facilitation of such discussions by other entities (*e.g.*, DOE).

### **VII.**

#### **R&D and O&M Issues Relating to Small Hydro Development (Group #5)**

##### **A. R&D – Development of New Technology for Small Hydro and Low Head Dams**

a) Brief statement of the problem: There is a need for new technology that addresses the engineering and economics of small hydropower. Such new technology could minimize impact on certain environments and could potentially lead to greater ease in obtaining regulatory approvals.

b) Proposed solutions: R&D funding should be allocated to assist in the development of new turbine design/materials for small and low-head dams including standardized designs, improved generator technology (a quick start, frequent cycling, etc.), and other enhancements to key equipment for small hydro. Such research could include a generic analysis of environmental impacts when specific technologies.

c) Detailed outline of proposed solutions: The solutions discussed below involve policy and potentially regulatory/legislative changes.

(1) R&D money should be allocated to address new turbine and generator technology for small and low-head hydro to facilitate more economic and, therefore, greater development of small hydro projects. In addition, the development of an environmental analysis of the new technology developed could allow a project to proceed without the expense of conducting the general environmental studies related to the technology (with the developer only needing to perform or confirm site-specific environmental impacts).

(i) Potential alternative designs and materials for turbines.

(ii) Potential research and development of a drop-in turbine that is “fish-friendly.”

(iii) Potential improvements to generators (*e.g.*, standard designs, insulation materials).

(2) R&D funding should be used to develop an environmental analysis in support of the new technology, which generic analysis could be used by hydro developers with recognition of site-specific impacts.

(3) Workshops or other meetings with manufacturers should be held to identify key equipment for small hydro projects and encourage development of that equipment, including improvements.

(4) R&D funding should be allocated to construct demonstration projects to confirm viability of new technology which could also assist small hydro developers in obtaining financing.

(5) Additional R&D funding may need legislative appropriations.

## **B. R&D – Enhance R&D Funding on Environmental Issues**

a) Brief statement of the problem: Environmental analysis relating to achieving regulatory approvals can be very expensive for a small hydro developer. The cost of conducting studies and preparing environmental reports is likely to be a disproportionately high portion of the development costs and, therefore, could be the deciding factor in whether or not a project can be built.

b) Proposed solution: R&D funding should be allocated to address environmental issues for small hydro on a generic basis (*e.g.*, fish passage at small and low-head dams), with recognition of geographic/local differences, greatly reducing the cost burden for the developer of each site.

c) Detailed outline of proposed solutions: The solutions discussed below involve policy and potentially regulatory/legislative changes.

(1) R&D funding should be provided for effectiveness studies on fish passage at existing facilities and/or Federal dams, and for studies of potential new fish passage technologies.

(2) R&D funding should be provided for studies that allow for a more efficient use of water in fish passage facilities, potentially providing enhanced fish passage with a decrease in water required.

(3) Additional R&D funding may need legislative appropriations.

### **C. R&D – Develop a National Database of Potential Small Hydro Sites**

a) Brief statement of the problem: The current databases do not fully analyze or reflect potential small and low-head hydro sites. To-date there has not been a comprehensive study of the hydro potential at irrigation canals/systems or at closed conduit systems.

b) Proposed solutions: R&D funding could create this type of database and make it user-friendly to maximize potential benefits.

c) Detailed outline of proposed solutions: The solutions discussed below involve policy and potentially regulatory/legislative changes.

(1) R&D funding should provide for private or National Lab development of an enhanced database to address hydro potential (new development and incremental development) in small and low-head sites (*e.g.*, irrigation canals and closed conduit systems).

(2) R&D funding should develop the database as user-friendly to potential hydro developers and financial institutions that may provide funding for development.

(3) Additional R&D funding may need legislative appropriations.

### **D. R&D – Resolve Problems with Small Hydro Connection to the Grid**

a) Brief statement of the problems: Access to markets and connections to the interstate grid is often difficult and expensive for small hydro developers/operators. Studies

required of small hydro developers in order to obtain interconnection may be lengthy and costly. Additionally, power cannot be sold to the interstate grid without a License or Exemption from the FERC (*i.e.*, no power can be sold during the demonstration phase of a project).

b) Proposed solutions: A clearer/simpler/standardized process should be developed for small power connection to the grid. Standards for connection of small hydro to the grid may provide economic benefit to developers, utilities, and transmission providers. The potential for sales during the demonstration phase of a new small hydro project should be explored.

c) Detailed outline of proposed solutions: The solutions discussed below involve policy changes, and potentially regulatory changes, relating to connections to the power grid. A legislative change may be necessary to allow short-term temporary sales into the grid during a project's demonstration phase.

(1) R&D funds should be used to develop standards for small hydro connections to the grid. That funding could also provide funding for a workshop co-hosted with the FERC to address the issue of grid connections for small hydro projects and to develop incentives for the entry of small hydro power into the ancillary electric markets.

