

**U.S. Senate Homeland Security and Governmental Affairs Committee
Permanent Subcommittee on Investigations**

**Cutting Through the Red Tape: Oversight of Federal Infrastructure
Permitting and the Federal Permitting Improvement Steering Council**

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Written Testimony of

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Summary Points

- American Municipal Power, Inc. (AMP) is the wholesale power supplier and services provider for 135 member municipal electric systems in nine states. AMP has a diverse generation portfolio, including a mix of fossil and renewable resources.
- AMP has a unique perspective on infrastructure development and regulatory processes as we are in the process of completing the largest development of new run-of-the-river hydropower generation in the United States today. Our four projects are located at existing U.S. Army Corps of Engineers (USACE) dams along the Ohio River.
- Hydropower projects are expensive to build and typically begin as above-market resources; however, their operational, economic and environmental attributes make hydropower a good investment in the long term.
- Regardless of where in the country you are located, the siting and permitting processes for any new generating asset are not for the faint of heart; the licensing and permitting processes for hydropower are especially arduous and typically take more than a decade.
- While the Federal Energy Regulatory Commission (FERC) is the lead agency, approvals for hydropower developments must come from myriad federal and state agencies and require separate permitting by the USACE and state resource agencies.
- Licensing for the R.C. Byrd Project, which would be located at the Gallia Locks and Dam in Ohio on the Ohio River, began in 2007. A decade later, on August 30, 2017, FERC just issued the final license, with the delay largely due to issues raised by the USACE.
- The R.C. Byrd Project licensing process is part of the initial Federal Permitting Improvement Steering Council (FPISC) inventory. To date, our experiences with the permitting dashboard and FAST-41 processes have shown improvements in timeliness, predictability, and transparency. However, it is critical that these improvements continue during the permitting stages.
- The hydropower licensing and permitting reform legislation that the US Senate and House are considering will also improve processes. However, additional steps can be taken to: avoid unnecessary studies, establish and recognize best practices, coordinate scientific reviews and credit project developers for time lost during permitting.

Good morning, Chairman Portman, Ranking Member Carper and distinguished members of the Subcommittee. My name is Marc Gerken. I am a registered professional civil engineer and the Chief Executive Officer of American Municipal Power, Inc. I commend you for holding this hearing and I am pleased to have the opportunity to appear before you this morning to discuss the importance of reasonable, timely and cost-conscious permitting of generation projects, as well as the Federal Permitting Improvement Steering Council and FAST-41 process.

AMP is the non-profit wholesale power supplier and services provider to 135 member municipal electric systems in nine states, including the home states of the Chairman and Ranking Member. More information on AMP, our assets and operations appears in the next section of this written testimony.

While I am appearing today on behalf of AMP, I am the former Chair of the National Hydropower Association (NHA) Board and I currently serve as Co-Chair of the NHA CEO Council. I am also the former Chair of the American Public Power Association (APPA) Board of Directors. AMP is an active member of both organizations.

AMP has a unique perspective on infrastructure development and regulatory processes as we are in the process of completing the largest development of new run-of-the-river hydropower generation in the United States. Our four new projects located in Kentucky and West Virginia at existing U.S. Army Corps of Engineers (USACE) dams along the Ohio River total more than 300 megawatts (MW) and represent nearly \$2.6 billion in capital investment, along with an estimated 1,600 direct jobs, more than 1,000 indirect jobs, \$342 million in payroll and the use of vendors from at least 12 states during construction. (Our four new projects join with existing hydropower projects that AMP and AMP members own to total more than 600 MW of hydropower in the region.)

We appreciate the support provided by Senator Portman for our projects, as well as his efforts and those of other subcommittee members to pursue balanced regulatory reforms.

