

California Permitting Guidance for Ocean Renewable Energy Test and Pilot Projects

December 16, 2011

INTRODUCTION

The California Ocean Protection Council, in consultation with the California Marine Renewable Energy Working Group, is providing this guidance to support the state's long-term energy and carbon reduction goals, particularly the development of experimental wave, tidal and offshore wind energy technologies.

The purpose of this paper is to provide license and permit processing guidance for early test and pilot hydrokinetic and offshore wind projects located in and adjacent to California marine waters. This guidance can help project proponents prepare for and meet anticipated regulatory requirements by providing a level of certainty about the review and issuance process of state permits for these types of projects.

In particular, this paper identifies several key themes for consideration by the marine renewable energy industry and interested stakeholders:

- California is committed to coordinating permitting processes among its state agencies and established the California Marine Renewable Energy Working Group (Working Group) to facilitate this process.
- Consistent with its Memorandum of Understanding with the Federal Energy Regulatory Commission (FERC), California is also committed to early consultation and coordination with FERC to establish the most efficient permitting process, where feasible.
- The Working Group serves as a central and first point of contact for marine renewable energy project developers. Early consultation with the state agencies can help identify the most efficient pathway for regulatory authorizations and these agencies can inform developers about specific stakeholders, natural resources and/or marine activities that may require project modifications and/or specific consultations.
- Avoiding sensitive areas and using existing infrastructure and information from similar offshore marine structures can make for smoother permit, lease and license processes.
- Virtually all test and pilot projects proposed for California marine waters, no matter how small or temporary, will require at least one permit and/or lease from the State of California. However, phasing development and starting with small-scale test projects may result in an initial shorter and simpler regulatory process, thereby allowing developers to install early stage devices and gather information while pursuing permits and funding needed for the next phase.

BACKGROUND

California has more than 1,100 miles of coastline, and hydrokinetic and offshore wind technologies are renewable energy technologies that hold promise in contributing to our state's long-term energy and carbon reduction goals. According to the 2011 *Renewable Power in California: Status and Issues* report estimates, California's technical offshore wave and tidal energy potential within state and federal waters is 32,763 megawatts (MW) and the offshore wind technical potential is 75,400 MW.

California agencies recognize that field-testing of marine renewable energy technologies is critical for developers looking to gain traction with investors and secure additional financing to support environmental research and project deployment. Since many of these technologies (especially wave and tidal energy conversion devices) are immature, there are many questions regarding how they will perform, as well as how they will interact with the state's natural resources and other marine-based activities. A phased development approach, beginning with field testing of prototypes and small-scale test and pilot projects, can provide educational opportunities for developers, academic institutions, governmental agencies and others to identify and gather information at a lower financial and environmental risk. Obtaining permits for these small-scale deployments may also be a shorter and less costly process, while serving as a platform for gathering information required for commercial scale development permits and licenses.

In 2010, the California Ocean Protection Council established a California Marine Renewable Energy Working Group (Working Group) with membership from California state agencies that have regulatory jurisdiction and/or policies relevant to marine renewable energy. The Working Group serves as a venue for coordination among state agencies to address regulatory challenges. It also implements the Memorandum of Understanding (MOU) between the Federal Energy Regulatory Commission (FERC), the California Natural Resources Agency, the California Environmental Protection Agency, and the California Public Utilities Commission which calls for California and FERC to coordinate application review schedules, encourage pilot projects prior to commercial development, and coordinate environmental reviews, where possible. A copy of the MOU is attached to this paper as Appendix D.

SCOPE AND PURPOSE

The purpose of this guidance paper is to explain the process for evaluating and responding to test and pilot marine renewable energy projects.

The paper focuses on the state's jurisdiction over the state's offshore waters (up to 3 nautical miles [nm]), as well as the state's jurisdiction over activities in federal waters, including projects that are located within or adjacent to state waters. A suggested sequence for contacting these agencies and guidance for how their authorities may apply is described in detail to provide applicants with relevant information on how test and pilot projects may be considered in the State of California's permitting processes.

Limited information on federal agencies and required regulatory processes is also included in the guidance paper. To learn more about the federal agencies and obtain information on regulatory, management and planning processes for the entire West Coast of the U.S., see the West Coast Framework resource at: <http://www.advancedh2opower.com/framework/default.aspx>.

Detailed information and/or project specific requests regarding FERC, the Bureau of Ocean Energy Management, National Marine Fisheries Service, etc. should be obtained directly from those agencies.

Authorizations needed for on-shore energy structures or facilities are not addressed in this guidance document. Projects that propose to have on-shore energy structures or facilities may be required to obtain local coastal land use permits and authorizations as well as the offshore authorizations from state agencies described in this document.¹ These authorizations will involve the coastal land-owner and specific local authorities, so applicants proposing to use or construct on-shore facilities should consult with the Working Group to obtain more detailed information on the regulations that may apply to the proposed on-shore components of the project.

Lastly, this paper does not develop or establish a new rule or new permit system nor does it reflect any agency position or commitment to permit conditions on individual applications. As described in more detail in this document, applicants are advised to consult directly with the agencies to determine specific permits, leases, and licenses required for their project.

¹In some instances, a proposed project may undergo a single, combined review for its local coastal development permit and its state-level coastal development permit.

DEFINITIONS

HYDROKINETIC ENERGY - Hydrokinetics projects generate electricity from the motion of waves or the unimpounded flow of tides, ocean currents, or inland waterways.² This paper will consider primarily wave energy conversion devices; however, much of the discussion of technology attributes and permits applies to tidal, current and offshore wind technologies as well. According to the California Energy Commission and the U.S. Department of Energy, ocean thermal technologies are not expected to be developed in California because necessary thermal gradients are limited to tropical regions (generally between 20 degrees north and 20 degrees south latitudes), and will not be discussed further in this paper.³

MARINE RENEWABLE ENERGY - For the purposes of this paper, marine renewable energy includes wave and tidal energy conversion technologies (hydrokinetic technologies) and offshore wind energy technologies.

PILOT PROJECTS - For the purposes of this paper, a pilot hydrokinetic project is defined as a project eligible for a FERC pilot license. The criteria for this pilot license are the following:

- The project must be small in capacity (expected to be equal to or less than 5 MW) and occupy the minimum area commensurate with the technology to be employed;
- The license must be short term;
- The project site must avoid sensitive locations;
- The project applications must contain strict safeguard plans to protect the public and environmental resources;
- The project must be removable and able to shut down on short notice, and will be removed, with site restored, before the end of the license term (unless a new license is granted); and
- The draft application must be in a form sufficient to support environmental analysis and include proposed monitoring plans.

**Pilot projects may transmit and or displace power to on-shore facilities. Authorizations for on-shore facilities are not included in this guidance paper. Information on these additional authorizations may be obtained from the Working Group.

² Hydrokinetic Projects as defined by the Federal Energy Regulatory Commission.
<http://www.ferc.gov/industries/hydropower/gen-info/licensing/hydrokinetics.asp>

³ <http://www.energy.ca.gov/oceanenergy/index.html> and <http://www.nrel.gov/otec/what.html>

TEST PROJECTS - For the purposes of this paper, test hydrokinetic projects are defined consistent with the *Verdant* Rule definition of an “experimental hydrokinetic project” that does not require a FERC Pilot License.⁴ In *Verdant LLC*, FERC concluded that the experimental deployment of a hydrokinetic device would not need a FERC license if the following conditions applied:

1. The technology in question is experimental;
2. The proposed facilities are to be utilized for a short period for the purpose of conducting studies necessary to prepare a license application;⁵ and
3. Power generated from the test project will not be transmitted into, or displace power from, the national electric energy grid.

*Although a test project may not require a FERC license, the project would still need approval from state agencies.

USEFUL SITING CONSIDERATIONS:

San Francisco Bay

Tidal or wave energy projects that may be deployed within the San Francisco Bay area will require different regulatory authorizations than those deployed in the State’s other offshore waters. Applicants looking to deploy devices in the San Francisco Bay Area will require review by the San Francisco Bay Conservation and Development Commission (BCDC) and the California State Lands Commission (SLC) or legislative grantees to confirm that the project area falls within the San Francisco Bay jurisdiction. (Guidance on the BCDC and SLC processes can be found below) All other projects proposed for the state’s offshore waters (within 3 nm of the coast) will require review by the SLC and the California Coastal Commission.

Examples of Sensitive Areas to Avoid

Projects sited in the following areas may face restrictions or more complicated permitting/leasing processes due to sensitive habitat and ecosystems:

⁴ Verdant Declaratory Order-April 2005, July 2005. FERC ruled that the Verdant Power LLC application for a hydrokinetic energy Pilot license was not necessary based on certain criteria. This criteria now defines “test” projects.

