

# Grays Harbor Ocean Energy Company, LLC

November 12, 2008

Honorable Magalie Salas  
The Secretary, Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

Subject: Preliminary Permit Application for the Hawaii Ocean Energy Project

Dear Ms. Salas:

The Grays Harbor Ocean Energy Company LLC (“the Company”) is pleased to enclose for filing an original and eight (8) copies of our Application for a Preliminary Permit for the Hawaii Ocean Energy Project.

This application is based on “FERC Asserts Jurisdiction over Outer Continental Shelf Hydroelectric Projects” reported in the FERC decision of October 16, 2008, in reference to Docket Nos. P-12781-001, P-12781-002, P-12779-001 and P-12779-002.

Our power project objective to generate up to 100 MW of wave power in a site that is 12 to 25 miles offshore on the Outer Continental Shelf. We concur with FERC that it has jurisdiction over our project regarding power generation.

We also understand that the Minerals Management Service has jurisdiction over leasing of the seabed and that FERC intends to resolve with MMS the appropriate regulatory processes. We applaud this. It is very helpful to have the FERC consultative and license application in place as it is well proven and reduces risk for developers.

The site proposed has been chosen with highly detailed information regarding its actual power potential and suitability for existing technology. The specific vendors for the major technologies and systems have already been selected. The site proposed therefore is not speculative. It is the best place for the only technology package we believe will work in that region.

The Project will serve several important purposes:

- Generation of utility-scale clean renewable power from offshore Wave Energy Converters (WECs).
- Enable easier testing of offshore wave technologies from all developers;
- Creation of local jobs and contribution to sustainable local economies.
- Enhancement of local fisheries productivity because the supporting platforms become artificial reefs;

The Project will be developed in close partnership with local communities and in conformance with local, state and Federal planning and regulatory authorities.

The Company has already received Preliminary Permit P-13058 for the Grays Harbor Ocean Energy Project in Washington. We have been working intensely since our initial application in November 2007 to evaluate all aspects of sustainable wave power generation and have established the technical and regulatory feasibility of the Project. We have established strong partnerships with experienced organizations to evaluate the Projects.

Our intention in applying for nearly identical projects in several sites is to achieve significant economies of scale in site evaluation and to help Federal agencies develop effective agreements regarding management of ocean renewable energy projects.

We are looking forward to initiating the evaluations, studies, and initial permitting processes discussed in the application.

Information about our company and our Grays Harbor Project are available at [www.graysharboroceanenergy.com](http://www.graysharboroceanenergy.com). If you have any questions, please contact me at (206) 491-0945 or [info@graysharboroceanenergy.com](mailto:info@graysharboroceanenergy.com)

Thank you for your consideration of this application.



W. Burton Hamner  
President  
Grays Harbor Ocean Energy Company LLC

**BEFORE THE UNITED STATES  
FEDERAL ENERGY REGULATORY COMMISSION**

**APPLICATION FOR PRELIMINARY PERMIT**

**Hawaii Ocean Energy Project**

Applicant:

Grays Harbor Ocean Energy Company, LLC.  
5534 30<sup>th</sup> Ave NE, Seattle, WA 98105

Filed week of October 20, 2008

Table of Contents

Initial Statement .....	6
1. Statement of Application .....	6
2. Project Location .....	7
3. Name, Business Address, and Telephone Number of Applicant .....	8
4. Preference under Section 7(a) of the Federal Power Act .....	9
5. Term of Permit .....	9
6. Existing Dams or Other Project Facilities. ....	9
Exhibit 1: Project Description.....	10
Summary .....	10
Background Information .....	11
Site Physical Information.....	11
Related Developments .....	11
Hawaii Wave Energy .....	12
Wave Power Production .....	12
Wave Energy Conversion Technology .....	13
Transmission .....	14
Local Manufacturing of Wave Machines .....	15
Applicant Background .....	15
Project Development Strategy .....	15
1. Project Configuration .....	16
2. Reservoirs .....	16
3. Transmission Lines .....	16
4. Estimated Annual Energy Production.....	16
5. Lands of the U.S. ....	16
6. Public Interest Benefits .....	16
Exhibit 2: Description of Proposed Studies .....	18
1. Description of Studies .....	18
Wave Energy Technology.....	18
Site Development.....	18
Environmental Studies .....	18
Fisheries Mitigation .....	18
Schedule .....	19
2. Need for New Roads .....	19
3. Dam Construction .....	19
4. Waiver .....	19
5. Statement of Costs and Financing.....	20
Exhibit 3 - Project Map.....	21
1. Project Boundary Map .....	21
2. National Wild and Scenic Rivers.....	21
3. Wilderness Act.....	21
Section 4.32 Information .....	22

Figure 1: Project Regional Area Map .....	7
Figure 2: Project Boundary Map.....	8
Figure 3: EPRI Estimates of Wave Energy in 6 States .....	12
Figure 4: EPRI Estimates of Cost of Energy at Wave Project Sites in 6 States .....	13
Figure 5: Oscillating Water Column.....	13
Figure 6: "Limpet" OWC at Isle of Islay, Scotland.....	14
Figure 7: OceanLinx OWC Wave Energy Converter .....	14
Figure 8: Project Boundary Map.....	21

PRELIMINARY PERMIT APPLICATION FOR THE  
**HAWAII OCEAN ENERGY PROJECT**

## **Initial Statement**

### **1. Statement of Application**

Grays Harbor Ocean Energy Company, LLC (“the Company”) applies to the Federal Energy Regulatory Commission for the proposed Hawaii Ocean Energy Project (“the Project”), as described in the attached exhibits.

