



Navy SBIR/STTR Success



Efficiency Improvements in Modular Ocean Wave Powered Generators

A 25x improvement in efficiency was achieved when OPT applied radical design changes to the existing Wave Energy Converter systems.

Topic Number: N00-116

SBIR Investment:
\$1,054,730

Phase III Revenue:
\$54,941,230

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About the Technology:

Ocean Power Technologies, Inc. (OPT) demonstrated that Wave Energy Converter systems could be made more efficient by modifying hullform, hydraulic system, and power conversion system designs. The changes yielded a broader band system that could operate in a wider range of sea conditions. Due to these revelations, OPT and Lockheed Martin determined there was a market for persistent self-powered buoys which could harvest power from ocean waves to support offshore environmental and surveillance sensors and communication payloads. These platforms are referred to by their product name - Autonomous PowerBuoys® (APB).

Naval Benefit

The Navy requires autonomous maritime sensor systems operating in remote offshore locations to support persistent surveillance of the ocean space. These autonomous systems reduce operational demand on manned Navy surface and air assets. Such platforms require a reliable source of renewable power and wave energy harvesting is a logical solution which provides benefits over solar or wind energy. These energy harvesting systems could also be used to provide power to remote operating bases which have a high cost of fuel import.

Transition

OPT received two subcontracts from Lockheed Martin to develop a wave powered platform for the Advanced Deployable System (ADS) program under the USN LCS program. This system successfully provided wave-power to onboard sensors during an ocean test in 2004. OPT received two contracts from the Office of Naval Research to develop a wave-powered station keeping platform for deep ocean data gathering. OPT is currently executing a four-year \$15 million IDIQ contract to develop a Littoral Expeditionary Autonomous PowerBuoy (LEAP) for the US Navy. Commercial applications exist in the Oil & Gas, Telecommunications and Renewable Energy industries.



Ocean Power Technologies, Inc.

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