⁵ This can be preparation for a FERC pilot or commercial license application.

- State Marine Protected Areas (MPAs) – state marine reserves, marine parks and marine conservation areas
- Kelp beds and rocky reef habitat
- National Marine Sanctuaries
- Areas of Special Biological Significance

State Marine Protected Areas

California has a network of MPAs with varying designations and allowable uses (marine reserves – not take, marine parks – limited recreational take and marine conservation areas – limited recreational and/or commercial take). Within all MPA designations, it is unlawful to injure, damage, take, or possess any living, geological, or cultural marine resource for commercial or recreational purposes unless specifically authorized. New infrastructure development and its associated take (such as marine renewable energy developments) are therefore prohibited in MPA designations. However, some marine conservation areas incorporate existing infrastructure (pipelines, etc) which are specifically permitted and that could potentially be allowed to be used as part of a hydrokinetic project. For information and maps of these areas, see: <http://www.dfg.ca.gov/mlpa/>

Kelp Beds and Rocky Reef Habitat

Kelp beds and rocky reef habitats along the coast of California are critical habitats for many important species of invertebrates and fishes. The state's MPAs often encompass these habitats. If not in an MPA, these habitats are likely areas of significant importance to commercial and recreational fishermen. Title 14, California Code of Regulations, designates 87 "Administrative Kelp Beds" for the purposes of managing commercial kelp harvest and these extend from the U.S.A.-Mexico International Boundary to the California-Oregon Boundary.

National Marine Sanctuaries

Certain California offshore waters area fall within the boundaries of National Marine Sanctuaries. These include the Monterey Bay, the Gulf of the Farallones, the Cordell Bank and the Channel Islands National Marine Sanctuaries. These National Marine Sanctuaries do not have overall restrictions that prohibit hydrokinetic project development within these areas; however, projects proposed for sanctuary areas will require additional oversight and authorization from the National Oceanic and Atmospheric Administration's National Marine Sanctuary offices. More information and maps of these areas can be found here: <http://sanctuaries.noaa.gov/about/westcoast.html>

Areas of Special Biological Significance

ASBS stands for Area of Special Biological Significance. These are 34 ocean areas monitored and maintained for water quality by the State Water Resources Control Board because they support an unusual variety of aquatic life, and often host unique individual species. In an ASBS, all waste

discharges are prohibited. Habitat alteration and disturbance is generally considered a form of pollution and should also be avoided in these areas. Therefore, marine renewable energy projects will be prohibited in these areas. Maps and information on ASBS areas can be found here:

http://www.swrcb.ca.gov/water_issues/programs/ocean/asbs.shtml

Examples of Other Restricted Areas

Projects sited in the following areas may face restrictions or more complicated permitting/leasing processes due to existing restriction on use of those areas:

- Vessel and shipping lanes
- Military training zones

Vessel and Shipping Lanes

The U.S. Coast Guard designates shipping lanes for large cargo vessels traveling to and from the state's large ports. These areas experience significant marine vessel traffic and are not likely to be compatible with marine renewable energy sites.

Military Training Zones

California offshore waters located near military bases may have use restrictions due to military training operations that occur in these areas. Projects proposed for these areas will require additional oversight and authorization from the relevant division of the Department of Defense. Military marine zones include waters off of Vandenberg Air Force Base, Pendleton Marine Corps Base, and Coronado Naval Base.

Build on Information from Construction and Monitoring of Other Offshore Structures

California agencies recognize that developing the marine renewable energy industry involves permitting new and distinctive technologies that differ from traditional offshore industries. Due to a lack of experience with these technologies, regulatory decisions for the first set of hydrokinetic energy projects may be based on less information than the state would normally like to have about a proposed project. However, wave and tidal energy devices have many characteristics and potential environmental impacts similar to more familiar existing technologies. For example, some of these devices use components and materials similar to those of existing in-water structures (such as offshore oil platforms, buoys and power cables). Project proponents and California agencies can draw on studies done for these similar facilities to help gauge the type and extent of expected impacts.

SUGGESTED PATHWAY FOR STATE AGENCY PERMITS, LEASES AND CONSULTATIONS

Below is a suggested sequence and guidance for contacting the California agencies and determining the most efficient permitting and leasing path for a test or pilot hydrokinetic project.

- California Marine Renewable Energy Working Group
- California State Lands Commission
- California Coastal Commission or San Francisco Bay Conservation and Development Commission
- California Department of Fish and Game
- California State Water Resources Control Board or Regional Water Quality Control Boards
- California Public Utilities Commission

In addition to the state, the following other agencies or entities may have responsibilities to review and approve deployment of test and/or pilot hydrokinetic devices:

- Federal Energy Regulatory Commission
- Bureau of Ocean Energy Management
- U.S. Army Corps of Engineers
- National Marine Fisheries Service
- U.S. Fish and Wildlife Service
- U.S. Coast Guard
- U.S. Environmental Protection Agency
- Native American Tribes

The following subsections provide more detail about potential permits necessary for a test or pilot marine renewable energy project and the agencies and entities that developers should consult with.

OVERVIEW OF CALIFORNIA ENVIRONMENTAL QUALITY ACT COMPLIANCE

The basic goal of the California Environmental Quality Act (CEQA) ([Pub. Res. Code §21000 et seq.](#)) is for California's public agencies to identify the significant environmental effects of their actions on a range of resource areas, and either avoid or mitigate those significant impacts, where feasible. CEQA is implemented according to the State CEQA Guidelines ([Cal. Code Regs., tit. 14, §§ 15000-15387](#)), which are regulations that explain and interpret the CEQA statute. These Guidelines provide objectives, criteria and procedures for the orderly evaluation of projects and the preparation of CEQA environmental review documents. A summary of the CEQA process, as well as links to the statute and regulatory guidelines, can be found at <http://ceres.ca.gov/ceqa/summary.html>.

The degree of review required for CEQA compliance will depend on the scale or intensity of the project and its potential environmental impacts. The Guidelines identify several classes of projects which have been determined not to have significant effects on the environment and require no CEQA review beyond verification that an exemption fits (Cal. Code Regs., tit. 14, § 15300). Only projects that fall under one of these “categorical exemptions” *and* fail to trigger any of the exceptions, such as location in a sensitive environment, listed in the Guidelines (§ 15300.2) would qualify for an exemption from further CEQA review.

For projects that do not qualify for an exemption, one agency will take the lead in performing a more thorough review of the project’s potential impacts. For test and pilot hydrokinetic projects, this “lead agency” will generally be the agency managing the offshore land, either SLC or a local agency, having been granted the land by the Legislature. The lead agency will conduct an Initial Study to determine whether or not the project may have significant impacts, as measured against defined “thresholds of significance.” If the Initial Study finds no possibility of this, the lead agency prepares a Negative Declaration (ND) or, if extra measures are required to reduce impacts below significance, a Mitigated Negative Declaration (MND); this document would explain how the impacts identified in the Initial Study do not exceed the thresholds of significance. If there *is* a possibility of significant impacts, the lead agency will prepare an Environmental Impact Report (EIR), which involves a more detailed analysis of the significant impacts and feasible measures that would avoid or reduce the impacts. For any project’s approval, CEQA requires that agencies mitigate or avoid the project’s significant impacts where it is feasible to do so (Pub. Res. Code §21002.1, subd. (b)).

Note that all state agencies with permitting authority over a project are considered to be “responsible agencies” and as such are required to issue CEQA findings with their permits, certifying that the lead agency’s CEQA compliance and analysis were sufficient to inform that agency about project elements subject to that responsible agency’s authority. If the responsible agency finds the lead agency’s analysis to be inadequate for the responsible agency’s review, the responsible agency may require additional CEQA analysis and public review.

TIMELINE

To ensure transparency of the CEQA review process while avoiding unnecessary delays in project approvals or disapprovals, CEQA defines specific deadlines that agencies and commenters must meet; schedules differ by document type. The time that any specific CEQA review takes will depend on the completeness of information provided by the applicant as well as the availability of past research in the area and of CEQA documents for related projects.

- **For a ND or MND:**

The lead agency must consider adoption of the ND or MND within 180 days of accepting the project's application as "complete," and only after a 30-day public review period of the ND or MND.

- **For an EIR:**

The lead agency must consider certification of a Final EIR within one year of accepting the project's application as "complete." Before preparing the Draft EIR, the agency will circulate a Notice of Preparation for a 30-day review to solicit comments from agencies and the public on the proposed scope of the EIR. The lead agency will circulate the Draft EIR, upon completion, for a 45- to 60-day public comment period. Before considering certification of the Final EIR, the agency will respond to the comments received during this latter public review period.