This application is made in order that the applicant may secure and maintain priority of application for a license for the project under Part I of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the project and to support an application for a license.

The Project will serve several important purposes:

- Generation of utility-scale clean renewable power from offshore Wave Energy Converters (WECs).
- Enable easier testing of offshore wave technologies from all developers;
- Creation of local jobs and contribution to sustainable local economies.
- Enhancement of local fisheries productivity because the supporting platforms become artificial reefs;

The Project’s renewable hydropower production goal is 100 MW peak and 40 MW average. This will be produced by 100 Wave Energy Converters (WECs) of 1 MW rated output each. The power will be used by the island communities of Oahu and Molokai.

The Project may also generate power from wind turbines on the WECs. We understand that this will be regulated by the Minerals Management Service. To facilitate permitting, we will apply for a hydropower project which has excess transmission capacity so we can also deliver power from offshore wind.

The Project will proceed in phases in close consultation with affected stakeholders. Following the preliminary permit the Company will apply under the new FERC pilot project licensing rule for a 5 year permit allowing installation of two WEC platforms rated at 1 MW each. This complies with the Pilot Project generation limit of 5 MW.

During the Pilot Project the Company will work with stakeholders to develop the plans, engineering, environmental studies and permits for full project development. The Company will also work with the FERC, MMS, US Department of Energy, NOAA, the Coast Guard, the Navy and others on wave energy and offshore foundation technology development. During the 5-year pilot project the Company will prepare and apply for a full commercial FERC license.

## 2. Project Location

The project will be located in the Pacific Ocean due south of Oahu and Honolulu. The site is 15 to 25 miles offshore of Honolulu.

The project area has the following coordinates:

Corner	Latitude	Longitude
NW	21° 03' N	157° 42' W
NE	21° 12' N	157° 24' W
SW	20° 54' N	157° 36' W
SE	21° 03' N	157° 21' W

The exact location of the WEC array in this space will be determined following site evaluation. The Project therefore covers an area large enough to enable some flexibility in WEC location.

There are 100 WECs proposed at the site. The power transmission cable layout for the site will be determined based on site-specific information. An offshore substation will consolidate the site cables and send their power to shore in one large transmission cable. On shore the cable will enter a substation that will provide power off-take for the local communities and transmit excess power into the regional grid.

The WECs will be visible from shore for only a few days a year under extremely clear visibility conditions.