I have been asked to discuss the licensing and permitting process for our remaining hydropower project -- the proposed 48 MW R.C. Byrd run-of-the-river hydropower project, which would be located in Ohio at the existing USACE Gallia Locks and Dam on the Ohio River. The project is one of the 34 projects in the initial FPISC inventory of covered projects. This written testimony includes information about AMP, hydropower and our infrastructure development experience followed by detailed information on the project, its history and my staff's experience with the FPISC process.

Background on AMP

AMP is a non-profit wholesale power supplier and service provider for 135 members, including 134 member municipal electric systems in the states of Ohio, Pennsylvania, Michigan, Virginia, Kentucky, West Virginia, Indiana and Maryland, and the Delaware

Municipal Electric Corporation, a joint action agency with nine members, headquartered in Smyrna, Delaware. These member utilities combined serve more than 650,000 customers. AMP is based in Ohio and has more than 177 employees at its headquarters and generating facilities. The organization is governed by a 21-member Board of Trustees comprised of member community officials.

AMP's core mission is to be public power's leader in wholesale energy supply and value-added member services and AMP is one of the largest public power joint action organizations in the country. We offer our member municipal electric systems the benefits of scale and expertise in providing and managing energy services. AMP's diverse energy portfolio makes it a leader in deploying power assets that include a variety of baseload, intermediate, and peaking generation, using coal, natural gas, hydropower (our new projects as well as older projects), solar, wind and diesel assets, as well as a robust energy efficiency program.

Last year, the organization sold 16.7 million MWh of energy, with power sales revenue of \$1.2 billion and total assets of \$6.7 billion. In addition to power supply, AMP offers a variety of services to its members to assist in their service to their customers, including: engineering, financial, environmental, sustainability, generation operations, legal, mutual aid coordination, safety training and regulatory support.

AMP utilizes third-party nationally recognized firms to develop strategic long-term power resource plans for each of our members. Our members then use this information as part of their local decision-making regarding their power supply planning with respect to purchase power agreements and generation project investments.

We offer our members the opportunity to subscribe to each generation project, providing them with an independent feasibility study, beneficial use analysis and market projection provided by third-party experts. Members who choose to participate in a project do so only after affirmative action by their local governing board and execution of a take-or-pay power sales contract. Our projects move forward if we achieve the critical mass of AMP member participation required. When projects advance, a committee representing our participating member communities is formed to govern major project decisions.

AMP finances our projects using a mix of tax-exempt and taxable bonds. Since 2000, all AMP construction project financing ratings have been in the "A" category and AMP has maintained an A1 entity rating from Moody's (the only agency to offer such a rating). Because of the importance of tax-exempt financing to our infrastructure projects, we have been working in tandem with other state and local government groups to protect this essential mechanism in the context of congressional tax reform.

We also utilized Build America Bonds to finance our hydro and coal investments and New Clean Renewable Energy Bonds to finance our hydro investments. Unfortunately, the

federal payments promised with these direct pay bonds were subjected to budget sequestration, which has resulted in our participating members and their consumers losing more than \$20 million to date and an estimated \$42 million more over the life of the sequester. We strongly encourage that this situation be corrected and the sequestration of these bonds end in the next budget cycle.

Our philosophy is not to place all of our eggs in one basket, but to diversify our generation resource portfolio to include fossil fuel assets, renewable assets, purchase power agreements and energy efficiency so that our members can blend costs and risks. Our projects represent fuel, technology and geographic diversity, and will yield a long-term, risk-balanced portfolio with predictable rates. We firmly believe this is the best approach.

Hydro Benefits and Opportunities

As a public power entity, AMP is unique in our resource planning approach because we are able to take a longer view than investor-owned utilities that are subject to quarterly profit reports. Our member city, village, town and borough council members have been willing to invest in certain projects that will be above market in the early years because of the overall benefits in the long term. Our development of hydropower generation is a good example – the price of power from these facilities will be above market in the early years, competitive in the middle years, and below market in the later years once the debt service is paid off. However, when you take into account the many positive attributes associated with hydropower, the value of the investment is clear even in the early years.

