## DOE AGENCY PLAN

## APPENDIX A

## DOE BEST PRACTICES

## Department of Energy (DOE) Orders and Memoranda

The following DOE Orders, Secretarial Memoranda, and DOE Guidance documents illustrate DOE’s commitment to improving the permitting and review processes for Federal infrastructure projects. The list includes a wide variety of DOE activities, related to not just permitting and reviews, but also DOE research and development activities (including collaboration and coordination with other federal agencies), among other agency activities. As described in the DOE Agency Plan (see Section III.A., Action 2), DOE will require each of its relevant offices to review this list, as well as the list of Best Practices published with the Federal Plan, and determine which Best Practices, if any, would result in improved permitting and review processes, if adopted by that office.

**DOE Order 144.1 – American Indian/Alaska Native Tribal Policy**

This [Order](https://www.directives.doe.gov/directives/0144.1-BOrder-AdmChg1/view) communicates Departmental, programmatic, and field responsibilities for consulting and interacting with American Indian Governments, and DOE programs and policies that impact American Indian and Alaska Native tribes. The Order implements DOE’s American Indian and Alaska Native Tribal Government Policy, including its guiding principles, and the Framework for Implementation of the Policy. The Order includes provisions for staff training and a point of contact system, among other best practices.

**DOE Order 451.1B – National Environmental Policy Act (NEPA) Compliance Program**

This [Order](https://www.directives.doe.gov/directives/0451.1-BOrder-bAdmChg3/at_download/file) establishes DOE internal requirements and responsibilities for implementing the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality Regulations Implementing the Procedural Provisions of NEPA (40 C.F.R. Parts 1500-1508), and the DOE NEPA Implementing Procedures (10 C.F.R. Part 1021). The goal of establishing the requirements and responsibilities presented in the Order is to ensure efficient and effective implementation of DOE's NEPA responsibilities through teamwork. A key responsibility for all participants is to control the cost and time for the NEPA process while maintaining quality.

**DOE Secretarial Memo—Improved NEPA Decision Making**

Declaring that “[c]ompliance with the National Environmental Policy Act (NEPA) is a pre-requisite to successful implementation of DOE programs and projects,” the Secretary signed a [memorandum](http://energy.gov/nepa/guidance) on "Improved Decision Making through the Integration of Program and Project Management with National Environmental Policy Act Compliance." The June 2012 memorandum urges better use of existing tools and guidance, and highlights principles for strengthening NEPA compliance – for example, through Field and Headquarters teamwork, realistic schedules, and performance accountability.

**DOE Office of the General Counsel (GC) Memo on NEPA Review Process Improvements**

In an effort to improve the efficiency of the internal DOE approval process for NEPA-related documents, in June, 2009, the GC issued a memorandum that set forth a set of operating principles that the Office of NEPA Policy and Compliance and the Office of the Assistant General Counsel for the Environment will employ for NEPA reviews.

## Best Practice Examples

Below are examples of Best Practices already in use by DOE. Though organized under general headings, many of the items address a range of challenges and deliver efficiencies and better environmental outcomes beyond the scope of the particular headings. This list is not comprehensive, but rather offers select examples to highlight the work already underway across DOE.

## *Interagency Agreements and Coordination*

**MOU Among Nine Federal Agencies Regarding the Coordination of Federal Agency Review of Electric Transmission Facilities on Federal Lands**

The purpose of the Memorandum of Understanding (MOU) is to expedite the siting and construction of qualified electric transmission infrastructure in the United States. The MOU improves coordination among project applicants, federal agencies, and states and tribes involved in the siting and permitting process. To improve uniformity, consistency, and transparency, the MOU sets forth the roles and responsibilities of these entities when project applicants wish to construct electric transmission infrastructure. In addition, it provides a single point of contact for the coordination of all federal authorizations required to site electric transmission facilities on federal lands, which include interests in land administered by the Participating Agencies.