- **For Projects with Federal Involvement:**

The CEQA Guidelines (§ 15110) recognizes that additional time may be required to prepare a combined EIR-Environmental Impact Statement (EIS) or similar document if the project is subject to CEQA and to the National Environmental Policy Act (NEPA; 42 United States Code [U.S.C.] § 4321 et seq.). See Joint CEQA/NEPA Processes below for additional information.

In each case, other agencies will couple their review with that of the lead agency and are required to take action within 180 days of the lead agency's approval or disapproval of the project.

JOINT CEQA/NEPA PROCESSES

Any federal agency issuing a federal license and/or permit must first conduct an environmental review pursuant to the NEPA. The MOU between the State of California and FERC states that the two entities agree to "coordinate their environmental reviews of any proposed hydrokinetic projects...so that documents prepared by FERC for review under the National Environmental Policy Act may, to the extent practicable and permitted by California law, be used by California to satisfy the requirements of the California Environmental Quality Act." In other words, FERC and/or the Bureau of Ocean Energy Management and California agencies will seek to develop joint CEQA/NEPA processes and documents where feasible to avoid duplication and provide timely environmental review. The CEQA guidelines provide specific instructions on the conduct of joint CEQA/NEPA processes.

Pilot Projects: Pilot projects will require a license from FERC. In this case, FERC would conduct an environmental review under NEPA and make a determination before issuing a license.

Test Projects: Test projects may not require a license from FERC. However, for those that have anchoring systems, the project will likely require a permit from the U.S. Army Corps of Engineers, which will then be obligated to conduct a review under NEPA.

CALIFORNIA MARINE RENEWABLE ENERGY WORKING GROUP

The California Marine Renewable Energy Working Group (Working Group) is comprised of the California permitting agencies that will likely have jurisdiction over marine renewable energy developments. The Working Group was established by the California Ocean Protection Council to identify strategies for addressing statewide information gaps important to evaluating marine renewable energy proposals and to improve coordination of state and federal permitting processes, including the development of state-federal agreements.⁶ The Working Group meets on a quarterly basis and meetings are frequently attended by federal regulatory agencies and interested stakeholders and academic institutions.

Through early and collaborative engagement, the Working Group can coordinate reviews and share information, thus reducing the overall time and effort expended by project developers in agency consultations. Developers are encouraged to use Working Group meetings to introduce their project and solicit initial feedback on necessary permits, potential regulatory challenges, and key stakeholders to consult.

The Working Group is chaired by the California Ocean Protection Council (OPC) and the California Energy Commission (CEC). Contact OPC staff, Laura Engeman at lengeman@scc.ca.gov or CEC staff, Eugenia Laychak at elaychak@energy.state.ca.us about meeting schedules.

CALIFORNIA STATE LANDS COMMISSION

RELEVANT AUTHORITY:

The State Lands Commission (SLC) is the primary State of California land manager for state marine waters and has the authority to lease state lands for uses that are consistent with the “public trust” protections involving navigable waterways.

⁶ The Working Group developed a Memorandum of Understanding between California and the Federal Energy Regulatory Commission to develop a procedure for coordinated and efficient review of proposed hydrokinetic projects that is responsive to environmental, economic, and cultural concerns, while providing a timely and predictable means for developers of such projects to seek necessary state and federal approvals. (See appendix D for the MOU).

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and other waterways upon its admission to the United States in 1850. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion or where the boundary has been fixed by agreement or a court. By statute, the California Legislature granted certain of these sovereign lands in trust to 85 cities, counties, and harbor districts. The lands are known as "granted lands," and include the major ports of Los Angeles, Long Beach, San Diego, San Francisco, Oakland, Richmond, Benicia and Eureka. SLC staff monitors the granted lands to ensure compliance with the terms of the statutory grants, the California Constitution and the Public Trust Doctrine; however, land use permissions and CEQA determinations for projects on these granted lands would come from the grantees and not the SLC.

In summary, the SLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways, and holds certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All of these tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust and, in deciding to grant leases or permits, the SLC will evaluate whether or not a proposed project is consistent with the Public Trust Doctrine. Although courts have recognized that the Public Trust Doctrine is flexible and that it includes water-related public serving and recreational uses, as well as environmental protection, open space, and preservation of scenic areas, the overarching principle of the Public Trust Doctrine is that trust lands and trust assets belong to the statewide public and are to be used to benefit the statewide public rather than for local community or municipal purposes. For more detailed information on the history of the Public Trust and its application today, please see the presentation developed by SLC staff at http://www.slc.ca.gov/Misc_Pages/Public_Trust/Public_Trust.pdf, as well as the SLC's Public Trust Policy at http://www.slc.ca.gov/policy_statements/public_trust/public_trust_policy.pdf.

With regards to renewable energy development, the SLC recognizes the threat that climate change and elevated greenhouse gas emissions present to California and its residents and encourages the submission of applications for use of state lands for clean renewable energy generation and transmission. In October 2008, the SLC approved a resolution supporting conscientious renewable energy development on State school lands (see the resolution on the SLC's website at http://www.slc.ca.gov/Renewable_Energy/Documents/Resolution.pdf). In February 2011, the SLC joined other state agencies in an MOU, committing to coordination with other agencies to streamline permitting and thus encourage renewable energy development (see the staff report for the MOU at http://archives.slc.ca.gov/Meeting_Summaries/2011_Documents/02-08-11/Items_and_Exhibits/C35.pdf).

RELEVANT REGULATORY LEASE AND REVIEW:

State Tidelands Lease

Any test or pilot marine renewable energy project proposed for California's state waters, except those on legislatively granted lands (see discussion in "Relevant Authority" above), will be required to obtain a lease from the SLC for use of State sovereign lands. After deciding on a specific area for the proposed project, the project proponent should contact SLC staff, who can determine whether the project would occupy State sovereign lands under the jurisdiction of the SLC or granted lands under the management of a legislative grantee. Uses of sovereign lands may include, but are not limited to, structures on sovereign lands such as device-anchoring on sovereign lands. After a determination of jurisdiction, SLC staff will also identify the type of lease or approval that would be required. For projects on State sovereign lands, the SLC will act as the lead agency in the project's CEQA review; consequently, applicants should submit an application to SLC early on, as the application and CEQA review processes described in this guidance document can sometimes be one of the lengthier project reviews.

Applicants must complete and submit to the SLC all sections of the SLC application (available at http://www.slc.ca.gov/Online_Forms/Surface_Leasing_Application_Home_Page.html), along with an application processing fee and minimum expense deposit. The SLC is required to recover all costs associated with processing the lease application. In addition, if the SLC is the Lead Agency, applicants will be required to reimburse the SLC for the costs of preparation of the environmental documentation for the project. Upon receipt of the application and its associated fees, the applicant will receive a reimbursement agreement providing an estimate of all anticipated costs. Processing costs and environmental fees are calculated based on actual or estimated costs plus proportional overhead. If the deposit amount is less than those costs, the applicant will be required to submit additional costs within the allowable time period. If the deposit amount is more than these costs, the applicant will be refunded the difference. An executed reimbursement agreement to cover the SLC staff cost to process the application is required as part of a complete application.

As soon as the application is accepted as complete, SLC staff will take all steps necessary to process the application, including but not limited to title work, land descriptions, appraisals, engineering and environmental review. Applicants may need to provide supplemental information and/or additional clarification as the application process progresses as required by law and the SLC's application requirements.

In some cases, the terms and conditions of a SLC lease are subject to negotiation on a case-by-case basis based on relevant facts. Once the terms and conditions have been agreed to and the lease has been executed by the applicant, SLC staff will place the item on the agenda for consideration by the

SLC at a regularly-scheduled meeting. Items to be considered by the SLC must be finalized at least one month prior to the scheduled meeting.

The SLC is under no obligation to approve any application submitted to it. The SLC may approve, condition, or deny any application.

For further information on submitting a surface lease application, please go to the SLC's website at <http://www.slc.ca.gov/> or contact the SLC's Land Management Division at (916) 574-1940.

SPECIFIC PROVISIONS RELEVANT TO A TEST/PILOT MARINE RENEWABLE ENERGY PROJECT:

For **TEST** projects:

Generally, the SLC will not charge royalty fees because these types of projects will not generate a profit from the energy they produce; however, the SLC has broad discretion in all aspects of leasing, including the most appropriate method or amount of rental and how rental should be adjusted during the term of the lease. Therefore, the SLC may still charge a rent, based on the location and size of the project area on sovereign land. In addition, the SLC will determine if bonding and insurance should be required and in what amounts. The lease may include provisions for construction, engineering, monitoring and restoration of the lease premises at the expiration of the lease.