Hydropower projects are capital intensive, but have many very attractive qualities, including:

- The ability to provide baseload power (unlike many other renewable resources);
- Dispatchability (we can forecast the output a day ahead);
- The ability to provide ancillary services and grid support;
- No fuel risk (meaning no hedging exposure, no counterparty risk and no transportation risk);
- No waste stream;
- Low operation and maintenance costs;
- Reliability;
- Predictable rates;
- Limited regulatory risk (once operating);
- A long life span (80 to 100 years); and
- No emissions (a sustainable resource and the leading form of renewable energy in the country).

Hydropower projects can also provide a significant revenue stream to the federal government. For instance, AMP's budget for FERC fees for 2018 across our projects is in excess of \$5 million. Additionally, the USACE receives electricity at no cost from the projects for lock and dam operations, which amounts to an additional \$900,000 a year from our projects.

Hydropower does have limitations, particularly in our region where the number of existing dams and the generation capacity are finite; however, more can still be done with hydropower even in our region, and the figures regarding untapped hydropower nationally are staggering.

In July 2016, the Department of Energy (DOE) released "Hydropower Vision: A New Chapter for America's 1st Renewable Electricity Source." This analysis found that as of the end of 2015, the U.S. hydropower generation fleet included 2,198 active power plants with a total capacity of 79.6 GW and 42 pumped storage hydropower (PSH) plants totaling 21.6 GW, for a total installed capacity of 101 GW. At the beginning of 2014, hydropower supported approximately 143,000 jobs in the United States, with 2013 hydropower-related expenditures supporting \$171.1 billion in capital investment and \$5.9 billion in wages paid to workers.

Looking to the future, the analysis predicts that "U.S. hydropower could grow from 101 gigawatts (GW) of capacity to nearly 150 GW by 2050. Growth under this modeled scenario would result from a combination of 13 GW of new hydropower generation capacity (upgrades to existing plants, adding power at existing dams and canals, and limited development of new stream-reaches), and 36 GW of new pumped storage capacity."

Hydropower resources can play an important role in efficient operation of the grid. Hydropower, like natural gas, can be a good partner for balancing resources like wind and solar, and can provide ancillary services such as frequency control, regulation, load following, spinning reserves and supplemental reserves. Natural gas and some hydropower resources have the capability to come online quickly and provide significant rotating mass (inertia). Hydro pumped storage is the only widely implemented grid-scale energy storage technology. The benefits to the grid are considerable, including deferral or avoidance of costly transmission upgrades at a time when the North American Electric Reliability Council (NERC) has estimated that 27 percent of grid upgrades are related to integrating wind and solar resources.

Hydropower Licensing and Permitting

Regardless of where in the country you are located, the siting and permitting processes for any new generating asset are not for the faint of heart. The regulatory approval process for each type of new generating source presents its own unique challenges. As

a developer, you must be passionate about the benefits that will result from your project, have supportive participants, flexible financing, be open to working with various stakeholders, be committed to the project, and willing to tackle the unanticipated challenges that present themselves.

As a developer, you have many challenges and opportunities. One of your key challenges is to keep costs down and stay on schedule – escalation can kill even the best project, and as the old adage goes, “time is money.” The regulatory process plays a critical role in a project schedule and ultimately can drive whether or not a project comes to fruition.

It’s important to note that most developers don’t enter the regulatory process with unreasonable expectations – we understand the need to balance environmental protection with economic development, and that there will be some bumps along the road. Unfortunately, regulatory timelines don’t align efficiently across the numerous required permits, various agencies and different jurisdictions – it’s not an A to Z process. Across our various projects, AMP has worked with dozens of different state and federal regulatory bodies throughout the air, water, waste, transmission and siting permitting processes. Attachment B is a listing of the various agencies that AMP has worked with during our permitting for both fossil fuel and hydro resources.