**Figure 1: Project Regional Area Map**

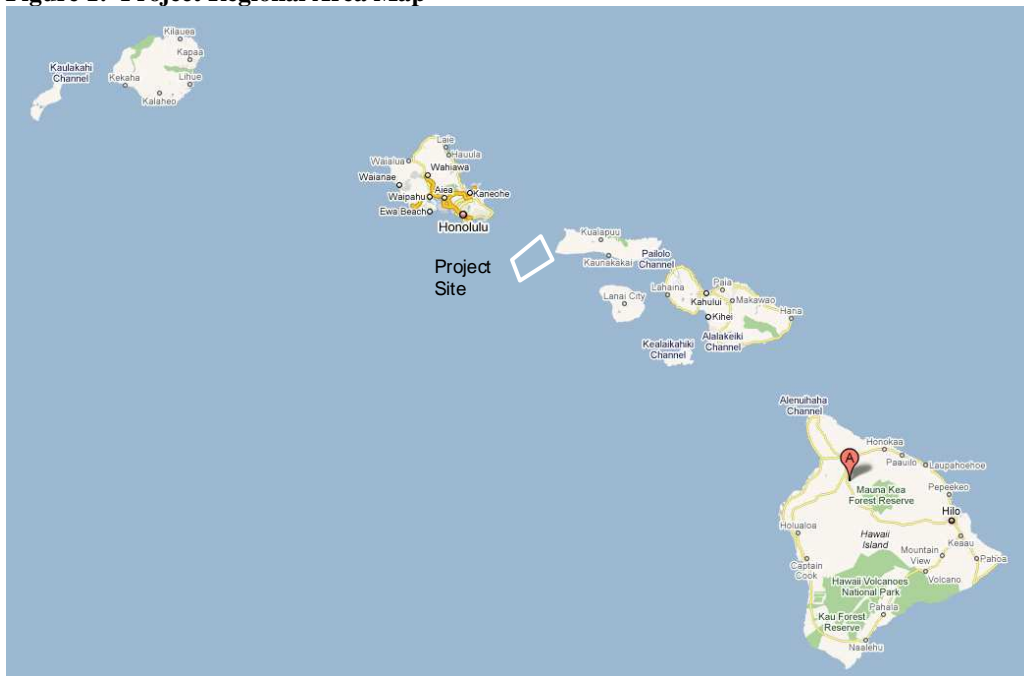


Figure 2: Project Boundary Map

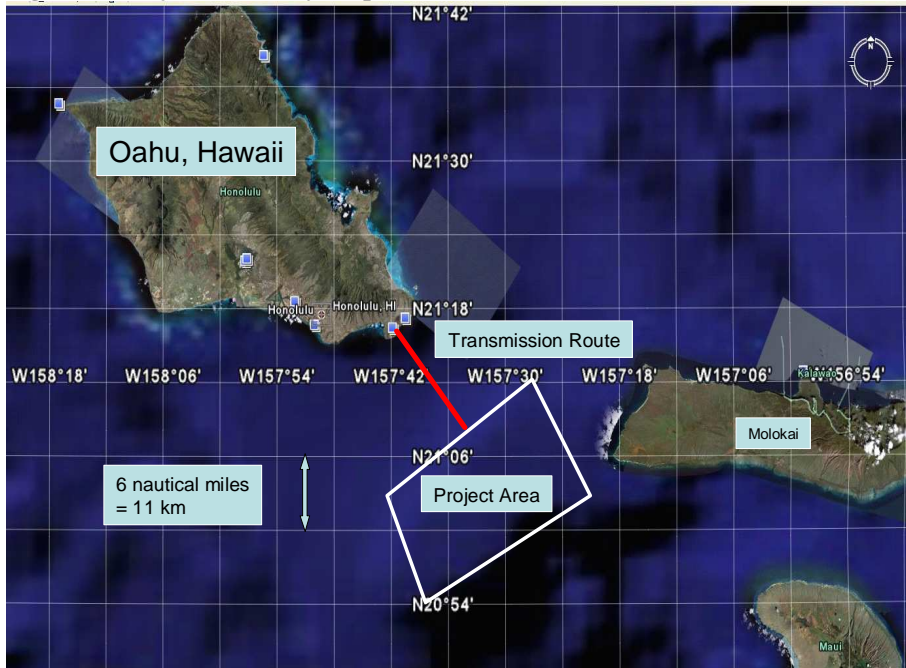
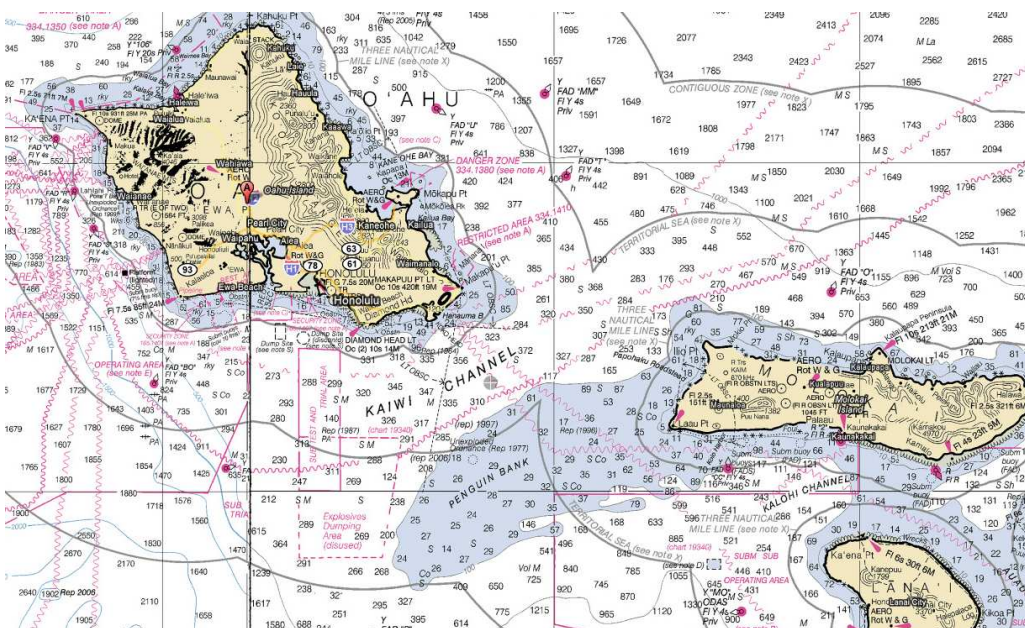


Figure 3: Area Navigation Map



### 3. Name, Business Address, and Telephone Number of Applicant

W. Burton Hamner  
President, Grays Harbor Ocean Energy Company LLC  
5534 30<sup>th</sup> Avenue NE, Seattle WA 98105  
206-491-0945

#### ***4. Preference under Section 7(a) of the Federal Power Act***

Grays Harbor Ocean Energy Company, LLC is a Washington limited liability company and is not claiming preference under Section 7(a) of the Federal Power Act.

#### ***5. Term of Permit***

The proposed term of the requested permit is 36 months.