TIMELINE

The SLC application process, particularly for projects that require the SLC staff as lead agency to prepare and circulate for public review a ND, MND or EIR, can take from a few months to a year, depending on the type of CEQA or joint CEQA/NEPA document and the complexity of the project. Further details on the application timeline and deadlines are provided in the application packet available on the SLC website.

CALIFORNIA COASTAL COMMISSION

RELEVANT AUTHORITY

The California Coastal Commission (CCC), in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone under the California Coastal Act. In California, the coastal zone extends seaward to the state's outer limit of jurisdiction (approximately three nautical miles) and inland to the point designated on the maps adopted by California's legislature.

RELEVANT REGULATORY PERMIT AND REVIEW:

Coastal Development Permit

The CCC issues Coastal Development Permits for offshore activities and certain specified lands (e.g., tidelands and public trust lands) except for activities in the San Francisco Bay, where coastal development permits would be in areas administered by the San Francisco Bay Conservation and Development Commission.

Coastal Development Permit Applications will likely require copies of any environmental documentation prepared for the project (CEQA reports) and verification of all other permits, permissions or approvals applied for or granted by local, state or federal agencies. Other information needed as part of an application submittal will vary based on the particular design and location of a proposed project. Although this application may be submitted after other permits are acquired, it is recommended that all project applicants consult very early with the CCC on the documentation to be required with the application, as well as to identify key stakeholders that should be consulted.

Application forms, permit fees, and other guidance are available on the CCC's website at <http://www.coastal.ca.gov/cdp/cdp-forms.html>

Federal Coastal Zone Consistency

Section 307 of the federal Coastal Zone Management Act A requires that federally licensed or permitted activities be consistent with state coastal management policies. The CCC conducts this *federal consistency review* process for federal activities or for projects that affect the coastal zone (other than within San Francisco Bay) and that need federal permits and licenses. For example, test and Pilot hydrokinetic projects that require a §10 Rivers and Harbors Act Permit, a § 404 Permit, a Nationwide Permit, or a FERC license will require a consistency review. When projects also need a Coastal Development Permit, the federal consistency review is generally done concurrently with permit review. The applicant is to provide the CCC with a copy of its consistency statement along with necessary data and information so that the CCC can concur or object to the certification. Federal agencies cannot issue their license or permit until the CCC has either concurred with the certification or has waived the need for consistency. The CCC staff can assist the applicant in preparing for consistency review, and additional information is available on the CCC's website at <http://www.coastal.ca.gov/fedcd/fedcndx.html>

SPECIFIC PROVISIONS RELEVANT TO A TEST/PILOT MARINE RENEWABLE ENERGY PROJECT:

Applicants for test and pilot projects in coastal waters (other than San Francisco Bay) are required to apply to the CCC for a Coastal Development Permit. Applications should include a detailed description of the proposed project, including the type, number, and specific design characteristics of the devices, and a description of the proposed location and its environmental features, including the types of habitat and species present as well as other coastal uses that occur there (e.g., navigation, recreation, fishing, etc.). For projects that are very small and short-term, that have no potential for adverse effects, either individually or cumulatively, on coastal resources, and that are consistent with the Chapter 3 policies of the Coastal Act, the CCC may consider approving a “*de minimis*” waiver. Waivers have been issued by the CCC for temporary and very small scientific observation instruments.

TIMELINE

The time needed to complete a CDP review process varies based on the type and amount of information needed about a particular proposed project, the project’s complexity and its potential effects on coastal resources, and the level of coordination with other permit review processes. Once the CDP application is complete and the CCC staff has the necessary information about a project, they have 49 days to schedule an application for a decision at a public meeting. CCC staff prepares a report for the CCC that includes a recommended decision and conditions meant to ensure the project meets Coastal Act requirements. The recommendation is then considered at one of the monthly public hearings the CCC holds at different locations around the state.

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

RELEVANT AUTHORITY

The San Francisco Bay Conservation and Development Commission (BCDC) was created by the California Legislature in 1965 to protect and regulate the land and water in the San Francisco Bay Area. BCDC is also responsible for administering the federal Coastal Zone Management Act within the San Francisco Bay segment of the California coastal zone to ensure that federal activities reflect Commission policies.

RELEVANT REGULATORY PERMIT AND REVIEW:

BCDC Permit

A BCDC permit is required for any marine renewable energy project in the San Francisco Bay area (land and in-water bay) that includes the following activities:

- Placing solid material, building or repairing docks, pile-supported or cantilevered structures, disposing of material or mooring a vessel for a long period in San Francisco Bay or in certain tributaries that flow into the Bay.
- Dredging or extracting material from the Bay bottom
- Substantially changing the use of any Bay structure or area
- Construction, remodel or repair of a Bay-located structure

Federal Coastal Zone Consistency

For projects in San Francisco Bay, BCDC (instead of the CCC) either concurs or objects to certification of federal coastal zone consistency. The BCDC staff can assist the applicant with its consistency application.

SPECIFIC PROVISIONS RELEVANT TO A TEST/PILOT MARINE RENEWABLE ENERGY PROJECT:

Contact BCDC directly to obtain information about specific provisions relevant to test and pilot projects.

CALIFORNIA DEPARTMENT OF FISH AND GAME

RELEVANT AUTHORITIES

As the trustee for the State's fish and wildlife resources, the California Department of Fish and Game (CDFG) has jurisdiction over the conservation, protection, and management of fish, wildlife, and habitat necessary for biologically sustainable populations of those species. In this capacity, the Department administers the California Endangered Species Act, the Native Plant Protection Act, and other provisions of the California Fish and Game Code that afford protection to the State's fish, wildlife, and plant resources. The Department is also recognized as a "Trustee Agency" under the California Environmental Quality Act. Pursuant to its jurisdiction, the Department will provide comments concerns, and recommendations regarding potential project impacts.

Within CDFG, the Marine Region provides project and CEQA review, as well as California Endangered Species Act consultation for all projects in marine and estuarine waters. For projects with a component above the mean high-tide line, the appropriate coastal land region should also review potential projects.

RELEVANT REGULATORY PERMIT AND REVIEW:

CDFG will review and provide comments with regards to potential impacts to the State's fish, plant, and wildlife, and their habitats. Potential impacts include those to water quality and pollution, as well as impacts to recreational and commercial fisheries, and sensitive habitats such as eelgrass.

Mandatory California Endangered Species Act Consultation

State agencies are required to consult with CDFG to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat, per the California Endangered Species Act (CESA). In the event that the project will result in the "take" of any fish, wildlife, or plant species listed as endangered or threatened under CESA, the applicant must apply for an incidental take permit (ITP) to avoid criminal and civil prosecution for unlawful take. CDFG can authorize take and issue an ITP if it finds that the take is incident to an otherwise lawful activity, the impacts of the authorized take will be minimized and "fully mitigated", the applicant has ensured adequate funding for the minimization and mitigation measures to be adopted and the take associated with the project will not jeopardize the continued existence of the species.

SPECIFIC PROVISIONS RELEVANT TO A TEST/PILOT MARINE RENEWABLE ENERGY PROJECT:

Applicants should consult with CDFG to identify potential impacts of their test and/or pilot marine renewable energy project to endangered or threatened species. In the past, the State Lands Commission and the California Coastal Commission have requested monitoring plans as part of their permit/lease applications so applicants should consider consulting with CDFG to prepare these plans to expedite the permitting process.

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

RELEVANT AUTHORITY

The State Water Resources Control Board works in coordination with its nine Regional Water Boards to preserve, protect, enhance and restore water quality in the state's marine and inland waters.

The Regional Water Boards have jurisdiction over their designated regions out to 3 nautical miles. For projects that overlap more than one regional jurisdiction, the State Water Resources Control Board will review the project.