Developers must carefully time the required modeling, studies and site assessments when preparing their regulatory schedules as some studies have seasonal or weather limitations that must be taken into account. For instance, there are only limited months of the year when you can perform certain tree clearing work in our region because of the migratory habits of the Indiana bat.

Based on our experience, the timeframe from inception to commercial operation for new natural gas combined cycle generation is four to five years – approximately two years of which is dedicated to required regulatory permitting approvals, and the remainder to siting, contract and equipment vendor negotiation, construction and commissioning. Coal and nuclear developments have a much longer timeframe. And, while the development timeframe for wind and solar resources is shorter, those projects are not necessarily “easier” compared to fossil fuel generation – you still may potentially deal with “NIMBYism” and multi-faceted approval processes that can involve both state and federal agencies.

Despite hydropower’s many positive attributes, hydropower faces an extremely arduous approval process. The time from initial application to final approval from regulatory agencies can best be described as a gauntlet, typically taking a decade and costing millions of dollars.

During the FERC licensing process, the public and mandatory conditioning agencies, including State and Federal Fish and Wildlife Service (FWS) agencies, are consulted.

This consultation is to ensure that activities during initial construction and ongoing operation are carried out in a manner that safeguards wildlife, including endangered or threatened species. In addition, USACE serves as a mandatory conditioning authority under Section 4(e) of the Federal Power Act. The USACE uses this authority to influence the direction and extent of FERC license articles. Through a Memorandum of Understanding (MOU) with the USACE, FERC includes a series of license articles that were created to help protect the USACE navigation interests established in the Rivers and Harbors Act of 1899. The articles also include a requirement that the licensee provide power for the USACE dam for the term of the license.

After the FERC license process has been completed, the USACE has several regulatory approvals that an applicant must obtain to get a final approval to start construction of a hydropower project. One of these regulatory processes involves Section 10 of the Rivers and Harbors Act, which prohibits unauthorized obstruction or alteration of any navigable water without a permit from the USACE. The USACE retains its post licensing authority under Section 404 of the Clean Water Act, which regulates the discharge of dredged, excavated, or fill material in wetlands, streams, rivers, and other U.S. waters. In general, to obtain what is termed the “404 permit,” applicants must demonstrate that the discharge of dredged or fill material will not significantly degrade the nation’s waters and that there are no practicable alternatives less damaging to the aquatic environment.

Prior to issuance of the 404 permit, a “408 Approval” must be provided by the USACE. The intent of this approval is to protect government property and ensure the facilities are not compromised by other non-federal developments. The Section 408 Approval is granted by the USACE once they complete their evaluation of a project, involving reviews of the technical aspects of a project, specifically the water retaining structures and their interface with the existing USACE facilities, as well as completion of a physical hydraulic model to verify that a project will not have any detrimental effects on navigation into or out of the locks.

It is interesting to note that the USACE 408 approval process for run-of-the-river hydropower is a new obligation. AMP was the first hydropower developer required by the USACE to obtain a 408 Approval in addition to the 404 permit. Unfortunately, this extended our permitting timeframe by roughly to two and a half years for one plant and an average of one year across all four new projects.

USACE authorizations begin at the District level where the locks and dams are operated, but also require approval from the Division, and ultimately from the Director of Civil Works from the USACE Headquarters. In our experience, there is wide variability between the District evaluations. For example, some Districts will defer to FERC license-based evaluations by the State Preservation Office for cultural impacts, and state and federal FWS agencies for issues within their areas of expertise. However, another District will

conduct a repetitive evaluation of these same criteria and reach different conclusions. In the case of R.C. Byrd, the USACE responded to FERC's Environmental Assessment (EA) by stating that the USACE would pursue the same issues they raised, but that FERC determined should not be included in the EA, to their satisfaction through their subsequent permit process. As such, for planning purposes, it is assumed that the issuance of the 408 Approval and 404 Permit will take anywhere from 12 to 36 months after issuance of the FERC license in spite of many of the issues having already been resolved by FERC.