**Programmatic Agreement between Southwestern Power Administration (Southwestern) and Southwest Power Pool, Inc., (SPP) Regional Transmission Organization (RTO)**

Southwestern has entered into an agreement with SPP, the SPP/Southwestern Agreement, identified and filed by SPP with the Federal Energy Regulatory Commission (FERC) as Attachment AD to SPP’s Open Access Transmission Tariff (<http://www.spp.org/publications/SPP_Tariff.pdf>). The SPP/Southwestern Agreement, as amended, contains provisions which, among other things[[1]](#footnote-1), function as a Programmatic Agreement that identifies the responsibilities of the parties for the review and implementation of interconnections and upgrades. These provisions are part of Southwestern’s participation in the SPP RTO pursuant to Section 1232 of the Energy Policy Act of 2005 whereby Southwestern has placed part of its transmission facilities under the SPP RTO. Specifically, Section 14 of Article I of the SPP/Southwestern Agreement states:

“Subject to statutes applicable to Southwestern, Southwestern agrees to coordinate its activities with SPP for construction of proposed Non-Federal Transmission Facilities and to seek SPP guidance on the impact of such construction to the bulk transmission system. The term “Non-Federal Transmission Facilities” as used herein shall be defined as transmission and related facilities not constructed or acquired by Southwestern pursuant to Section 5 of the Flood Control Act of 1944. No interconnections to Southwestern‘s transmission facilities shall be made without written contractual agreements between Southwestern and the interconnecting party which satisfy Southwestern‘s NEPA requirements and which establish the terms and conditions of the interconnection. Such agreements shall be made pursuant to Southwestern‘s then-current General Requirements for Interconnection as posted on Southwestern‘s Web site, or Southwestern‘s currently accepted Tariff[[2]](#footnote-2) provisions governing generation interconnections, whichever is applicable. For interconnecting non-Federal generation to the System of Southwestern, the provisions of the SPP Tariff shall be used for determining the feasibility and facility requirements of the SPP Footprint to accommodate the interconnection, excluding requirements for the facilities at the interconnection site, which will be determined by Southwestern.”

**MOU Between DOE Loan Programs Office (LPO) and BLM for Projects in California and Nevada**

LPO and the U.S. Department of the Interior (DOI), Bureau of Land Management (BLM) have MOUs for the environmental review of renewable energy projects in the States of Nevada and California. The MOUs serve to document the roles, responsibilities and procedures that will be followed by LPO, the Nevada State BLM Office, and the California BLM State Office pursuant to cooperating agency provisions of NEPA regulations. The MOUs clarify responsibilities for lead and cooperating agency status, and provide for the sharing privileged and confidential information.

**MOU between DOE Idaho Operations Office (DOE-ID) and BLM**

This December 2011 [MOU](https://max.omb.gov/community/x/xhAWJQ) provides for cooperative management of certain land within the Idaho National Laboratory Site (INL). The MOU covers issues such as rights-of-way applications, mineral exploration, grazing, predator control, range improvements, noxious weeds and insect infestations, and collaborative resource management, among others. The MOU clarifies the responsibilities for which agency is taking the lead on right of way (ROW) applications. It also includes steps to be taken for either agency to process such applications, and it includes the stipulations that any requestor for a ROW must accept in order to be allowed to have a ROW on the INL. These are all streamlining steps that save time and reduce ambiguity in processing ROW applications. With this MOU, DOE-ID and BLM do not need to negotiate each step for every application for a ROW.

**Federal Renewable Ocean Energy Working Group**

DOE leads the Federal Working Group on Renewable Ocean Energy, which is an ad-hoc, interagency working group to the Ocean Science and Technology Committee’s Interagency Working Group on Ocean Partnerships (IWG-OP).   The Federal Working Group on Renewable Ocean Energy works to promote the successful, environmentally and socially responsible deployment of marine hydrokinetic devices. For the last several years, the group has been meeting bi-monthly toprovide feedback on on-going efforts, share information, and discuss emerging policy issues. During 2011, DOE started a Resource Assessments and Design Conditions working group under the Federal Working Group on Renewable Ocean Energy, which hosted a workshop and published a report on research needs based on that workshop.