#### ***6. Existing Dams or Other Project Facilities.***

There is no existing dam or other project facility as part of the proposed project.

## Exhibit 1: Project Description

### Summary

The Project is located south of the island of Oahu, on a shallow area called Penguin Bank. The northern edge of the site is 10 miles south of Honolulu. At that distance even large offshore wind turbines are visible only a few days of the year. The site is about 260 square miles in area, being about 20 miles wide East-West, and 13 miles long North-South.

The site has reasonable wave energy resources. It has relatively shallow ocean depths that enable the installation of WECs. Only a portion of the site will be actually used for the WEC array, but since we do not yet know which is the best portion the site footprint now is larger than needed.

The Project will have 100 offshore fixed three-leg platforms standing on the sea bed and raised about 50 feet above sea level. Wave Energy Converters will be built into each leg, for a total of 300 WECs. They are currently rated at 350kW power, and will generate up to 100 MW hydrokinetic power at peak, typically during winter months, and about 40 MW power on average. The seasonality of power generation matches well to the winter power demand.

Wind turbines can also be installed on the platforms. We expect wind turbines of 10 MW power to be available by the time of project construction. 100 platforms x (10 MW wind + 1 MW wave) = 1100MW power potential from combined wind/wave power production. However, the use of wind turbines is not part of this preliminary permit application for hydropower from wave energy. Any permits for wind energy generation offshore will likely be managed by the Minerals Management Service.

The actual number of offshore platforms that can be installed depends on Federal and state authorities. The power projection is only estimated at this time because extensive review by communities and regulatory authorities will determine the number of devices that will be allowed. The project will evolve through a phased process in consultation with all stakeholders.

The actual number of WECs that can be installed depends on Federal and state authorities. The power projection is only estimated at this time because extensive review by communities and regulatory authorities will determine the number of devices that will be allowed. The project will evolve through a phased process in consultation with all stakeholders.

The Project cannot proceed without support from stakeholders. The Project will provide support for affected communities, besides the local jobs created. Possible forms of support include establishment of Public Development Authorities enabling co-ownership with local governments; providing renewable power to local communities at guaranteed competitive rates; direct revenue sharing from electric power sales; special equity stock sales to enable local residents to become project shareholders; and other ideas to be developed with stakeholders.

## ***Background Information***

### **Site Physical Information**

The Penguin Bank is the eroded summit of a sunken volcano, now a broad submarine shelf off of Molokai Island with depths around 120-180 feet. It is capped with sand and fossil corals. The Bank is generally too deep for most live corals and is a relatively barren habitat compared to shallower waters nearby. The base rock is lava of the same kind that forms Molokai Island. Strong tidal currents are reported at the edges of the bank around the 100 fathom line and across the bank.

The Electric Power Research Institute (EPRI) in 2004 published studies on wave energy in Hawaii. The report, "E2I EPRI Survey and Characterization of Potential Offshore Wave Energy Sites in Hawaii", evaluated nine sites. These did not include Penguin Bank, we assume because it was considered to be too deep or remote for a wave power plant. The report has extensive information about nearly every topic relevant to wave power production. It is available for download from the EPRI Ocean Energy website.

EPRI published a subsequent report, "System-Level Design, Performance and Costs – Hawaii State Offshore Wave Power Plant". The design features 180 large WECs of the Pelamis type deployed near Makapuu Point on Oahu Island that could produce output of 300,000 MWh/year, equivalent to a 90 MW wind plant at 38% capacity factor. The report contains extensive information about the wave energy and potential WEC technology, and project economics and development issues.

### **Related Developments**

On September 18, 2008, the Hawaii Natural Energy Institute at the University of Hawaii received a Federal grant of up to \$5 million to establish a National Marine Renewable Energy Center. The Center will be a clearinghouse for information and coordination.

The Hawaiian Islands Humpback Whale National Marine Sanctuary covers the proposed area. The proposed technology of fixed structures cannot entangle whales in cables or lines.

Much information about wave energy activities in Hawaii is covered in the EPRI reports.

The Minerals Management Service is developing its final rules for leasing of OCS lands for alternative energy production. Given that FERC has asserted its authority over offshore hydropower (wave and tidal), that leaves MMS with regulation of offshore wind power generation. The Project may include wind turbines installed on the WEC foundations and this will require interface and collaboration between FERC and MMS to resolve jurisdictions and requirements.

## Hawaii Wave Energy

Around the world wave energy technology is being developed. The World Energy Council has published a 2007 survey that outlines efforts nationally.<sup>1</sup> There are at least twenty different types of Wave Energy Converter device under development now. In the USA the US Navy is among the organizations that are sponsoring WEC demonstration projects.

The Electric Power Research Institute (EPRI) has conducted a national study of wave and tidal energy and its potential for commercial renewable energy generation.<sup>2</sup> EPRI investigated six states as the most promising.