This method of permitting costs licensees millions of dollars in capitalized interest. Extended permitting timeframes and redundant review of issues has caused AMP to not award supply contracts until after permits are issued, which results in longer construction schedules and increased costs. For our recent hydropower projects, AMP had to delay financing at significant cost to members. By a point of comparison, we estimate that we lost 50 basis points for financing our hydro projects when compared to our financing for our investment in the Prairie State Generating Company over a six month period. This was a direct result of uncertainty associated with USACE permitting.

Our Willow Island project located in West Virginia provides an example of the challenges that developers face when undertaking significant infrastructure projects and how those challenges can result in delays. In order for AMP to gain approval for the USACE's Section 408 and 404 permits, the USACE required AMP to perform more than \$1.5 million in archaeological work at the powerhouse site adjacent to the dam in a location where the USACE had itself previously re-routed a creek, excavated and filled over known archaeological sites. From 2008 to 2011, AMP was required to undertake three progressively more expensive and elaborate archaeological investigations that involved probes, test pits, more than 24 backhoe trenches and finally full excavation of bones, mussel shells and charcoal pieces that were sent to labs for further evaluation. All of the required work was justified by the USACE as necessary to address research questions regarding the nature of 2,000-3,000-year-old settlement patterns in the area; however, the items found were common along this stretch of the Ohio River, which is a known artifact area.

In addition to the FERC license and the USACE's Section 408 and 404 permit processes, the Environmental Protection Agency (EPA), through the states, requires a 401 Water Quality Permit under the Clean Water Act (CWA). The intent of the 401 Permit is to provide for the protection of the physical, chemical, and biological integrity of water bodies.

A developer must have significant capital (millions of dollars in many cases) to cover the cost of the hydropower project through permitting, including: subsurface core drilling, hydraulic model studies, design and initial payments for equipment with long lead times.

Long-term financing is unlikely until a developer has all of the required permits in hand, which can drive both the timing of the access to the market and the cost of money.

R.C. Byrd and FAST-41

In 2007, AMP decided to pursue a license for a 48 MW hydropower plant at the R.C. Byrd (Gallia) Locks and Dam on behalf of the AMP member community of Wadsworth, Ohio (the licensee) for potential subscription to interested AMP members.

In April 2007, a Preliminary Permit Application (PPA) was filed with FERC by Wadsworth, effectively beginning the process. Meetings were held with the USACE to review the project and plans in November 2008 at the project site with several USACE staff providing input on the project concepts. Attachment A is a detailed timeline of the regulatory process to date for FERC Project No. 12796.

Based on those early engagements and input from the USACE, a proposed project concept was developed. In June 2009, AMP filed with FERC (and served copies to the USACE's Huntington District) the Notice of Intent and Preliminary Application Document (PAD). This action initiated the more formal process and provided an opportunity for agencies to express their concerns and comment on likely conditions. In theory, this establishes a pathway and transparency for an applicant that will ultimately be seeking USACE 404 and 408 permits, as well as operating agreement approvals later in the approval process.

In October 2009, AMP held a joint regulatory agency and public meeting regarding the proposed project. In June 2010, AMP met with West Virginia DNR (WVDNR), Ohio DNR (ODNR), USACE, USFWS, and two consultants to discuss specific project studies and surveys that would meet agency needs.

By November 2010, the studies were completed and submitted to various state and federal agencies for review along with AMP's draft FERC License Application. Comments were solicited from all agencies and stakeholders on the full project proposal including protection, mitigation and enhancement measures. Based on those comments, AMP adjusted its proposed project development plan and submitted its final FERC license application in March 2011.

Shortly after the filing of the final license application in 2011, FERC arranged for the USACE, specifically the Huntington District, to be a cooperating agency in developing the National Environmental Policy Act (NEPA) environmental assessment for the Project in order to avoid multiple NEPA documents being needed.