**MOU among the Council on Environmental Quality (CEQ), DOE, United States Department of Defense (DOD), Department of the Army, Advisory Council on Historic Preservation (ACHP), United States Coast Guard, United States Environmental Protection Agency (EPA), United States Fish and Wildlife Service (FWS), Federal Aviation Administration (FAA), the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) and the Commonwealth of Pennsylvania and the States of Illinois, Michigan, Minnesota, and New York to Create a Great Lakes Offshore Wind Energy Consortium to Coordinate Issues of Regional Applicability for the Purpose of Promoting the Efficient, Expeditious, Orderly and Responsible Evaluation of Offshore Wind Power Projects in the Great Lakes**

At least eight federal agencies have a regulatory role or review interest in approving offshore wind proposals in the Great Lakes, and each of the eight Great Lakes states has its own laws and review process for approving offshore wind proposals. With so many agencies involved, and no process in place for ensuring coordination among all relevant agencies, there has been too much potential for duplication and protracted review times, which can be unnecessarily costly to both the relevant government agencies (i.e., tax payers) and prospective developers. Responding to this challenge, a bipartisan federal-state MOU has created the Great Lakes Offshore Wind Energy Consortium (GLOWEC) to support the efficient, expeditious, orderly, and responsible evaluation of offshore wind projects in the Great Lakes. With the MOU, the signatories (which include 5 of the 8 Great Lakes states) signify the intent to create a Regulatory Roadmap by summer 2013 that describes the regulatory review process, identifies ways to ensure efficient project review, and formulates a clear process to coordinate data collection and dissemination. The MOU will make the regulatory and permit review processes transparent for the benefit of all agencies, as well as for developers so that the developers can know with whom and when they should consult, and what information is necessary for the agencies’ evaluations of proposed projects. The MOU does not create or call for creating any new regulatory processes or review requirements; it coordinates regionally-based planning that has the potential to lower costs and improve the efficiency of decisions. The MOU also embodies a fundamental principle of the National Ocean Policy to support sustainable, safe, secure, and productive access to, and uses of the Great Lakes.

**DOE-DOI MOU for Coordinated Deployment of Offshore Wind and Marine Hydrokinetic Energy**

The DOI’s Bureau of Ocean Energy, Management, Regulation, and Enforcement (BOEMRE),[[3]](#footnote-3) and the DOE Office of Energy Efficiency and Renewable Energy (EERE) signed this MOU in June 2010 in order to prioritize and facilitate environmentally-responsible deployment of commercial-scale offshore wind and marine and hydrokinetic (MHK) energy technologies on the Outer Continental Shelf (OCS) through collaborative efforts on issues of mutual interest. The MOU focuses on developing attainable deployment goals for offshore wind on the OCS; reducing siting and permitting timelines for project developers; improving resource assessment capabilities; developing technical standards for the U.S. offshore wind industry; and reducing public acceptance risk through information exchange and public engagement.

Since signing this MOU, DOI and DOE released a joint strategy document for the development of offshore wind in the U.S: [*A National Offshore Wind Strategy: Creating an Offshore Wind Energy Industry in the United States*](http://www1.eere.energy.gov/wind/pdfs/national_offshore_wind_strategy.pdf). Among other accomplishments, the two agencies have also co-hosted workshops related to offshore wind environmental research, on resource characterization and modeling, and on leveraging lessons learned from other marine industry sectors.

**MOU for Hydropower among Army Corps of Engineers, DOE and DOI**

The U.S. Departments of the Interior, Energy, and the Army signed the MOU for Hydropower in March, 2010, to help meet the nation’s needs for reliable, affordable, and environmentally sustainable hydropower by building a long-term working relationship, prioritizing similar goals, and aligning ongoing and future renewable energy development efforts. Since signing the MOU, the agencies have had significant accomplishments including, among others:

* + Completing numerous publically available assessments of different hydropower resources, including the construction of a database for all existing U.S. hydropower infrastructure.
  + Collaborating to develop tools for optimizing the operation of hydropower facilities and evaluating the potential for state-of-the-art upgrades and modernizations.
  + Working together to produce a report that examines the potential effects of climate change on water available for hydropower generation at federal facilities.
  + Coordinating a stakeholder-driven, basin-scale opportunity assessment in the Deschutes River basin in the Pacific Northwest, with the goal of identifying opportunities for increasing both hydropower production and environmental services.
  + Establishing a Federal Inland Hydropower Working Group, including staff from 15 federal entities that are involved with hydropower in order to share information and increase collaboration.
  + Hosting research and development workshops on key areas for the development of new hydropower generation.
  + Initiating several new studies on pumped storage and the ancillary grid services that can be provided by hydropower.
  + Improving the licensing process for the development of new, privately owned hydropower generation at existing federal dams and water infrastructure