**Figure 4: EPRI Estimates of Wave Energy in 6 States**

	SF CA	HI	ME	MA	OR	WA
Average Annual Power Flux at Selected Site (kW/m)	20.0	15.2	4.9	13.8	21.2	26.5

Wave energy is seasonal and strongest in the winter months when demand for energy is at peak. In winter the wave energy can increase up to four times the average annual level of energy.

## Wave Power Production

EPRI conducted a survey of potential offshore sites for a 1,500 MWh annual energy output (500kW at 40% capacity factor) wave energy power plant feasibility demonstration and an envisioned 300,000 MWh per year (100 MW at 40% capacity factor) commercial plant.<sup>3</sup> EPRI also reviewed the available and proposed Wave Energy Converters (WECs) and developed Cost of Energy estimates for sites in six states. The EPRI estimates do not include costs for permitting and use many assumptions that remain to be proven.

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<sup>1</sup> [http://www.worldenergy.org/publications/survey\\_of\\_energy\\_resources\\_2007/wave\\_energy/default.asp](http://www.worldenergy.org/publications/survey_of_energy_resources_2007/wave_energy/default.asp)

<sup>2</sup> The EPRI Ocean Energy project reports are available online at <http://archive.epri.com/oceanenergy/waveenergy.html>

<sup>3</sup> E21/EPRI Offshore Wave Energy Plant Site Assessment – State of Washington.

**Figure 5: EPRI Estimates of Cost of Energy at Wave Project Sites in 6 States**

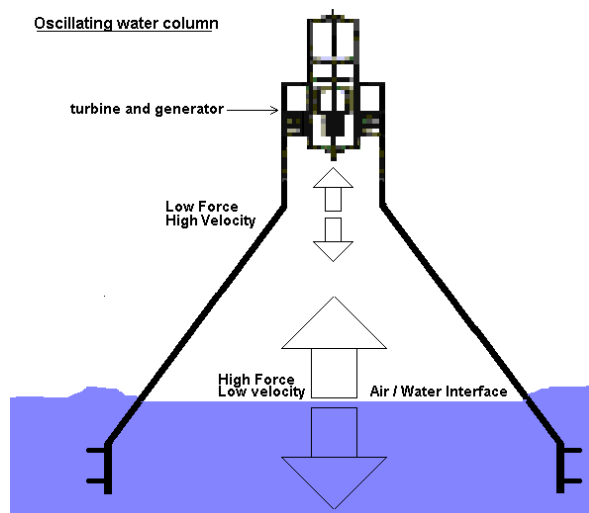
Commercial Plant	Hawaii Pelami	Oregon Pelami	Calif Pelamis	Calif Energetech	Mass Pelami	Maine Pelamis
Number of Units Needed for 300,000 MWh/yr	180	180	213	152	206	615
Total Plant Investment (\$M)	270	235	279	238	273	735
Annual O&M Cost (\$M)	11	11	13	11	12	33
10-Year Refit Cost (\$M)	24	23	23	15	26	74
COE (cents/kWh) nominal	12.4	11.6	13.4	11.1	13.4	39.1
COE (cents/kWh) real	10.4	9.7	11.2	9.2	11.1	32.2

### Wave Energy Conversion Technology

There are numerous designs for wave energy converters. A major division is in the foundations. WECs can float independently or be attached to foundations. Floating devices must survive extreme waves and have many moving parts underwater. Fixed devices react against another larger fixed structure and therefore they can have fewer parts in the water. To harvest the wave energy the converters must be attached to a foundation that is strong enough to resist the waves. Offshore tower structures such as those used for offshore wind turbines or oil drilling platforms are suitable. These can support other technologies such as wind turbines or desalinators, or even housing for researchers and workers.

With a fixed structure to support it, the most suitable converter is the Oscillating Water Column (OWC). Wave action in these columns or pipes push air back and forth through an air turbine held out of the water.

**Figure 6: Oscillating Water Column**



OWCs have been demonstrated on land in UK and in Portugal.

**Figure 7: "Limpet" OWC at Isle of Islay, Scotland**



The OceanLinx company of Australia has constructed a floating OWC wave converter and has demonstrated its performance. In field tests in 2007 it generated 320 kW.

**Figure 8: OceanLinx OWC Wave Energy Converter**



Such floating devices are not suitable for areas with very large waves. The Company has identified a unique approach to installing WECs on fixed structures, like offshore oil production platforms, that enables the WECs to withstand the strongest wave energy and vastly reduces technical complexity. These structures are large enough to be used for multiple purposes including supporting tidal turbines, wind turbines, housing for workers and researchers, helicopter pads and more.

## **Transmission**

From each wave energy structure a transmission line, buried about 3 feet under the sea bottom, will run to a collecting offshore substation. From there a large buried cable transmits power to

the shore. The lines will be trenched in across the shoreline and underground to the main grid connection inland. The lines will not be visible.

Once ashore the lines will attach to the local transmission grid at substations. The existing grid has capacity to absorb the 100 MW total output of the site.

### **Local Manufacturing of Wave Machines**

The Honolulu / Pearl Harbor area has capabilities for manufacturing wave energy converters and every attempt will be made to locally construct the machinery needed for the project.