Due to the location of the proposed plant, in 2008 and 2009 AMP also met with the Ohio Department of Transportation (ODOT) regarding the need to relocate State Highway 7. By September 2010, AMP had worked with ODOT on a clear process to design a

compliant highway relocation. From 2008 through 2012, AMP held several meetings with local land-owners who were generally supportive of the project going forward. Approximately 35 property owners would be directly affected by the relocation of State Highway 7.

In February 2012, FERC provided formal notice that the application was complete and ready for its NEPA analysis and requested terms and conditions from resource agencies. In March 2012, FERC held a public scoping meeting with all of the necessary state and federal agencies to identify any additional studies or information that was needed.

In December 2012, the USFWS, WVDNR and ODNR provided their comments and terms and conditions on the final licensing proposal. FERC worked with the federal and state agencies to incorporate necessary conditions into the draft EA and issued it on July 8, 2014.

From the point of the initial regulatory scoping process, five years had been spent on permitting this project. But that was the easy part. From this point on, the process slowed down significantly. The USACE expressed additional concerns over mussels and the impact of the project on dredging that the USACE does downstream of the dam. The USACE continued to raise concerns, including new concerns not previously identified, which appeared to be an intentional effort to prevent the project from proceeding. As an example, after working with FERC to draft the EA issued July 8, 2014, an additional 38 pages of comments that needed to be addressed were submitted on August 7, 2014 by USACE. A subsequent revised version reduced the length to 25 pages. FERC issued a final EA for the project on January 23, 2015.

The USACE has repeatedly taken the position that any comments not resolved by FERC or AMP to the USACE's satisfaction will have to be addressed in their 408 and 404 permits, which are obtained after the FERC license is issued. This position has been reiterated on several occasions, including a letter dated January 22, 2015. In June 2015, FERC held a conference call with all affected state and federal agencies. During that call, USACE staff's persistent skepticism of conclusions in FERC's draft and final EA resulted in what appeared to be frustrated FERC staff abruptly ending the call.

Much of 2016 was spent gathering and submitting additional information to FERC in an attempt to address USFWS and USACE comments. During this time, USFWS continued their evaluation of whether the project would impact endangered species, including freshwater mussel species and the Northern Long Eared Bat. Through a lengthy exchange, concurrence was reached between FERC and USFWS (which has both the statutory responsibility and technical expertise on Endangered Species Act determinations) that the project would not likely jeopardize endangered mussels or bats and the final Biological Opinion (BO) was issued by the USFWS in June of 2017. Due to disagreements with FERC's conclusions, USACE withdrew support of FERC's

determination and explained that USACE would address the same issues through the 404 and 408 permit process to their satisfaction. In late August, FERC issued the final programmatic agreement for cultural resources management.

FERC issued the license on August 30, 2017 and AMP was reviewing the license conditions at the time of finalizing this testimony. The next steps will be for AMP to begin implementing the license requirements and subsequently pursue 404 and 408 permits from the USACE.

AMP's economic commitment to this project now exceeds \$4 million.

I understand that the FAST-41 effort originated with the Fixing America's Surface Transportation (FAST) Act which was signed into law on December 4, 2015. Title 41 of the FAST Act (FAST-41) was designed to improve the timeliness, predictability, and transparency of the federal environmental review and authorization process for covered infrastructure projects.

The Federal Permitting Improvement Steering Council (FPISC) as authorized, is composed of agency Deputy Secretary-level members and chaired by an Executive Director appointed by the President. FAST-41 established new procedures that standardize interagency consultation and coordination practices.

Along with other provisions to address the project delivery process and track environmental review and project milestones, the Permitting Dashboard was codified into law to track project timelines, and increase transparency, predictability and accountability. However, participation by agency stakeholders is voluntary and state agencies are currently not participants.

Other goals of the Permitting Dashboard are to improve early coordination of schedules for environmental reviews and to identify inter-agency disputes and delays in the permitting process.