**MOU between DOE and NOAA on Weather-Dependent and Oceanic Renewable Energy Resources**

In January 2011, DOE and NOAA signedan agreement to further collaboration between the agencies on renewable energy modeling and weather forecasting. This teaming will enable the United States’ renewable energy resources to be used more effectively by business and entrepreneurs. The MOU will encourage the agencies to disseminate weather and climate information needed for renewable energy technologies that are dependent on short-term weather and longer-term climate trends. Better information on weather patterns and improved modeling of the variability of the wind, sun, water, ocean currents, and other sources of renewable energy will ultimately increase the United States' ability to reliably integrate renewable energy into the electrical grid. An interagency group is working together to meet the goals of the MOU. Collectively, the group is identifying wind and water power resource characterization data and technology needs.

**MOU between DOE and DOI for the Demonstration of Solar Power Technology on Public Lands**

Through this MOU, DOE and DOI committed to collaborate to advance new solar energy technologies (technologies not currently in use for large-scale solar energy generation) that have the potential to lower the cost of solar power generation, increase the capability of solar power generation through energy storage or other technologies, and reduce the environmental impacts, including technologies to reduce water usage, of utility-scale solar projects.

**Interagency Field Test & Evaluation (IFT&E) Campaign**

The interaction between wind power systems and radar operation has been a known barrier to wind deployment for many years. Wind turbines reflect radar energy, presenting false targets and clutter, among other effects, which can degrade the operational effectiveness of the radars. Due to the breadth of impact that wind power systems have on various radar systems (military, weather, and civilian), coordination is critical to develop successful mitigation options.

In 2011, DOE teamed with the Department of Defense, Department of Homeland Security, FAA, and NOAA, along with Sandia National Lab and MIT-Lincoln Lab to form the Interagency Field Test & Evaluation Campaign. The collaborative, which also includes energy developers and wind farm owner/operators and many other industry stakeholders, is conducting field tests and system analysis of the physical and operational impact of wind power systems, evaluating existing technologies to reduce or eliminate radar interference caused by wind turbines, and supporting the development of new tools to mitigate the impact of wind power systems on radar. The development of these tools and mitigation measures, based on rigorous science and interagency collaboration will help facilitate siting and permitting in sensitive areas around the country. Presently, IFT&E has completed an initial field test campaign on three mitigation options in Tyler, MN (Nov. 2011 – May 2012) and is developing the first Field Report and an operational assessment from the first field test. Follow-up campaigns are scheduled in 2012 (October) and 2013 (April).

**National Wind Coordinating Collaborative (NWCC)**

Wind energy’s potential to impact wildlife has been an issue affecting wind development across the U.S. for many years. To address this issue, DOE formed the NWCC in 1994 as a consensus-based collaborative combining the resources and experience of various wind energy stakeholders, including Federal and State agencies, wind developers, national laboratories, non-governmental organizations (NGOs), and private industry with the mission of supporting the preservation of wildlife and the responsible development of wind power.

The NWCC has issued multiple publications on wind and wildlife interactions including a Comprehensive Guide to Studying Wind Energy/Wildlife Interactions (June 2011), and the Birds and Bats Fact Sheet, which summarizes the known bird and bat interactions with land-based wind, including habitat. Additionally, the NWCC hosts an internationally recognized and attended biennial Wind Wildlife Research Meeting to discuss and synthesize the most recent Wind/Wildlife research. The NWCC will hold its 9th Wind Wildlife Research meeting this November (2012), in Denver. In addition to the efforts listed above, the NWCC also coordinates various research efforts to provide stakeholders with sound science to support siting and permitting decisions.

**Solar Energy Programmatic Environmental Impact Statement**

DOE’s EERE and DOI’s BLM are preparing a Programmatic Environmental Impact Statement (PEIS) to evaluate the potential environmental impacts of actions that the agencies are considering to further facilitate utility-scale solar energy development in six southwestern states (Arizona, California, Colorado, Nevada, New Mexico, and Utah). For the BLM, this includes the evaluation of a new Solar Energy Program applicable to solar development on BLM-administered lands. For DOE, it includes the evaluation of developing new guidance to further facilitate utility-scale solar energy development and maximize the mitigation of associated environmental impacts.

