

Primary Licensing Agency

The Federal Energy Regulatory Commission (FERC) has exclusive jurisdiction to issue licenses and exemptions from licensing for the construction and operation of hydropower projects under the Federal Power Act, including hydrokinetic devices in U.S. waters from the shoreline onto the Outer Continental Shelf (OCS) and including rivers. FERC will work with other Federal agencies and States to develop or review any necessary analyses, including those under the National Environmental Policy Act, related to those actions.

FERC will not issue preliminary permits for hydrokinetic projects on the OCS. Additionally, FERC will not issue a license or exemption for an OCS hydrokinetic project until the applicant has first obtained a lease, easement, or right-of-way from the Minerals Management Service for the site.

The FERC pilot project licensing process for hydrokinetic projects is contained on their website. FERC encourages developers to first seek a preliminary permit which would be issued for three years and give the developer priority to study a project at the specified site for the duration of the permit. A pilot project license is not a pre-requisite to applying for a standard or build-out license.

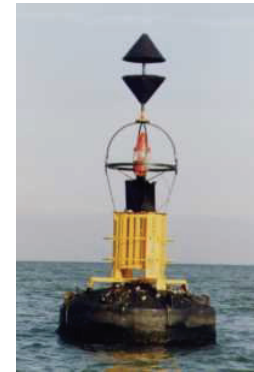
The preliminary permit process and pilot project license are elements of a larger process towards licensing. Since July 23, 2005, the Integrated Licensing Process (ILP) has been the default process and approval by FERC has been required to use the Alternative Licensing Process (ALP). Regulations on the ILP are found at 18 CFR part 5.



For more information on Coast Guard involvement in the development of REIs please contact—

Commandant (CG-5413)
ATTN: Navigation Standards Branch
U.S. Coast Guard
2100 2nd St. SW, STOP 7581
Washington, DC 20593-7581
or 202-372-1566

Marine and Hydrokinetic Renewable Energy Devices



Potential Navigational Hazards and Mitigation Measures

For questions about this brochure, contact—



PCCI, Inc.
300 North Lee Street, Suite 201
Alexandria, VA 22314
Phone: 703-684-2060
Fax: 703-684-5343
<http://www.pccii.com>

Development of this brochure was funded by the Department of Energy (DOE) as a guide for developers and regulators of Marine and Hydrokinetic Renewable Energy devices. It may also be a useful resource for developers and regulators of other Renewable Energy Installations (REI).¹

¹ REI is a broad term used by the Coast Guard that also includes offshore wind farms and solar energy devices on the navigable waters, as well as offshore thermal energy conversion projects.

Potential Navigational Hazards and Mitigation Measures

The U.S. Coast Guard (USCG) and other agencies will participate in the National Environmental Policy Act review process conducted by the primary licensing agency. That participation will include advice on potential navigational hazard issues that may result from a proposed REI and possible mitigation for those issues.

To assist developers and regulators understand the safety of navigation issues, a more comprehensive report has been developed to identify the areas of concern and discuss possible strategies to mitigate those concerns and is available online at—

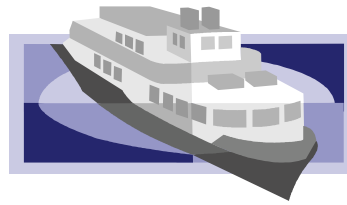
<http://www.osti.gov/> or
<http://www.pccii.com/index.cfm?sectionid=36&ProjectID=41>

USCG Concerns over Hazards

The USCG's concerns² over possible hazards that result from an REI may vary, depending on the project phase. These phases include: design, construction, transportation to and from the site, installation, operations and finally decommissioning. For each of these phases the USCG requests developers to consider potential navigational impacts of the installation, including—

- Platform, Stationkeeping, Device, Mooring, Transmission Cable and other design considerations
 - Visual Navigation and Collision Avoidance
 - Effects on Communications, Radar and Positioning Systems
- Site and Waterway considerations
 - Effects upon Tides, Tidal Streams, and Currents
 - Effects upon seafloor soil movement
 - Effects of varying weather and sea state
 - Effects of ice where applicable

² These concerns are included in USCG policy guidance: Navigation and Vessel Inspection Circular 02-07, which is available online at—
<http://www.uscg.mil/hq/cg5/NVIC/pdf/2007/NVIC02-07.pdf>



- Maritime Traffic and Vessel Considerations
 - Traffic Survey Recommendations
 - Risk of Collision, Allision, or Grounding
 - REI Structure Clearances and Response to allision
 - Access to and Navigation Within, or Close to, the REI
- USCG Mission Considerations
 - Recommended design requirements, operational requirements, and operational procedures for installation shut-down in the event of a Search and Rescue (SAR), Pollution, or Homeland Security Operation
 - Recommendation to work with the USCG to assess likely impacts on USCG SAR, Marine Environmental Protection (MEP) and Homeland Security missions

Key Mitigation Measures

Consultation with Stakeholders

Developers should schedule meetings/events with stakeholders to understand siting conflicts. These meetings/events should begin early and continue through the licensing or permitting process.

Navigation Studies and Risk Assessment

A key mitigation measure involves undertaking the requisite navigational studies and evaluating the navigational risk of proposed projects. These

studies will be required to provide the information necessary for environmental assessments, environmental impact statements and permit applications.

Based on the results of navigation studies and risk assessment, a developer may want to consider mitigation measures, including alternative siting and incorporating stakeholder concerns.

It is the responsibility of the developer to fund or provide the studies and analysis to support recommendations for their installation.

IALA Recommendation O-139

Another key mitigation measure involves incorporating the marking schemes in International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) Recommendation O-139 (2008)³ in developers' proposals, with the realization that the USCG may modify an initial marking scheme proposal, based on its review of traffic, risk and other factors.

Private Aids to Navigation (PATON)

The U.S. Aids to Navigation System is administered by the USCG. It consists of federal aids operated by the USCG, by the other armed services, and private aids to navigation operated by other persons.

The U.S. System is consistent with the IALA Maritime Buoyage System, but as of 2009, its regulations do not incorporate specific IALA recommendations for PATON covering offshore wave and tidal energy devices. USCG policy guidance recommends incorporating the marking schemes in IALA Recommendation O-139 as providing an equivalent level of safety and environmental protection to marking schemes specified in USCG regulations.

³ http://site.ialathree.org/pages/publications/documentspdf/doc_225_eng.pdf