AMP's experience with the FAST-41 process began on September 22, 2016, when R.C. Byrd was included as one of the 34 projects in the FPISC inventory of covered projects. In early 2017, AMP staff participated in two conference calls to educate and familiarize FAST-41 staff with hydropower permitting and explain specific challenges associated with R.C. Byrd. We also exchanged information with Senate staff who were following the process.

At that point, progress on the project was at a standstill due to a disagreement about the necessary timing of a Physical Hydraulic Model Study, estimated to cost \$1-\$2 million. USFWS and USACE requested that AMP complete the full hydraulic study prior to receiving the FERC license. AMP agreed to perform the study post-license but has been unwilling and unable to do so pre-licensing, as it would put the study cost at risk if the

project did not proceed. As an alternative to performing the full study prior to license issuance, AMP provided as much detail as possible, recognizing that this project was notably similar to our other recent projects. As noted in a FERC letter, the impasse resulted in USFWS's inability to draw a conclusion on whether the project would adversely affect mussels and bats.

Shortly after our communications with FAST-41, FERC issued a letter explaining its EA to USFWS and requesting concurrence within 30 days from the date of receipt of the letter. Notably, FERC also indicated that FERC would take failure to respond as concurrence that FERC had met its responsibilities and would resolve the matter. Consequently, USFWS concurred and issued a final Biological Opinion on June 19, 2017. As noted above, the final license was received on August 30, 2017, and is under review by AMP.

While the FAST-41 Committee has released permit and license processing guidance and successfully developed and continues to maintain the Permitting Dashboard, our experience places the value of FAST-41 on: (1) agency accountability through making agency actions and timeliness highly visible; and (2) the ability to informally resolve longstanding disputes and shepherd permits/licenses to completion. To that end, we are thankful for the assistance we received to break a log jam and encourage the committee to continue its efforts.

It's important to note that in the case of hydropower projects, it will be especially important that the FIPSC process continue into the permitting phase.

We are also curious about how the process will accommodate a heavier workload when the initial stages are broadened.

Process Improvements

When pursuing authorization for a new hydropower plant or even a renewal of existing permits and licenses, the general industry recommendation is to start 10 years in advance and estimate several million dollars. While the process may ultimately be completed sooner and less costly, this is the general starting point/rule of thumb. These initial investment costs are considered at-risk developmental dollars due to the unknown nature of potential opposition or concerns and resulting project terms and conditions.

The time and cost alone are a significant impediment to new hydropower development, especially in the face of other competitive generation options. While FERC has exclusive authority to issue licenses, other federal and state agencies, including USACE, both interface with the FERC process and conduct separate duplicative regulatory evaluations and permitting processes. As you know, each agency operates using their own respective guidance documents and regulations.

Unfortunately, there is no silver bullet to streamlining and accelerating the license and permit approval labyrinth. Although the shared goal of DOE, USACE, FERC and private developers as outlined in the Hydrovision Report highlights the substantial domestic energy generation potential that remains untapped within the United States, the regulatory process has negatively impacted the ability to execute this goal.

As with many complicated processes, I firmly believe that a multi-pronged approach is necessary to ensure that as many of the nuanced challenges are addressed as possible.

AMP is supportive of the hydropower reform legislation that has been enacted by Congress over the past few sessions, as well as the pending legislation that would streamline processes. We also appreciate the Trump Administration's efforts on regulatory reform.

Improving the federal process is perhaps the most tangible approach within reach. Thankfully, streamlining the federal hydropower licensing process enjoys both bipartisan and bicameral support. A key feature of S. 1460, the Energy and Natural Resources Act of 2017, would designate FERC as the lead agency for all environmental reviews, authorize FERC to set a schedule for all permitting, enable FERC to incentivize additional environmental improvements during the licensing term, and streamline the process for license amendments to enable efficiency improvements and capacity additions at existing projects. Companion hydropower licensing reforms are contained in stand-alone legislation in the House. S. 1460 is awaiting action by the full Senate.