**Wind Energy Programmatic Environmental Impact Statement**

BLM issued a Final Programmatic Environmental Impact Statement in 2005 to evaluate issues associated with wind energy development in 11 western states-- Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming—administered by BLM. DOE collaborated with BLM in the preparation of the PEIS.

**Western Area Power Administration (Western) Participation in Avian Power Line Interaction Committee (APLIC)**

Western is an active member of APLIC. APLIC leads the electric utility industry in protecting avian resources while enhancing reliable energy delivery. Western and APLIC work in partnership with utilities, resources agencies, and the public to develop and provide educational resources, identify and fund research, develop and provide cost-effective management options, and serve as the focal point for avian interaction utility issues.

Western has funded, in partnership with APLIC, multiple research projects testing minimization measures and mitigation techniques for reducing the impacts of power line infrastructure on avian populations.

FWS has also established Programmatic Biological Opinions under Section 7 of the Endangered Species Act to streamline the consultation process for routine maintenance and operation of Western’s system. This programmatic approach allows Western and the FWS to quickly and efficiently review project impacts and have clear expectations and response times to common operational needs, saving staff resources and money for both agencies.

## *Use of Mapping Technology and Other Planning Tools*

**Idaho National Laboratory iMAP GIS Application for Land Management**

In recent years, the DOE Idaho Operations Office (DOE-ID) has received a growing number of requests from outside entities to use, or have access to land on the INL site. These requests have ranged from access for power transmission lines to communication towers. In order to ensure consistency in handling these requests, the Operations Office has developed a policy detailing how to consider the requests.

The ROWs across the INL site are normally issued by BLM with review and approval by DOE-ID. A MOU between DOE-ID and BLM details the approval process and is described [above](#MOUINLBLM). In the past, evaluation of land grants and land use was done by searching hard copy records in multiple locations and maintained by multiple sources. This undocumented process was very resource intensive and slow, and resulted in inconsistent responses to requestors.

DOE and INL created the iMAP application to govern how INL monitors, stores and retrieves Rights-of-Way and land use information, and provides a consistent process for DOE and INL to evaluate land use requests. The iMAP application is a combination of two projects.

First, INL created an ROW application where individual land grant and serial page records can quickly be viewed by moving the cursor over the INL map to the place of interest. A table of grants for the location selected appears with hyperlink access to the detailed documents. Other functions include query tools that allow searching by grantee, interactive printing and intuitive map controls.

Second, INL created a [Comprehensive Utility Corridor](https://max.omb.gov/community/x/xhAWJQ) (CUC) application which initiated the gathering and development of Geographic Information System (GIS) data layers representing mission critical areas, facilities and infrastructure, county boundaries, cultural areas, ecological areas, environmental monitoring areas and restricted areas.

The iMAP application, because of data sensitivity, is only internal to INL at the present time. A public version of iMAP is currently in the design stages and is tentatively scheduled for release to the public in FY 2013.

**Permitting-Relevant EERE Research and Development Focused on Wind and Water Power**

* Bats and Wind Energy Cooperative, operational mitigation to reduce bat mortality – Bat fatalities at wind farms have become a critical obstacle to permitting of wind facilities in many parts of the country. DOE has worked with the National Renewable Energy Laboratory (NREL), DOI, Bat Conservation International, the American Wind Energy Association, wind turbine manufacturers, and wind farm developers and operators through an innovative partnership, the Bats and Wind Energy Cooperative (BWEC), to develop solutions. Through research at operating wind farms, the BWEC has identified high-impact mortality risk factors for bats, and developed operational mitigation options that can vastly decrease bat mortality at wind farms.

Between 2009 and 2011, research at three separate wind farms has shown that increasing the cut-in speed of operating wind turbines to 5.0 – 6.5 m/s during times of peak activity reduced bat mortality 44-93% with less than 1% power generation losses. These findings allow for the integration of environmental considerations into the siting and operation of wind turbines, and the development of wind turbine technologies to facilitate efficient turbine operation during high-risk periods. Further, these findings reduce mortality risks in endangered bat species habitats with favorable wind resources, opening previously unavailable sites to well thought-out development.