RELEVANT REGULATORY CERTIFICATION AND REVIEW

Clean Water Act National Pollutant Discharge Elimination Permit (NPDES)

For offshore energy projects that have point source discharges of waste, either during the construction phase or in the operation phase, an NPDES permit may be required. In order to apply for an NPDES permit the applicant must submit a Report of Waste Discharge a minimum of 180 days prior to the proposed discharge. The Report of Waste Discharge must be submitted to each Regional Water Board for a project in its region. For more information see:

http://www.waterboards.ca.gov/water_issues/programs/npdes/

Nonpoint Source Policy

The Regional Water Boards may determine that a project is not a point source of water pollution, but is instead a nonpoint source. According to the State's Nonpoint Source (NPS) Policy the Water Boards may decide to regulate the discharge in one of three ways, by issuing: 1) Waste Discharge Requirements (WDRs), 2) a conditional waiver of WDRs, 3) a prohibition. For more information see:

http://www.waterboards.ca.gov/water_issues/programs/nps/

Clean Water Act 401 Water Quality Certification

In California, a Clean Water Act section 401 water quality certification (401 certification) and associated Waste Discharge Requirements (WDRs) are required for all projects or activities which entails dredge and fill activities which may affect wetlands or the bed, banks, shore or sea bottom of any waters of the state (i.e., any activity which fills, removes, or alters the substrate of any waters). All aspects of the project, including energy production devices and any cables in, on, or under state waters (including wetlands) are considered in the review.

If no federal license is involved, WDRs are required, using the same application and similar review processes as 401 certifications .

Applications for projects requiring a FERC license are reviewed by the State Water Resources Control Board’s Division of Water Rights. In those cases, the Division of Water Rights would provide – or deny – the 401 certification/WDRs. Projects for which no FERC license is involved, and for which no water rights or other concerns that are specific to the Division of Water Rights are found, would be required to seek 401 certification from the appropriate Regional Water Quality Control Board (Regional Water Board) or, in the case of multi-regional projects, the State Water Board’s Division of Water Quality.

Regardless of the pathway to 401 certification, State law requires that a final environmental document developed under the California Environmental Quality Act (CEQA) must be certified by a lead agency *before* a 401 certification may be issued. If the project is exempt from CEQA, the application should explain why and provide appropriate documentation. Such documentation should be in the form of a statement from an agency qualified to act as lead agency certifying the exemption. Private parties and unqualified entities cannot make this certification.

Applicants should consult with the appropriate Regional Water Board or Division of the State Water Board during the planning process, to ensure that the project’s CEQA analysis and application for 401 certification address all impacts which may be regulated through 401 certifications.

SPECIFIC PROVISIONS RELEVANT TO A TEST/PILOT MARINE RENEWABLE ENERGY PROJECT

If a test project involves any “dredge or fill” activities, it will require a 401 permit. Non-FERC licensed projects, such as test projects, would seek 401 certification from the affected Regional Water Board or the State Water Board’s Division of Water Quality in the case of multi-regional projects.

CALIFORNIA PUBLIC UTILITIES COMMISSION

Pilot projects that are grid connected will require an interconnection with the franchised public utility to enable the power produced by the pilot project to be delivered to end users via the grid. The infrastructure connections could include a gen-tie line, a substation, a switching station, or other electrical elements. The equipment that is utility owned or operated will likely require the utility to seek approval from the California Public Utilities Commission (CPUC) and will be subject to CEQA compliance. Ideally, the CPUC will rely on the environmental document for the pilot project for its CEQA review. The environmental document should include a detailed analysis of the utility

connections, including electrical connections, telecommunications connections, and a robust description of greenhouse gases.

FEDERAL AGENCIES OR ENTITIES

FEDERAL ENERGY REGULATORY COMMISSION (FERC)

HYDROKINETIC PILOT PROJECT LICENSE

FERC requires a pilot project license for hydrokinetic projects that meet the definition of a pilot project. For more information on the license process, see

<http://www.ferc.gov/industries/hydropower/gen-info/licensing/hydrokinetics/energy-pilot.asp>

The following information is required by FERC as part of both pilot and conventional licensing (as listed below and described in 18 CFR § 5.6).

Recreation and Land Use A description of the existing recreational and land uses and opportunities within the project boundary (18 CFR § 5.6(viii)).

Aesthetic Resources A description of the visual characteristics of the lands and waters affected by the project. Components of this description include a description of the device, natural water features, and other scenic attractions of the project and surrounding vicinity. Potential applicants are encouraged to supplement the text description with visual aids (18 CFR § 5.6(ix)).

Wildlife Information Related to Recreation - Temporal or spatial distribution of species considered important because of their commercial, recreational, or cultural value (18 CFR § 5.6(v)(b)).

Note: The U.S. Department of Energy, the National Park Service, and the Hydropower Reform Coalition prepared a comprehensive guidance document, [Hydrokinetic Energy Projects & Recreation: A Guide to Assessing Impacts](#), that evaluates impacts of new hydropower technologies on recreation and provides strategies for avoiding, minimizing, and mitigating impacts. In addition to identifying potential effects, the guide provides frameworks for studies and protection strategies, as well as information on how to effectively participate in the licensing process. This guidance document is an excellent resource for further information on this topic.

BUREAU OF OCEAN ENERGY MANAGEMENT (BOEM)

The Bureau of Ocean Energy Management, a bureau in the U.S. Department of Interior, is the lead federal agency for renewable energy leases on the Outer Continental Shelf (OCS). This includes hydrokinetic energy projects and offshore wind. Most renewable energy projects on the OCS are authorized by a lease; however, some projects may also require a “grant” for access to and use of the OCS.

In addition to a lease from BOEM, construction and operation of hydrokinetic projects on the OCS will require a license from FERC. It is important to note that FERC will not issue a license until BOEM has issued a lease for the project; likewise, construction and operation of a hydrokinetic project on the OCS cannot commence without a FERC license, even if a lease has been issued. However, certain cases may allow hydrokinetic developers to conduct some technology testing under a commercial lease prior to receiving a FERC license (see *Verdant Power*, 111 FERC ¶ 61,024, clarified at 112 FERC ¶ 61,143).

OUTER CONTINENTAL SHELF OCEAN RENEWABLE ENERGY LEASES

The following leases apply to ocean renewable energy projects (hydrokinetic and offshore wind) on the OCS. However, any references to FERC licenses only apply to hydrokinetic projects as FERC does not issue licenses for offshore wind.

A Limited Lease – This type of lease is typically issued for a 5-year term and authorizes activities such as site assessment and technology testing. A limited lease does not authorize long-term or large-scale operations, and it cannot be converted into a commercial lease. BOEM will not issue a limited lease for a hydrokinetic project if a FERC license would be required at any point in the project life.

A Commercial Lease – This type of lease grants the leaseholder with access and operational rights to produce, sell, and deliver renewable energy, as well as the right to one or more project easements for the purpose of installing transmission cables and other needed facilities. Commercial leases are generally issued for a 30-year term, including an initial 5-year site-assessment term and a 25-year construction and operations term. Longer lease terms may be negotiated to correspond with the operations term in a FERC license or to accommodate pilot-project relicensing.

SPECIFIC PROVISIONS RELATING TO PILOT AND TEST PROJECTS

If FERC determines a project to be a “test” project and, therefore, exempt from needing a FERC pilot or commercial license (consistent with the *Verdant Power LLC*. Ruling), a lessee may conduct limited testing under its BOEM commercial lease without receiving a FERC license.

BOEM may also issue leases and OCS grants to Federal agencies and States for testing offshore renewable energy technologies (§ 285.238.). This type of authorization, commonly referred to as a Research Lease, may be issued after giving public notice, determining that there is no competitive interest in the area, and ensuring compliance with all relevant Federal authorizations. For hydrokinetic technology testing, BOEM may issue a research lease or grant to a Federal agency or State only if FERC determines that the proposed hydrokinetic research activities on the OCS will not require a license or exemption. The purposes, issue process, and terms of this kind of lease or grant may be established by BOEM and a Federal agency or a State on a case-by-case basis, or pursuant to a framework established by a Memorandum of Agreement.

NATIONAL MARINE FISHERIES SERVICE AND U.S. FISH AND WILDLIFE SERVICE

Various federal consultations with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service will be required for pilot and test marine renewable energy projects to avoid impacts to fish and wildlife resources.

For pilot hydrokinetic projects, FERC will typically be the lead Federal Agency and incorporate these consultations into its licensing process. For test hydrokinetic projects or non-hydrokinetic projects that do not require a FERC license, applicants will still be required to consult with these agencies to provide information about potential impacts and to develop monitoring or adaptive management plans to avoid impacts. These consultations can typically be closely coordinated with the California Department of Fish and Game.

ESSENTIAL FISH HABITAT (EFH) MANDATORY CONSULTATION

EFH are areas designated as essential to the long-term survival and health of managed fisheries, and include those habitats that support the different life stages of each managed species. The Magnuson-Stevens Fishery and Conservation Act (MSA) mandates that FERC consult with National Marine Fisheries Service (NMFS) and perform an EFH assessment for any proposed project that FERC is authorizing that may negatively affect EFH. Regional Fisheries Management Councils and the federal action agency will also be involved in this consultation. NMFS strongly encourages agencies and project applicants to discuss EFH concerns in pre-application planning and other early phases of project development. A Guide to EFH Consultation is available

http://www.habitat.noaa.gov/pdf/efhconsultationguidancev1_1.pdf.