### **Applicant Background**

The Company was created in September 2007 in Washington State specifically to develop ocean energy projects. The Company is privately owned and financed. The Company applied for and received FERC preliminary permit P-13058 on July 31, 2008 to develop the Grays Harbor Ocean Energy Project in Washington. That project will use very similar technology to that proposed for this Hawaii project. The Company has invested significant resources and time to determine the right technology solution that makes the projects economically feasible.

The Company has assembled a team of companies that are expert in their areas and highly qualified for all aspects of project development for the Project. Teaming agreements with them have been signed or are in negotiation. The Company regards its business partnerships as valuable confidential information and will provide details to FERC on understanding that the information is not critical to the public's interest and is proprietary and confidential.

### **Project Development Strategy**

The Company will develop the Project in partnership with local, state and Federal agencies and organizations. From the beginning we are committed to dialogue and constructive response with all the stakeholders. The Company will develop a Settlement Agreement with stakeholders as part of its FERC license application. This Agreement will represent the negotiated terms acceptable to all stakeholders.

The Project will take advantage of the new FERC pilot project licensing process. The preliminary permit will, under the current "Strict Scrutiny" rule, allow the Company one year to complete development of partnerships and early studies, and prepare a Pre-Application Document for a Five-Year, 5 MW license. Under this license the Company can install up to 5 MW of generation capacity and sell the power to the grid. The technology allowed must be capable of complete removal from the site if problems arise.

The Company has identified a technology solution that is ideal for this purpose and will present the information to FERC in confidential disclosures. The Pilot project will include one WEC platform holding wave and tidal energy devices. It may also hold a wind turbine. The Pilot project will generate under 5 MW/hr average power and thus will qualify for the proposed new FERC pilot project licensing scheme as well as the regular license. The project will be submitted to local and state authorities for permitting and to ascertain what studies may be required.

After the five year license expires, and assuming satisfactory power and environmental results, the Company will apply for a traditional 30-year FERC license.

Financing for the project is expected to be based in large part on the power production estimates and negotiation of Power Purchase Agreements, and in smaller part from private investment through and by the Company. Several large power users in the area have already expressed interest in using renewable energy from the Project. Additionally the local utility can absorb the power and distribute it through its grid. The WECs will be constructed using local parts and labor to the extent possible and thus will qualify for various renewable energy incentives.

### **1. Project Configuration**

There will be no proposed structures such as dams, spillways, penstocks, powerhouses or tailraces for this project.

### **2. Reservoirs**

There are no reservoirs required for this project.

### **3. Transmission Lines**

The power transmission cable will be connected to approximately the north-south center of the array and will follow a northerly course coming ashore at Honolulu. It will tie into a new substation and feed into the Oahu power grid.

New cable lines under the seabed will be installed. On land the overhead poles currently used to carry lines can be re-cabled to increase capacity as needed to accommodate project expansion. The exact details of the interconnection such as the number, length, and end connection details will be determined during the feasibility study for the proposed project.

### **4. Estimated Annual Energy Production**

On each of the 100 structures will be installed three 330 kW OWC turbines, making a total of 100 MW total rated output, for 876, 000 MWhrs/year production at maximum. The expected capacity factor is 40%, for average annual energy production of 350,400 MW/year.

### **5. Lands of the U.S.**

All lands within the proposed project boundary are identified under Exhibit 3. The aquatic portion of the project would be located on state submerged lands. As specified by 18 CFR 4.g1(b)(5), a completed land description form is included as Exhibit B.

### **6. Public Interest Benefits**

The Project will develop a new source of electricity, which:

- Generates clean and renewable energy at competitive cost;
- Provides much needed power generation along the coast and within local communities further enabling local economic growth and prosperity;
- Enhances the local stability of the transmission grid by diversifying generating capacity;

- Produces no negative environmental impacts on the marine or coastal environments even as it creates new habitat for fish and fishing (a vital local industry); and
- Creates new local jobs for the design, fabrication, installation, and maintenance of the wave park.

The proposed project would utilize the affected waters in the public interest by bringing a new source of renewable, non-polluting energy to the U.S. The federal Energy Policy Act of 2005 encouraged the development of renewable energy resources, including ocean energy. Domestic sources of energy are also in the public's best interest as they increase energy security by reducing the country's dependence on foreign oil and other fossil fuel energy sources.

Wave and wind energy systems of this type do not involve the construction of dams or reservoirs, affect water quality, block fish passage, or direct fish and other aquatic life through turbine generators. Wave energy projects also produce none of the environmental and atmospheric pollutants produced by fossil fuels and are expected to have minimal environmental effects.

## **Exhibit 2: Description of Proposed Studies**

### **1. Description of Studies**

#### **Wave Energy Technology**

The technology to be used at the site is being studied elsewhere by developers. The technologies available and their performance data will be reviewed by the Company and the project stakeholders. Developers will be invited to demonstrate their technologies at the site. Extensive modeling will be conducted before any devices are actually installed.