* Analysis of siting and permitting issue impacts on wind energy deployment – There are a number of critical barriers to siting and permitting wind energy development that have the potential to limit wind energy deployment potential if not addressed. Still in the draft/research phase, NREL is developing a siting and permitting impacts analysis tool for evaluating the extent to which radar, wildlife, public acceptance, and transmission variables may impact the geographical distribution of land available for wind siting. NREL is working with wind developers, regulatory agencies, and NGOs in an effort to gather, combine and synthesize data.
* Impacts of wind on candidate prairie grouse species (Greater Sage-Grouse, Greater Prairie Chicken) – In addition to the implications that sensitive species have on siting of renewable energy projects, research from the oil and gas industry has shown the potential impacts of human activities on various species including Greater Sage-Grouse and Greater Prairie Chicken. Few data exist on the impacts of wind energy on these key species of concern, so management regimes for the wind industry have relied heavily on data derived from monitoring oil and gas projects.

To solve this problem, DOE, BLM, FWS, wildlife agencies from several western states, and the wind industry came together to form the Sage-Grouse Research Collaborative to pool resources to perform research to determine the actual impact of wind power on Greater Sage Grouse. Additionally, the NWCC’s Grassland and Shrub Steppe Species Collaborative (comprised of representatives from state and federal agencies, academic institutions, non-governmental organizations, and the wind industry is concluding a pioneering 6-year research study assessing the impact of wind power projects on the Greater Prairie Chicken. The efforts of both Collaboratives will provide permitting agencies with actual data regarding impact of wind on these species, providing a sound basis on which to base decisions.

* DOE, BOEMRE, and NOAA Broad Agency Announcement on Environmental Research for Ocean Renewable Energy – In 2010, DOE, BOEMRE, and NOAA supported research projects focused on the responsible siting and permitting of offshore wind energy facilities and ocean energy generated from waves, tides, currents, and thermal gradients. This critical research aims to address key information gaps regarding the potential environmental effects of renewable ocean energy. Projects are underway and the agencies, led by BOEMRE, are working to jointly manage these projects.
* Tethys – DOE’s Pacific Northwest National Laboratory (PNNL) is working to develop Tethys, a “smart database”, to house data on the environmental impacts of marine and hydrokinetic and offshore wind technologies. The primary goal of Tethys is to organize the data so that users can easily classify and evaluate the environmental effects of ocean energy development. The database will allow users to easily search for environmental data associated with specific sites, technologies, and potential environmental impacts. Tethys is unique in that it will evolve as stakeholder input is incorporated to ensure information accuracy, and to address the changing needs of users as industry advances and more data becomes available. Ultimately, Tethys will be the most up-to-date, comprehensive reference source for ocean energy environmental effects data.

**Existing or planned data portals, tools, and datasets that can be accessed by developers and decision makers as they site offshore wind, land-based wind, marine and hydrokinetic (MHK), geothermal, solar and biomass energy projects. Included are:**

* DOE Siting Resources: Portals—EERE’s Wind and Water Power Program is developing a knowledge management system through PNNL that, when completed, will aggregate, synthesize, and disseminate environmental data on the environmental impacts of offshore wind and MHK technologies.
* Tools – Through a joint Broad Agency Announcement with NOAA and BOEMRE, EERE’s Wind and Water Power Program funded the development of standardized environmental monitoring protocols, tools for assessing visual impacts of offshore renewable energy projects, and decision analysis methods for coastal and marine spatial planning for offshore renewable energy. The Wind and Water Power Program has also funded the development of monitoring and mitigation measures that are now in use at wind projects, and a Landscape Assessment Tool run by The Nature Conservancy and the American Wind Wildlife Institute that provides project proponents and stakeholders the ability to do quick, high-level assessments of the potential wildlife issues faced by their projects.
* Datasets—Resource assessments are a key DOE data contribution for planning and siting renewable energy projects. For example, the DOE Wind and Water Power Program recently completed or updated resource assessments for conventional hydropower (focusing on non-powered dams), wave, tidal, and offshore wind energy.

## *Pre-Application/Application Improvements*

**DOE Office of Electricity Delivery and Energy Reliability Application Coordination**

The Office of Electricity Delivery and Energy Reliability will continue to engage, with potential applicants upon request. Guidance is available on the [OE website](http://energy.gov/oe/services/electricity-policy-coordination-and-implementation).