THE MARINE MAMMAL PROTECTION ACT (MMPA) PERMIT

The MMPA makes it illegal to “take” or “harass” any marine mammal without prior authorization. The MMPA includes two authorization processes: an Incidental Harassment Authorization (IHA) and a Letter of Authorization (LOA). Each of these authorizations provides for the incidental, but not intentional, take of small numbers of marine mammals while engaging in a specified activity (other than commercial fishing), provided that the take will have a negligible impact on the species. NMFS is responsible for authorizing take under the MMPA. NMFS will perform a NEPA review when issuing an authorization for marine mammal take. If NMFS believes the federal action agency’s NEPA document sufficiently analyzes marine mammal issues, then it may decide that a Categorical Exclusion is appropriate and simply adopt the federal agency’s NEPA document. Otherwise, NMFS will prepare its own NEPA document for the issuance of an MMPA permit.

US FISH AND WILDLIFE SERVICE (USFWS) MANDATORY CONSULTATION

The Fish and Wildlife Coordination Act (FWCA) requires all federal agencies to consult with and give strong consideration to the views of the USFWS and state wildlife agencies regarding the fish and wildlife impacts of projects that propose to alter a body of water. Federal agencies must consult with relevant state and federal natural resource agencies to ensure that the construction, maintenance, and operation of a facility is in accordance with the FWCA to prevent the loss of or damage to fish or wildlife resources.

MIGRATORY BIRD TREATY ACT (MBTA) MANDATORY CONSULTATION

The MBTA requires Federal agency consultation to ensure the protection of migratory bird species. These can include flight hazards to birds (i.e. transmission lines). It is important to address potential migratory bird impacts at the early stages of project planning as the potential impacts may be fairly complex. The USFWS is the lead agency for MBTA consultation, and other agencies involved include the federal action agency and state wildlife agencies.

ARMY CORPS OF ENGINEERS

§10 AND § 404 PERMITS OR A NATIONWIDE PERMIT

In February 2011, the Army Corps of Engineers (ACOE) proposed a nationwide permit (NWP) for offshore wind and hydrokinetic pilot projects that would give developers a reprieve from obtaining permits under §10 of the Rivers and Harbors Act and § 404 of the Clean Water Act for the “construction, expansion, or modification of water-based wind or hydrokinetic pilot projects and their

attendant features". Under the new NWP, "attendant features" may include transmission lines, roads, land-based distribution facilities, parking lots, and stormwater management facilities.

The new NWP would authorize wind and hydrokinetic pilot projects with no more than 10 individual generation units (e.g., turbines, buoys) that do not cause the loss of greater than 1/2 acre of waters of the United States, including the loss of no more than 300 linear feet of stream bed. However, the NWP would not authorize activities on coral reefs and no structure could be placed in (1) established danger zones or restricted areas, (2) shipping safety fairways or traffic separation schemes established by the U.S. Coast Guard, or (3) open water dredged material disposal areas designated by the Corps or the Environmental Protection Agency. Permittees under the new NWP would be required to notify the Corps' district engineer as early as possible prior to construction.

U.S. COAST GUARD

PATON PERMIT

Marine renewable energy devices will need to comply with U.S. navigation standards. Before deploying any structure, the owner/operator must apply authorization to properly mark the structure. Navigation aids for marine renewable energy projects will be installed and maintained by the project owner/operator; as such, these markings are classified as Private Aids to Navigation (PATON). The United States Coast Guard (USCG) is responsible for PATON permitting. However, the ACOE will likely be involved in reviewing proposed projects that need a PATON permit because the COE must approve the project's NWP (or § 404 and § 10 permits) before navigational aids will be considered.

U.S ENVIRONMENTAL PROTECTION AGENCY

If a marine renewable energy project is located and/or proposes to emit a discharge into federal waters (outside of the 3 nautical mile state waters boundary), the project will require a National Pollutant Discharge Elimination System (NPDES) permit issued by the EPA. As discussed above, permits for projects located in state waters are issued by the State or one of the state's Regional Water Regional Water Quality Boards.

NATIVE AMERICAN TRIBES

Native American Tribes (both federally recognized and other California Native Americans) should be consulted to determine if a project will impact tribal fishing rights, sensitive archaeological sites, and/or tribal use of marine waters. Applicants are advised to contact the Bureau of Indian Affairs (<http://www.bia.gov/>) and the Californian American Heritage Commission (<http://www.nahc.ca.gov/>) to determine tribal entities in their project area.

LOCAL AGENCIES OR ENTITIES

There are a few areas off of California where local governments are the landowners of nearshore waters (up to 3nm) off the California coast (see the discussion on granted lands in the SLC section above). After deciding on a specific area for the proposed project, the project proponent should contact SLC staff, who can determine whether the project would lie on SLC-managed State sovereign lands or on granted lands under the management of one of these cities, counties or ports.

STAKEHOLDER CONSULTATIONS

State and federal agencies can advise applicants on key marine users and stakeholders that will be important to consult for a proposed project area. Applicants are advised to contact stakeholders to determine areas of commercial and or recreational significance, such as high use fishing areas, or high use surfing, diving, or other recreational zones that may pose conflicts for a marine renewable energy site.

MONITORING REQUIREMENTS FOR PILOT AND TEST PROJECTS

California agencies recognize that test and pilot projects are by definition small, and depending on their location and design, also less likely to have significant impacts on marine habitats and other marine uses. However, many of the device technologies have never been deployed in ocean waters, so interactions between the device and the habitat or other marine users still pose uncertainties. It is likely a monitoring plan will be required by most of the California agencies, so early drafts of and discussions on monitoring plans with the agencies can provide for more efficient permit processing. Applicants should consider the following questions about their project and work with state agencies to draft monitoring approaches that can both ensure that marine life is not being impacted, and provide valuable information for future analyses of commercial or larger-scale development.

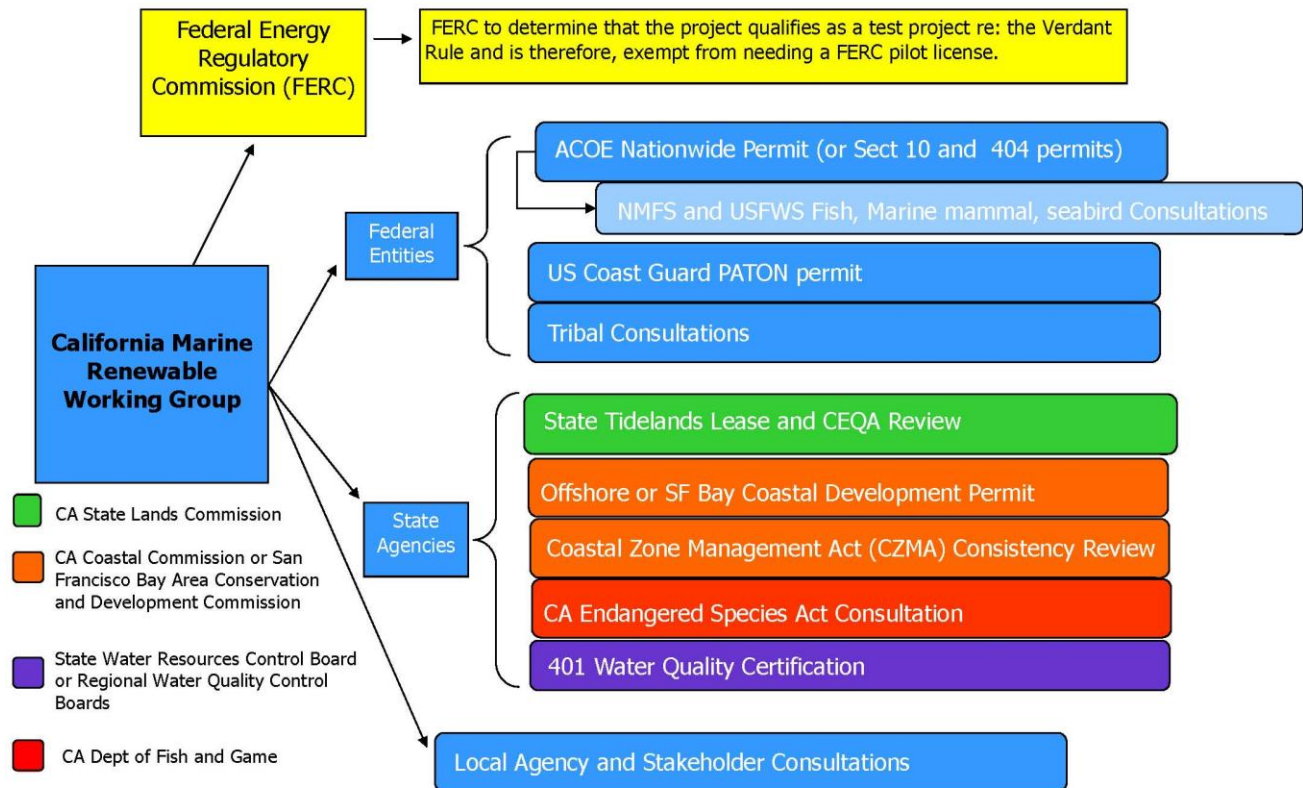
- **Impacts to marine species and habitats:** For hydrokinetic projects, FERC requires “no impact” to sensitive areas (rocky reefs, marine protected areas); however applicants may propose sites where specific species or habitats may experience adverse impacts from the operation of the hydrokinetic device (i.e. electromagnetic field, trapping marine life in screens or pumps, acoustic impacts, etc.). Additionally, the duration of infrastructure in the marine environment can also result in alterations of habitat and/or species activity in the marine environment. Applicants should consult with NMFS and CDFG to identify potential monitoring strategies.
- **Impacts to hydrologic processes and substrates that support beneficial uses of waters.**
- **Components above-surface:** Above surface components may have higher likelihood of attracting marine mammals and seabirds, and being aesthetically displeasing to the public. Limiting above-water infrastructure or installing marine mammal/sea bird deterrents should be considered by applicants.
- **External moving components:** External moving components of a device may have higher likelihood of impacting marine life (e.g. marine mammal entanglement or habitat disturbance may be higher with great number of cables, anchors, or external moving components). Applicants are likely to encounter more rigorous monitoring and permitting conditions for projects with more of these risks.