These are profound changes that will have a direct impact; however, more can be done to help streamline the process and eliminate overlapping reviews to make the process more predictable and economically viable. The following are suggestions based on our experience:

- Identify administrative policies that add cost and time to the license process with limited or no benefit. As an example, one mandatory conditioning agency follows an internal policy of not recognizing scientific studies if they are greater than five years old. While the intent of the policy may have been innocent, in practice, this policy can require costly studies without sound scientific justification.
- Ensure that every decision and requirement is based on sound, established science that is included in the respective determination. As an example, water quality monitoring and fish mortality studies are inconsistently applied across practically identical plants. Turbines that have been previously studied and accepted by a mandatory conditioning agency to result in low fish mortality should not need to repeat these studies. Similarly, once a specific technology is demonstrated to not impact water quality, the need for continual monitoring should be retired. It's our understanding that one agency, through written guidance, has been instructed to require water quality monitoring in licenses or permits simply so

that agency need not do so themselves. The cost and requirement even continues after the developer establishes no impact on the sample parameter.

- Treat similar projects in an identical manner to the extent possible. Through shared learning between Districts or Field Offices, this approach would provide predictability for developers that similar projects, regardless of the owner, could be used as templates for subsequent projects, regardless of location.
- Agencies should allow licensees more flexibility in using offsite mitigation (e.g. mitigation banks) of measures commensurate with anticipated impacts. This minor change is an excellent example of a win-win for both the threatened or endangered species and the developer.
- Eliminate duplicative reviews by preventing alternative agencies from formally or informally contributing to the decision-making process that is outside of their authority and expertise. This would provide developers with increased predictability, reduce time, and reduce cost. We have experienced this duplicative review first hand due to the location of our hydropower plants in different USACE Districts. While one USACE District defers to the appropriate federal and state agencies specifically mandated to assess a project's impact on cultural and endangered species, projects located within the boundaries of a different District experience a duplicative, time-consuming, costly and onerous evaluation conducted by the District itself.
- Reform the culture regarding how USACE and civilian staff interact with developers during the process.
- Allow FERC to extend license terms for a period not to exceed 50 years from the start of construction for projects that are proceeding.
- Require the USACE to develop concurrent reviews between its District, Division and Headquarters by forming joint review teams from differing disciplines so that each review captures all comments in one coherent review.

For the improvements outlined above to be effective, a paradigm shift within federal and state agencies is necessary. There must be a focus on providing customer service, helping applicants comply and developing innovative solutions.

Conclusion

In closing, I want to stress my strong belief in the great opportunity that hydropower presents for this country. As a generating resource, hydropower provides baseload, reliable, low-cost power. In addition, as a qualified renewable energy resource, it provides emissions-free power with an exceptionally long generating life approaching 100 years.

Hydropower plays an important role in AMP's efforts, and we are encouraged by the increasing recognition by policymakers of the untapped potential for new and enhanced hydropower development in the United States. The commitments of AMP and its member communities serve as evidence that hydropower is recognized as a desirable and beneficial contribution to those seeking to embrace a diverse resource portfolio.

Despite hydropower's attributes, the process to obtain authorization for a hydropower plant is challenging. As evidenced in AMP's pursuit of necessary licenses and permits for our multiple hydropower projects, there is room for improvement throughout the process. The FAST-41 effort to increase transparency, predictability and accountability has already made a notable impact on the R.C. Byrd project.

Active legislation in the House and Senate will have a positive impact on the development of hydropower infrastructure, especially if coupled with additional changes outlined by AMP in this testimony, as well as ideas proposed by the NHA.

To facilitate this development and to ensure that new resources of all types can economically and timely be brought online, it's important that regulatory processes be streamlined to eliminate redundancies and provide developers and investors with added certainty.

Thank you again for holding this hearing and providing me with the opportunity to appear before you today. I would be happy to respond to any questions.