**DOE Update of NEPA Regulations**

In 2011, DOE revised its NEPA regulations to better align them with the Department’s current activities and recent experiences, and to update the provisions with respect to current technologies and regulatory requirements (76 FR 63764; October 13, 2011). DOE established 20 new categorical exclusions (CXs) and removed two CX categories, one environmental assessment category, and three environmental impact statement categories. Based on DOE’s experience, the experience of other agencies, completed environmental reviews, professional and expert opinion, scientific analyses, and public input, DOE determined that types of actions included in the new CXs normally would not have significant environmental impacts, individually or cumulatively. DOE’s revisions were consistent with guidance issued in 2010 by CEQ on “Establishing, Applying, and Revising Categorical Exclusions under the National Environmental Policy Act.” (75 FR 75628; December 6, 2010).

DOE’s revised NEPA regulations are consistent with reform efforts by other federal agencies. For example, in 2008, FERC began developing a process to allow testing of Marine Hydrokinetic (MHK) devices for technical viability and environmental impacts. Allowing pilot-scale testing in non-sensitive areas minimizes the potential environmental impacts of unproven technologies. Such pilot-scale testing also allows technology firms to gather evidence regarding risk and safety of the devices, which improves the financing options and siting timelines for future commercial-scale deployments of promising technologies. The United States Army Corps of Engineers recently created a Nationwide permit under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act for small-scale marine renewable energy projects based on a similar premise. DOE’s revised NEPA regulations include CXs for similar pilot-scale activities and several types of small-scale renewable energy projects, including one for small-scale renewable energy research and development and pilot projects in aquatic environments.

## *Outreach and Education*

**Interagency Training for Projects on Tribal Lands**

Energy projects on Indian land may require additional approvals compared to other projects. If a nontribal entity is leasing land from an Indian tribe to develop an energy project, there are a unique set of laws, in addition to the environmental review, that the Tribe and project developer must comply with for the DOI’s Bureau of Indian Affairs (BIA) to approve the lease under federal law. The BIA frequently asks DOE’s Office of Indian Energy Policy and Programs (IE) for assistance (e.g., financial, technological) in reviewing the proposed project. In order to expand its assistance and outreach in an efficient manner, IE is in the process of developing a training program for BIA staff.

**Renewable Energy Development in Indian Country: A Handbook for Tribes**

This Handbook funded by EERE’s Tribal Energy Program is intended to provide tribal leaders, tribal economic and energy enterprises, and those supporting them with: a general overview of the renewable energy project development process; a discussion of how to structure a renewable energy project transaction to protect tribal interests, with an emphasis on joint project development efforts undertaken with non-tribal parties; a general overview of key energy development agreements, including power sale agreements, transmission and interconnection agreements, and land leases; and a detailed discussion of ways tribes can finance renewable energy projects, the sources of funding or financing that may be available, the types of investors that may be available, and federal tax incentives for renewable energy projects.

**Online Tribal Energy Guide**

EERE’s Tribal Energy Program has developed an online guide to Tribal Energy Development. The Guide includes development processes (for small and large projects), energy resource maps, energy technology, electricity grid and transmission basics, costs, project implementation issues, and case studies.

**Training Opportunities**

DOE offers numerous training opportunities, including the National Training and Education Resource (NTER), an open source platform that serves learners by allowing them to acquire new skills at a time, place, and pace that is convenient to them. NTER’s tools integrate advanced technology, simulation-based learning, and findings from learning science to accelerate learning and enable the under or unemployed to obtain training for the career they seek. This highly interactive training portal enhances and/or augments training and workforce development conducted across the country. The multi-media, interactive, self-paced training modules are designed to help meet the needs of the diverse 21st century workforce.

NTER is now being used widely by EERE programs (including, for example, Solar, Vehicles, Building Technology Program, Advanced Manufacturing/Industrial Technologies Program, FEMP) and across DOE (Office of Electricity, Heath, Safety and Security) and several of the National Labs including Lawrence Berkeley National Lab, the National Renewable Energy Lab, Pacific Northwest National Lab.

The Federal CIO included NTER in his annual report to the nation as an innovative cloud computing initiative. It was also included in the Advanced Manufacturing Partnership announcement. NTER is the platform that the National Association of Manufacturer's Manufacturing Institute, Macomb Community College, the Center for Energy Workforce Development’s Troops to Energy Jobs Initiative, and many more have agreed to use for creating and distributing training.