(2) DOE could work with the FERC to develop a process allowing small hydro developers to make temporary (demonstration phase) sales from new hydro projects.

(3) Additional R&D funding may need legislative appropriations. In addition, changes to the FPA may be needed to allow for demonstration sales.

#### **E. O&M – Better Coordination Between Dam Operators Within Watersheds**

a) Brief statement of the problem: Flow regimes at dams (especially Federal) can affect the ability to maximize power generation at other dams in the same watershed. Federal dams do not necessarily establish flow regimes that maximize power production downstream.

b) Proposed solutions: This issue is also addressed above under Working Group #4 (Regulatory – Other Agencies), which focuses on coordination between the USACE (and in the future other Federal agencies) and private hydropower operators at the Federal dam site. In addition to that coordination, enhanced coordination between Federal dam owners and private owners of other dams in the same watershed may enhance power production. R&D funding should address maximizing power production within a watershed and could also facilitate coordination between Federal agencies and private parties within a watershed. Such coordination would recognize the other goals/objectives

of the Federal dam operations (*e.g.*, flood protection, navigation, and avoiding adverse environmental impacts).

c) Detailed outline of proposed solutions: The solutions discussed below involve policy and potentially regulatory/legislative changes.

- (1) R&D funding should be provided for research on watershed coordination of flow regimes with the goal of enhanced power production while maintaining other water resource and environmental resource goals.
- (2) R&D funding should facilitate discussions between Federal dam owners and owners of other dams in the water basin.
- (3) Additional R&D funding may need legislative appropriations.

#### **F. O&M – Address Operations Issues Particular to Small Hydro**

a) Brief statement of the problem: Small hydro operators often do not have financial means to attend industry-wide or NHA conferences and programs, which provide an opportunity to share experiences and issues associated with operating a small hydro facility.

b) Proposed solutions: Online interaction between small hydro operators/developers can provide increased sharing of information on O&M issues.

c) Detailed outline of proposed solutions: The solutions discussed below involve potential NHA initiatives and could involve legislative changes if Federal funding is required.

- (1) NHA should seek to enhance ability of its members to share O&M information and issues online.
- (2) Federal funding may facilitate local (regional) workshops or other meetings to discuss small hydro O&M issues.
- (3) Additional Federal funding may need legislative appropriations.

#### **G. Additional Issues to be Considered**

a) The DOE's R&D proposal process is viewed by some as difficult for small hydro developers/projects (*i.e.*, too complex). Consideration could be given to a separate RFP process for small hydro developers, with potential educational outreach.

b) There is concern as to what operational or other changes (including addition of capacity) to non-jurisdictional dams/projects could be implemented without triggering



FERC jurisdiction under the FPA. If FPA jurisdiction were to apply by reason of such changes, implementation could make such projects subject to Federal regulatory approval and dam safety processes, and could affect established water rights.

c) Evaluation of State dam safety programs for small hydro with the potential for a closer coordination with the FERC's dam safety program to avoid duplication and added expenses to small hydro operators.

## VIII.

### **Finance and Funding Issues Relating to Small Hydro Development (Group #6)**

#### **A. Address Soft Costs Which are Disproportionately High for Small Hydro**

a) Statement of the problem: The soft costs of small hydro project engineering, environmental analysis and permitting are much the same as for larger projects, driving the cost per kW/capacity for small projects significantly above the cost per kW/capacity of larger projects. In addition, financial institutions incur soft costs of analysis and approval of projects that are about the same regardless of the size of a project. These additional costs make the financing hurdle for small hydro more difficult to overcome.

b) Proposed solutions: To offset proportionately larger initial outlays, small hydro projects should be allocated additional incentives on the development side [*e.g.*, investment tax credit (ITC), production tax credit (PTC), Clean Renewable Energy Bond (CREB), direct payments].

c) Detailed outline of proposed solutions: These proposed solutions involve regulatory changes and legislative changes.

(1) Legislative change – An additional tax credit of 50% (or percentage to be determined) of the defined soft costs should be allowed for small hydro in addition to the investment tax credit for new hydro (at parity with other renewables, as proposed below). A benefit similar to the tax credit for soft costs could be made available by granting the taxpayer the ability to immediately expense, for tax purposes, the soft costs of project development/regulatory approvals at project initiation.

(2) Policy and/or legislative change – Financial institutions should be encouraged to consolidate projects for financing (*e.g.*, under PTCs/ITCs/CREBs and DOE guarantees) that address issue costs for the financial instruments.