APPENDIX A: MARINE RENEWABLE ENERGY DEVICE ATTRIBUTES AND PERMIT CONSIDERATIONS

- 1. Anchoring** Soft Bottom v. rocky reef habitat, damage to benthic system
- 2. Mooring lines** Entanglement for marine mammals or entanglement with fishing gear (can also increase risk of marine mammal entanglement)
- 3. Cables** Connection to the grid = FERC Pilot Permit necessary
Buried v. not buried cables; shielding for EMF recommended
- 4. Energy Generation Device** Noise impacts to marine mammals
Hydraulic fluids
Entrainment or impingement potential - harm to marine species
Bird attraction and collisions
Space-use conflicts with other maritime uses
- 5. Above Water Structures** Lighting - bird attraction and collisions
Marine mammal haul-outs
- 6. Chemical Compounds** Anti-fouling paints
- 7. Discharges**
- 8. Noise during construction/operation/decommissioning**
- 9. Cumulative impacts of multiple devices (1 v. 5)**

APPENDIX B: PERMITTING ROADMAP FOR TEST HYDROKINETIC PROJECT

Permitting Roadmap for a Test Project in California Waters (non-grid connected)



APPENDIX C: TABLE OF STATE AND FEDERAL REGULATORY AUTHORITIES AND STATUTES

Authorization/Review	Primary Legal Authority	Lead Agency
State Authorities		
CEQA Declaration	California Environmental Quality Act, PUB. RES. CODE § 21000 et seq.	The lead agency can vary depending on the project, but is likely to be State Lands Commission.
State Tidelands Lease	California Public Resources Code	State Lands Commission
Coastal Development Permit	California Coastal Act, PUB. RES. CODE § 30000 et seq.	California Coastal Commission or San Francisco Bay Conservation and Development Commission
CZMA Federal Consistency Determination	Coastal Zone Management Act §307	California Coastal Commission or San Francisco Bay Conservation and Development Commission
California Endangered Species Act	Species Consultation	California Department of Fish and Game
§ 401 Water Quality Certification	Clean Water Act § 401; CAL. CODE REGS. tit. 23, § 3.28	State Water Resources Control Board or Regional Water Quality Control Boards
Certificates of Public Convenience and Necessity Permits to Construct	Public Utilities Act, Public Utilities Code, section 1001 et seq, General Order 131-D	Public Utilities Commission

Authorization/Review	Primary Legal Authority	Lead Agency
Federal Authorities		
Federal Hydrokinetic Preliminary Permit and/or Pilot License	Federal Power Act, Energy Policy Act of 2005	Federal Energy Regulatory Commission
Limited or Commercial OCS Lease	Outer Continental Shelf Lands Act, Energy Policy Act of 2005	Bureau of Ocean Energy Management
U.S. Fish and Wildlife Service Mandatory Consultation and Migratory Bird Treaty Consultations	Fish and Wildlife Coordination Act Endangered Species Act Federal Power Act of 2005 Migratory Bird Treaty Act	U.S. Fish and Wildlife Service
Essential Fish Habitat (EFH) Mandatory Consultation and Marine Mammal Protection Act Permit	Magnuson-Stevens Act Marine Mammal Protection Act	National Marine Fisheries Service
§ 7 ESA Consultation	Endangered Species Act	National Marine Fisheries Service, U.S. Fish and Wildlife Service
Nationwide or Individual CWA § 404 Permit and ACOE § 10 Permits	Section 404 Clean Water Act Section 10, Rivers & Harbors Act	U.S. Army Corps of Engineers
Private Aids to Navigation Permit	Coast Guard Regulations	U.S. Coast Guard

MEMORANDUM OF UNDERSTANDING BETWEEN

THE FEDERAL ENERGY REGULATORY COMMISSION

AND

THE CALIFORNIA NATURAL RESOURCES AGENCY, THE CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY AND THE CALIFORNIA PUBLIC UTILITIES COMMISSION

REGARDING COORDINATED REVIEW OF HYDROKINETIC FACILITY AUTHORIZATIONS IN MARINE WATERS WITHIN THE STATE OF CALIFORNIA

I. Information and Background

California has a goal of producing 33 percent of its electricity from renewable energy sources by 2020. Powerful wave energy off the coast of California has the potential to serve as an additional renewable energy source for California. Currently, several energy technology developers and utilities have expressed interest in testing and deploying devices in the marine waters within the state of California in an effort to harness the state's wave energy. California supports the development of this new energy source if implemented effectively, efficiently, and in compliance with all state and federal environmental standards and public trust needs.

The Federal Energy Regulatory Commission (the Commission) has authority to license under Part I of the Federal Power Act, 16 U.S.C. §§ 791a *et seq.* (FPA) non-federal wave and tidal energy projects, also referred to as hydrokinetic projects, located in California state marine waters. California has authority under federal law regarding hydrokinetic projects located in, and adjacent to its marine waters, including the Submerged Lands Act of 1953, 43 U.S.C. 1301; Coastal Zone Management Act (16 U.S.C. §§ 1451 *et. seq.*), the Clean Water Act (33 U.S.C. §§ 1251-1387), the National Historic Preservation Act (16 U.S.C. §§ 470 *et. seq.*), and the FPA. California state law also includes provisions applicable to regulating and siting hydrokinetic projects in its marine waters, including proprietary leasing authorization, authorization to use waters and the seabed of the state, authorization to use the shoreline, and authorization for marine uses that may impact marine life. [*E.g.*, California Organic Act, Cal. Const., Art. III, § 2; Cal. Gov. Code, §§ 170, 171; Cal. Harbors and Nav. Code § 107; California Coastal Act (Cal. Pub. Res. Code § 30000, *et seq.*)].

II. The Parties

This Memorandum of Understanding (MOU or Agreement) is entered into by and between the California Natural Resources Agency, the California Environmental Protection Agency, and the California Public Utilities Commission ("California Parties") and the Commission (collectively referred to as "Parties"). This Agreement will become effective as of the latest date shown on the signatures page(s), which are attached to this Agreement and incorporated herein.

III. The Purpose

This Agreement seeks to develop a procedure for coordinated and efficient review of proposed hydrokinetic projects that is responsive to environmental, economic, and cultural concerns, while providing a timely and predictable means for developers of such projects to seek necessary state and federal approvals. This procedure will include study, monitoring, and evaluation of the energy potential and economic viability of hydrokinetic projects, as well as the environmental, economic, cultural and other effects of these projects. Where lawful, relevant information will be shared among the Parties and, will inform decision-making concerning request for authorizations for hydrokinetic projects within California marine waters.