**NREL and ANL Trainings for Federal, State and Local Agencies, Tribes, and Industry Related to Renewable Energy and Transmission**

The National Renewable Energy Laboratory and Argonne National Laboratory have conducted trainings and workshops on transmission and renewable energy technology, including wind and solar, for federal, state and local regulatory and permitting agencies, Tribes, and industry. These trainings have included basic trainings regarding the technologies, the project development process and the constraints it imposes, and the state of knowledge associated with certain technologies impacts on protected resources.

**Geothermal Technologies Program Developers’ Permitting Checklist**

Geothermal industry stakeholders have identified the permitting process as one of the most significant barriers to geothermal power project development. Potential bottlenecks in the permitting process increase the cost and financial risk of a project. EERE therefore has developed a developers’ checklist which provides information on permitting requirements that need to be followed when developing a geothermal resource. All steps in the permitting process are covered, from drilling exploratory wells to developing a utility-grade geothermal power plant. Users can obtain additional information for developing geothermal projects on federal or state lands, obtain agency contact information, and find links to key policies and additional resources for project development in eight western states, which are those states with the highest currently installed geothermal capacity. The checklist can be found at <http://www.nrel.gov/geothermal/developer_checklist/>.

**Siting Methodologies for Hydrokinetics: Navigating the Regulatory Framework**

EERE developed a regulatory and permitting handbook for developers of Marine Hydrokinetic projects. The DOE Wind and Water Power Program funded Pacific Energy Ventures to develop a *Siting Methodologies* handbook that identifies regulatory issues associated with hydrokinetic development. A primary goal of this project is to help prepare hydrokinetic developers and stakeholders to work with regulatory officials to chart a reasonable course through the permitting process. To that end, the handbook is intended as an informational tool to support stakeholders in navigating the regulatory framework by outlining the current federal and state regulatory requirements, providing clear, concise descriptions of the authorization processes, and identifying the agencies involved in these processes. The completed handbook is now available [online](http://www.advancedh2opower.com/Resources/Regulatory%20Roadmaps/Regulatory%20Handbook.pdf).

## Hawaii Clean Energy Initiative

## Hawaii’s dependence on imported oil creates vulnerability for the state’s economy which is greatly affected by the price volatility of this finite energy source. Recognizing the detrimental effects this oil dependency has on Hawaii’s environment and local economy, the state signed a MOU with DOE in January 2008 to establish a long-term partnership, now known as the Hawaii Clean Energy Initiative (HCEI), to transform the way energy efficiency and renewable energy resources are planned and used in the state. Renewable energy stakeholders and developers identified Hawaii’s permitting process as an obstacle to capital investment in the sector. Accordingly, as part of the HCEI initiative, DOE co-funded a suite of guidebooks to provide a comprehensive overview of the renewable energy permitting process in Hawaii.

**DOE Request for Information on Development times for Generation and Transmission and Permitting of Transmission Lines**

On February 27, 2012, DOE issued a [Request for Information](https://www.federalregister.gov/articles/2012/02/27/2012-4464/rapid-response-team-for-transmission) (RFI), which solicited public input on the challenges arising from incongruent development times between remote generation and attendant transmission and on potential efficiencies that might be achieved in order to make development times more commensurate. The comments on the RFI were received on March 28, 2012 and will be used, in conjunction with federal agencies' statutory and regulatory obligations, to inform a possible presumed evaluation period for transmission projects.

1. The SPP/Southwestern Agreement also contains provisions that obligate SPP to provide services to Southwestern including, but not limited to, administration of the Southwestern Open Access Transmission Tariff, scheduling services, operating reserve sharing, Open Access Same-Time Information System administration, and reliability coordination. [↑](#footnote-ref-1)
2. Southwestern’s FERC filed Open Access Transmission Tariff (http://www.swpa.gov/PDFs/SWPAOpenAccessTariff.pdf) [↑](#footnote-ref-2)
3. On October 1, 2011, BOEMRE, formerly the Minerals Management Service, was replaced by the Bureau of Ocean Energy Management and the Bureau of Safety and Environmental Enforcement as part of a major reorganization. [↑](#footnote-ref-3)