## **B. Equalize and Extend Financial Incentives for Hydro**

- a) Statement of the problem: As wind and solar generation came into vogue, production/investment tax credits, CREBs and depreciation were set at levels that provided significantly greater tax advantages than provided for new or incremental hydro generation capacity.
- b) Proposed solutions: Legislation should be enacted to bring all new/incremental hydro generation facilities in line with tax incentives provided for wind, solar and geothermal. In addition, incentives for hydropower should be extended in recognition of the time required for regulatory approvals and planning.
- c) Detailed outline of proposed solutions: The proposed solutions involve legislative changes.
- (1) The PTC for hydro needs to be equalized as does the depreciation schedule of 5 years accelerated depreciation.
  - (2) Depreciation benefits should be at parity with other renewables, including:
    - (i) Authorization of additional first-year bonus depreciation of 50% of eligible costs [this was available to wind and solar industry through December 31, 2009].
    - (ii) Authorization of accelerated depreciation for hydro under Modified Accelerated Cost-Recovery System; specifically, classification of hydro as five-year property [26 USC §168(e)(3)(B)(vi), which refers to 26 USC § 48(a)(3)(A)].
  - (3) Particular emphasis should be given to extending the placed-in-service deadline under the PTCs/ITCs/etc. to recognize the longer periods of permitting and development of hydro projects and the limitation on CREBs should be either removed or increased significantly.

## **C. Provide Financial Incentives for Additional Low-Impact and Rehabilitated Hydro**

- a) Statement of the problem: Financial incentives are not available for adding power to existing non-power dams that involve certain low-impact situations or that involve Exemptions issued by the FERC and are also not available for rehabilitation at existing power projects unless the current incremental hydro criteria are met.
- b) Proposed solutions: Legislation should be enacted to provide enhancements for adding power at additional types of existing low-impact non-hydro power structures, adding power at non-power dams that are covered by Exemptions issued by the FERC, and rehabilitation of existing power projects in the same way that such enhancements are applied to incremental power development.

c) Detailed outline of proposed solutions: The proposed solutions involve legislative changes.

- (1) The existing definition of “nonhydroelectric dam” under 26 USC Section 45(c)(8)(C) should be expanded to cover projects that are covered by Exemptions issued by the FERC.
- (2) The existing definition of “nonhydroelectric dam” under 26 USC Section 45(c)(8)(C) should be expanded to cover development of small hydro at existing non-hydro water structures such as at municipal water treatment facilities that have no existing power production and at industrial facilities that were previously powered by a hydroelectric project or by a hydro-mechanical device but such power generation is not operational.
- (3) The existing provision at 26 USC Section 45(c)(8)(B) should be amended to cover incremental hydropower production that results from rehabilitation of an existing power project.

#### **D. Increased Outreach to Financial Institutions**

a) Statement of the problem: Many financial institutions appear to perceive the hydro regulatory process as difficult, lengthy and uncertain. This perception discourages financial institutions from considering financing smaller hydro projects. In addition, financial institutions and others (including local governments, constituents, environmental groups) are not aware of the scope of benefits provided by hydro development (*i.e.*, including non-power benefits).

b) Proposed solutions: In addition to the improvements of the regulatory processes (as being proposed above through other Working Groups), education on those processes particularly to the investment community is important. NHA should promote outreach to the financial community on the significant benefits provided by small hydro (including non-energy benefits); such outreach would also be beneficial to local governments, to the public, and to the environmental community. Increased outreach should help attract investors to fund portfolios of smaller projects, thereby achieving economies of scale.

c) Detailed outline of the proposed solution: The proposed solutions involve proposed industry analysis and initiatives for NHA.

- (1) A complete analysis of the benefits of small hydro should be developed – including energy (*e.g.*, distributed generation, base load power, ancillary power, financial incentives) and non-energy factors (*e.g.*, water supply, recreation, fish and wildlife enhancements).
- (2) Outreach to the financial community should be enhanced, providing clarity of the regulatory processes and the benefits of hydro development (*i.e.*, energy and non-energy benefits).

(3) Outreach should be enhanced to local government, the public generally, and the environmental community in particular, highlighting the benefits of hydro development (*i.e.*, energy and non-energy benefits).

(4) NHA should form a Finance Committee that could organize and present educational programs/meetings and literature to the investment community, to developers, and to other audiences (including NGOs and effected government agencies) of the financial and other benefits of hydro projects. Activities could include facilitating the development and maintenance of directories of interested financial institutions and developers, as well as assembling general information on the benefits of small hydro.

#### **E. Additional Issues to be Considered**

- a) Review of DOE grant process to determine ways to make it most accessible to small hydro developers/operators/manufacturers.
- b) Review of the complexities of power purchase contracting process for small hydro and seek to provide assistance to small hydro developers.

### **IX. Next Steps**

In its comments to the FERC in Docket No. AD09-9, NHA stated that it looks forward to partnering with the FERC and others “to reduce barriers to small hydro development and speed these renewable energy resources into service, while preserving the strong environmental commitments all hydropower facilities share.” The Council submits this Initial Report, and subsequent reports addressing the additional issues identified herein, in support of that endeavor.