

Comments on Wave and Offshore Wind Funding Elements of the Proposed 2012-2014 Triennial Investment Plan

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California Energy Commission

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Subject: Docket No. 12-EPIC-01 – Comments on Wave and Offshore Wind Funding Elements of the Proposed 2012-2014 Triennial Investment Plan

To the California Energy Commission:

My name is William F. Lyte of Protean North America, Inc., a California-based ocean wave energy technology company. I am writing to comment on the Electric Program Investment Charge (EPIC) Proposed 2012-2014 Triennial Investment Plan

1. We appreciate the inclusion within the Triennial Investment Plan of ocean wave energy and offshore wind energy, and support full funding for: *Strategic Objective S4, "Develop Emerging Utility-Scale Renewable Energy Generation Technologies and Strategies to increase power plant performance, reduce cost and expand the resource base"*, (page 60)
 - a. *S.4.4 – Proposed Funding Initiative – Investigate the Economic, Environmental and Technical Barriers to Offshore Wind in California* (page 66)
 - b. *S.4.5 – Proposed Funding Initiative - Investigate the Economic, Environmental and Technical Barriers to Wave Energy Conversion in California.* (Page 67).
2. As many of our California marine energy organizations are universities and research laboratories, we fully support the funding for *S5.3 – Proposed Funding Initiative – Develop Analytical Tools and Technologies to Reduce Energy Stresses on Aquatic Resources and Improve Water-Energy Management* (page 73). In this regard, the University of California and California State University systems have more than ten major coastal research facilities which can be utilized to support this research, including the planned City Dock #1 facility and wave research laboratory at the Port of Los Angeles.
3. We particularly support the establishment of advanced Technology Readiness Level (TRL) offshore testing facilities for wave and offshore wind projects (*S10.2 – Proposed Funding Initiative – Support Demonstration Testing and Verification Centers to Accelerate the Deployment of Pre-Commercial Clean Energy Technologies* (page 104). Several other U.S. states, such as Oregon and Hawaii, already have limited capability testing facilities in place. Currently, the only advanced TRL-level offshore testing facilities are in Europe, and the marine renewables industry is being drawn to those areas for technology commercialization, manufacturing and other supply chain enterprises. Such facilities must be established in California in order for the state to be competitive in this major emerging industry. EPIC program funding levels should be programmed as an appropriate match, or cost share, for that of the U.S. Department of Energy, which is

considering \$50.6 million in funding a major offshore wind demonstration project offshore of Point Conception. This leveraging of Federal funds with State R&D funds is consistent with the policy framework advanced by the Clean Energy States Alliance (CESA).

4. We are pleased that the U.S. Department of Defense is referenced as a participating organization in the EPIC program, (page 107) which has an ambitious renewable energy goal system-wide, including for ocean wave energy production. They are extremely supportive of the marine renewable sector, and have always been an active participant in our industry organization, the Ocean Renewable Energy Council (OREC).

Specific to military facilities, which require a high level of energy independence as a matter of homeland security, *S13.2 – Proposed Funding Initiative – Demonstrate Renewable Energy-Based Microgrids Capable of Sharing Resources Across the Larger Power Grid* would certainly be applicable for wave energy projects at California coastal military facilities, which are located in the high wave/wind areas of Monterey, Point Conception, Ventura, Seal Beach, Camp Pendleton and San Diego.

The U.S. Navy's Naval Facilities Engineering Command (NAVFAC) Engineering Service Center at Port Hueneme, California, is also the primary ocean wave energy research center for the U.S. Navy worldwide. Their Hawaii Wave Energy Test Site (WETS), located at U.S. Marine Corps Base Hawaii, and managed in association with the U.S. Department of Energy's Energy Efficiency and Renewable Energy (EERE) is one of several highly successful models for marine energy demonstration facilities in California.

The Navy also has a strong relationship with the California Energy Commission, which discussed its joint biofuels programs with the Navy at Port Hueneme in a July 2012 CEC Press Release. This program should certainly be expanded to encompass wave energy and offshore wind.

The U.S. Air Force is interested in supporting both wave and offshore wind energy at Vandenberg Air Force Base and would consider being actively involved in the development of offshore test and demonstration facilities by holding a subsea research lease for such facilities from the Bureau of Ocean Energy Management of the U.S. Department of Interior.

5. We support the suggestion of an Advisory Group involving the marine energy sector, (Page 165), and feel that the Ocean Renewable Energy Council would be the correct organization to oversee the formation and management of this Advisory Group. This Advisory Group can be beneficial in support of *S.14 Strategic Objective under Market Facilitation, "Collaborate with Local Jurisdictions and Stakeholder Groups, etc.)*. – (page 132).

Such coordination is an extremely important element in the success of wave energy and offshore wind projects. Such projects face complex multi-agency permitting jurisdictions and other challenges, which are both time consuming and expensive for individual technology companies to surmount. An Advisory Group, particularly with funding to assist on a project-by-project basis, could significantly reduce permitting time for these projects, and also help to convey a unified message to all stakeholders regarding these emerging sources of energy.

An OREC-led marine renewable energy group will also help to further the implementation of *S.15 Strategic Objective – Strengthen the Clean Energy Workforce*" (page 143) by working closely with the California Community Colleges Centers for Applied Competitive Technologies (CACT) and other key programs of the Community Colleges. We will also actively participate throughout California in the establishment and development of GIS-based management tools for *Innovation Clusters*, which have been identified as a priority under EPIC (Page 102). The Community Colleges and their workforce training programs are well located in each coastal innovation cluster for this purpose. For example, in the Santa Barbara area, the likely location of the U.S. Department of Energy offshore wind project, there are six Community Colleges – Santa Barbara, Ventura, Oxnard and Moorpark, Hancock and College of the Canyons, each of which can support the growth of the emerging industry in that area. Collectively, they comprise a distinct Marine Energy Innovation Cluster when combined with U.C. Santa Barbara, Vandenberg Air Force Base, and the resources of Naval Base Ventura, including the NAVFAC Engineering Service Center mentioned above..

Please do not hesitate to contact me for support or further involvement in this vital program for our marine

renewables industry.

Sincerely,

William F. Lyte
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