#### **Site Development**

Many of the needed studies have already been performed. The physical and biological characteristics of the site have already been studied in detail by organizations such as the US Navy, the University of Hawaii and various private contractors. Remaining studies to be conducted for developing the site include:

- Specific site characterization
- Cable route survey
- Cable shore crossing survey and design
- Sedimentation movement from cable laying
- Rights of way and related issues for cable crossing shoreline properties

#### **Environmental Studies**

Environmental studies for the project will be determined in consultation with stakeholders and permitting authorities. The new National Marine Renewable Energy Center at U. Hawaii is coordinating interests of all stakeholders and regulators in the region to facilitate the process.

Projects of the type proposed are not expected to have significant environmental impacts. The US Navy has been conducting a wave energy project in Hawaii using two devices. The project included a rigorous environmental assessment (EA), which resulted in a Finding of No Significant Impact (FONSI). The Office of Naval Research (ONR) consulted with National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS). They concurred with the Navy's findings. Actual issues at the site will be determined in partnership with stakeholders.

Two issues of concern that are expected are navigation lanes and fishing areas. The project is not expected to interfere with navigation lanes but this still must be determined. There is no question that where there are wave energy systems, recreational and commercial fishing will be affected. This is unavoidable because of the conflicting use of the ocean space.

#### **Fisheries Mitigation**

The Company is considering a fisheries mitigation strategy that uses each wave structure as an artificial reef. The structures are large towers. In the submerged portion they will be coated with

concrete. The concrete can be molded to create a diverse habitat structure that can support fish and other marine organisms. The seabed in the project area is sandy gravel with little solid structure. By designing the tower foundations as artificial reefs, the biological diversity of the project area will be significantly increased and should support an increase in biomass and possibly in fisheries resources.

Within the proposed project site, the Company will use the existing information to locate the most suitable site for deployment of the devices. Where existing information is insufficient, the Company may undertake additional studies to ensure the best placement of devices, best use of available resources, and to minimize any potential environmental effects. Additional research may be needed in regards to detailed bathymetry and detailed information at the project site, navigation and recreation activities, fishing, crabbing, and other marine uses. The Company will be consulting with appropriate resource agencies and Indian tribes on appropriate studies.

In addition to the above studies, the Company will be further refining access to transmission line infrastructure and be conducting an economic and financial feasibility analysis for the proposed project.

## **Schedule**

The following is a proposed schedule assuming issuance of the preliminary permit.

- Initiate permitting and environmental studies - upon issuance of preliminary permit.
- Conduct review of existing environmental information - upon issuance of preliminary permit.
- Conduct environmental studies, including submarine cable layout - 2009.
- Conduct economic and financial feasibility analysis - 2009.
- Apply for 5-year 5 MW FERC license - 2010
- Initial wind and wave deployment and testing - 2011.
- Apply for full FERC license - 2012
- Achieve rated power generation - 2016

## **2. Need for New Roads**

This project will not require the construction of any roads

## **3. Dam Construction**

The project will not require the construction of any type of dam as the facility is designed to operate in the open ocean and capture the heaving motion of the ocean swell.

## **4. Waiver**

No waiver is being sought for the evaluation and testing of the feasibility of a wave energy project installation.

## ***5. Statement of Costs and Financing***

The estimated cost for planning and executing the studies, investigations, tests, surveys, maps, plans, and other related specifications for the proposed project is estimated at approximately \$2,000,000. Total cost of the project is expected between \$400 and \$600 million.

The total cost for the completion of the FERC licensing process will be funded by the Company through a combination of equity investment, loans and grants.

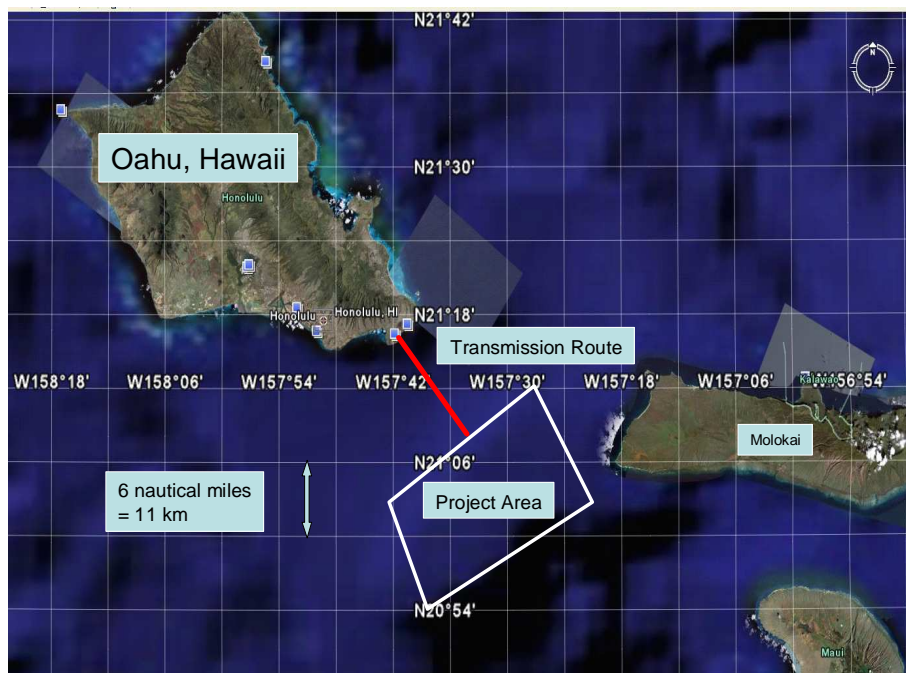
The applicant is currently negotiating a Power Purchase Agreement with a consortium of local utilities and companies. Furthermore, the project is eligible for a variety of tax credits and renewable energy generation incentives. The purchase price for the power is subject to ongoing negotiations.