The California Parties will coordinate with the following California agencies to ensure that the purposes outlined in this Agreement are met: the California Coastal Commission, the San Francisco Bay Conservation and Development Commission, the California State Lands Commission, the California Department of Fish and Game, the California Energy Resources Conservation and Development Commission, the California State Water Resources Control Board, California Department of Parks and Recreation and the California Ocean Protection Council. These agencies are herein referred to as the "California agencies".

IV. Principles of the Agreement

1. The Parties mutually agree to support timely processing of applications, consistent with all state and federal review requirements, for regulatory and other approvals required for hydrokinetic projects in California marine waters to promote clean, renewable sources of energy.
2. The Parties recognize that any pilot project license or other license issued by the Commission for a hydrokinetic energy project in California state waters must give equal consideration to power and development purposes and the purposes of energy conservation, the adequate protection, mitigation of damage to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities,

and the preservation of other aspects of environmental quality for beneficial public purposes. [16 U.S.C. § 797(e); § 803(a)(1)(2000).]

3. The Parties acknowledge that California intends to develop hydrokinetic project siting recommendations that would include guidelines for siting consistent with state marine protection laws, navigation needs; commercial, recreational and fishery habitat needs; and other public trust and state authorized marine uses. California may submit these guidelines as part of a comprehensive plan, or other process to the Commission for consideration. The Commission agrees that it will consider incorporating these guidelines as permit or license conditions to the fullest extent possible. In addition, the Commission agrees to consider any terms and conditions recommended by California under section 10(a) of the FPA.
4. California recognizes that a Commission license may not be required under Part 1 of the FPA in certain limited circumstances for the testing of hydrokinetic new technology [111 FERC ¶ 61,024]. Therefore, there may be wave and tidal energy projects that proceed on an experimental basis without a Commission license while additional data concerning the effects of such projects are gathered. Regardless, the Parties acknowledge that required California permits, leases, or licenses must be obtained for any proposed project. These permits, leases, or licenses will require hydrokinetic technology performance reporting and study results, and safeguards to ensure that the project will not have a significant adverse effect on environmental, economic, and cultural resources.
5. The Parties agree to encourage applicants to seek pilot project licenses prior to a full commercial license to allow adequate testing of untested devices or device operations before commercial deployment. For pilot project licenses in California marine waters, the Commission will consider limiting the footprint and/or the number of devices that can be tested in order to minimize environmental risk. In addition, the Commission will require that pilot projects have a short term (around five years), not be located in sensitive areas, include a standard condition requiring project alteration or shutdown in the event that there was an unacceptable level of environmental effect, and require decommissioning and site restoration at license expiration if a standard license is not sought, consistent with the Commission-issued White Paper on Hydrokinetic Pilot Project Licensing (April 14, 2008). California permits, leases, or licenses will require hydrokinetic technology performance reporting and study results, and safeguards to ensure that pilot projects will not have a significant adverse effect on environmental, economic, and cultural resources.
6. When any of the Parties becomes aware that a prospective applicant may seek a preliminary permit or license from the Commission to study or develop a hydrokinetic project in California marine waters, the Party obtaining the information will promptly notify the designated representative of the other Party. The California Parties, in cooperation with other California agencies, will work with the Commission to coordinate review of the project, identify potential issues, and determine information and studies necessary for issuing required state and federal project authorizations. The Parties will consult with prospective applicants and stakeholders in determining appropriate information and study needs.

7. Where a prospective applicant seeks to use any Commission licensing process for hydrokinetic projects to be located within California marine waters, the Commission and the California Parties, with assistance from the California agencies, agree to confer, as early in the process as practical, in order to reach agreement on a schedule for processing the application as expeditiously as practicable, while ensuring sufficient time for the necessary state and federal reviews. Such a schedule to be issued by the Commission will include proposed timelines for review of the application, issuance of any environmental document required, and the issuance by California and federal agencies of any permits, licenses, and leases that may be required under federal or California law. To the extent feasible, the California Parties will complete any actions required of them within timeframes established in the schedule. Notwithstanding the foregoing, the California Parties will complete such actions by deadlines established by law.
8. The Parties further agree that they will use their best efforts to encourage other federal agencies and stakeholders that have an interest in a proposed hydrokinetic energy project within California marine waters to help develop and comply with a coordinated schedule for the review of the project.
9. The Parties agree that they will work to coordinate their environmental reviews of any proposed hydrokinetic projects within California marine waters and subject to Commission licensing jurisdiction, so that documents prepared by the Commission for review under the National Environmental Policy Act 42 USC §§ 4231 *et seq.* (NEPA) may, to the extent practicable and permitted by California law, be used by California to satisfy the requirements of the California Environmental Quality Act (CEQA) [Public Resources Code section 21000, *et seq.* and 14 Cal. Code Regs. 15000, *et seq.*] and other similar requirements that are enforceable policies of California's Coastal Zone Management Program under the CZMA, or any other required actions to be taken by California. The Parties also agree to consult with stakeholders, including project developers and local communities, concerning the design of studies and environmental measures (including adaptive management and mitigation).
10. Where a prospective applicant seeks to use any Commission licensing process for hydrokinetic projects to be located within California marine waters and/or the adjacent Outer Continental Shelf, the Parties agree to confer, as early in the process as possible, with the Minerals Management Service to schedule federal processing of the application and review under NEPA in a manner that is coordinated and does not create two separate review processes for California.
11. The Parties recognize that the Commission cannot issue a license for a hydrokinetic facility within California marine waters that will affect any land or water use or natural resource of California unless the California Coastal Commission or the San Francisco Bay Conservation and Development Commission concurs that the project will be consistent with the enforceable policies of California's approved Coastal Management Program or waives concurrence. Any such license will also include, to the maximum extent feasible, the terms and conditions determined by other California agencies (such as those required by CEQA or other state laws and regulations) to be necessary to avoid, minimize, and mitigate damage to fish, wildlife and public trust resources.
12. The Parties recognize that California will evaluate the potential of California hydrokinetic energy projects to meet the state's renewable energy development policies and renewable energy portfolio standard. California also certifies energy facilities as eligible for its renewable portfolio standard. To facilitate California's ability to evaluate hydrokinetic energy potential, the Parties agree to share information from project developers regarding their facility's energy production, including, but not limited to, a facility's nameplate capacity, capacity factor, the

electricity generation or potential for electricity generation, operating history, outages, use of fossil fuels, first point of interconnection to the Western Energy Coordinating Council (WECC) transmission system, and, if applicable, power purchase contract awards, during a project's licensing application process and/or license term; provided that dissemination of the information is not otherwise protected from disclosure.

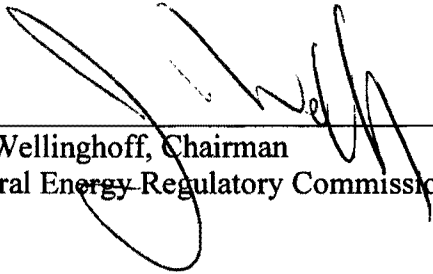
13. The Parties will designate primary management contacts to resolve any procedural issues that may arise in the review of a specific proposed hydrokinetic project within California marine waters. However, nothing in this MOU shall compromise or affect the rights of any party to seek relief through any available administrative or judicial process.

14. Nothing in this MOU requires any party to take any action that is contrary to applicable federal or state law or regulation.

V. Amendment and Termination

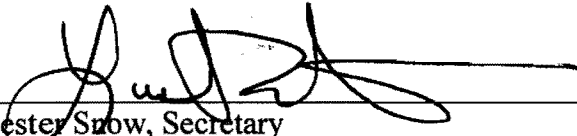
15. This MOU may be modified at any time by the mutual written agreement of the Parties. Any of the Parties may terminate this MOU upon thirty (30) days written notice to the other Parties. During this period, the Parties shall make good faith efforts to resolve any disagreement.

**Memorandum of Understanding Regarding Coordinated Review
of Hydrokinetic Facility Authorizations in California Marine Waters**



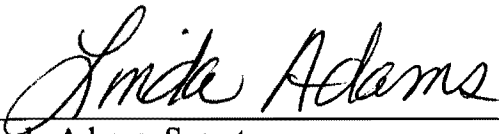
Jon Wellinghoff, Chairman
Federal Energy Regulatory Commission

Date: 5/13/10



Lester Snow, Secretary
California Natural Resources Agency

Date: 5/11/10



Linda Adams, Secretary
California Environmental Protection Agency

Date: 4/29/10



Paul Clanon, Executive Director
California Public Utilities Commission

Date: 5-4-10