## Exhibit 3 - Project Map

### 1. Project Boundary Map

A map of the proposed project boundary and cable route follows. The relative location and physical interrelationships of principal project features will be developed during project feasibility studies.

Figure 9: Project Boundary Map



### 2. National Wild and Scenic Rivers

The proposed project area does not include any areas designated as or being considered for inclusion in the National Wild and Scenic Rivers System.

### 3. Wilderness Act

The proposed project area does not include any areas designated as or recommended for designation as a wilderness area or wilderness study area under the Wilderness Act.

## Section 4.32 Information

1. Grays Harbor Ocean Energy Company, LLC is the only entity that has or intends to obtain and will maintain any proprietary rights necessary to construct, operate or maintain the proposed property.

### 2. Municipal Information

No federal facilities would be used by the proposed project. The area proposed for evaluation and testing is located on Federal lands offshore of Hawaii.

### 3. Cities or towns where project will be located:

City/County of Honolulu is the nearest city and is over 15 miles from the likely location of the WEC array.

Mayor Mufi Hannemann  
Office of the Mayor  
Honolulu Hale  
530 S. King Street  
Honolulu, HI 96813  
(808) 523-4141  
[mayor@honolulu.gov](mailto:mayor@honolulu.gov)

4. The proposed project transmission cables would make landfall near the Honolulu electricity substations. No federal facilities would be used by or otherwise associated with the proposed project and no special purpose political subdivisions exist within the proposed boundary for the evaluation and testing of wind and wave energy potential.

No other known political subdivisions exist within the proposed project evaluation and test area; however, the Company will consult with all agencies and organizations with regulatory authority over the waters and activities of the proposed project area during the evaluation of project feasibility.

### Indian tribes that may be affected by the project:

None.


**VERIFICATION STATEMENT**

This application for a preliminary permit for the Hawaii Ocean Energy Project is executed in the state of Washington, County of King.

W. Burton Hamner, president of Grays Harbor Ocean Energy Company, LLC, 5534 30<sup>th</sup> Ave NE, Seattle WA 98105, being duly sworn, deposes and says that the contents of this Preliminary Permit Application are true to the best of his knowledge or belief. The undersigned Applicant has signed the application

on this \_\_\_\_\_ day of \_\_\_\_\_ 2008.

Subscribed and sworn before me, a Notary Public of the State of Washington this \_\_\_\_\_ day of \_\_\_\_\_, 2008. My commission expires \_\_\_\_\_



**MASTER LICENSE SERVICE**  
PO Box 9034 • Olympia, WA 98507-9034 • (360) 664-1400

## REGISTRATIONS AND LICENSES

STATE OF WASHINGTON

Domestic Limited Liability Company

Unified Business ID #: 602 766 515  
Business ID #: 1  
Location: 1

WASHINGTON WAVE COMPANY LLC  
5534 30TH AVE NE  
SEATTLE WA 98105 5502

TAX REGISTRATION

REGISTERED TRADE NAMES:  
GRAYS HARBOR OCEAN ENERGY COMPANY LLC

The licensee named above has been issued the business registrations or licenses listed. By accepting this document the licensee certifies the information provided on the application for these licenses was complete, true, and accurate to the best of his or her knowledge, and that business will be conducted in compliance with all applicable Washington state, county, and city regulations.

*Elizabeth A. Luce*  
Director, Department of Licensing

Corporations: Registration Detail Page 1 of 2

Washington Secretary of State

### CORPORATIONS DIVISION - REGISTRATION DATA SEARCH

WASHINGTON WAVE COMPANY LLC

<b>UBI Number</b>	602766515
<b>Category</b>	Limited Liability Regular
<b>Profit/Nonprofit</b>	Profit
<b>Active/Inactive</b>	Active
<b>State of Incorporation</b>	WA
<b>Date of Incorporation</b>	10/01/2007
<b>License Expiration Date</b>	10/31/2008

**Registered Agent Information**

<b>Agent Name</b>	WILLIAM HAMNER
<b>Address</b>	5534 30TH AVE NE
<b>City</b>	SEATTLE
<b>State</b>	WA
<b>ZIP</b>	98105

**Special Address Information**

<b>Address</b>	
<b>City</b>	
<b>State</b>	
<b>Zip</b>	

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