

## **The New Wave of Hydropower – Tidal and Ocean Energy**

There are two types of ocean energy and two types of regulators: (1) MMS – deals with offshore three miles and greater. MMS is developing regulations and a programmatic environmental impact statement (PEIS) for offshore development in accordance with the EPAct 2005. Ocean technology would/does harness wave energy. An example would be the proposed Wavegen project off of Friday Harbor in WA. (2) FERC – deals with nearshore development <3miles from shore. Most of the current preliminary permits through FERC are hoping to convert tidal fluctuations into a viable energy source. An example would be the Verdant project in the East River in NYC.

In accordance with the FPA, FERC has always had jurisdiction of licensing hydroelectric generation<sup>1</sup>. The Service coordinates our authorities and responsibilities in the FPA and the Fish and Wildlife Conservation Act with other Service authorities to conserve, protect and enhance Service managed resources. In accordance with Section 18 of the FPA, the Service has mandatory prescription authority and can assign fish passage to a hydro project as needed. Our authorities under the FPA also include: Section 4(e), mandatory conditions for Federal Lands; Section 10(a) and (j), recommendations for the protection, mitigation and enhancement of fish and wildlife; Section 30(c), terms and conditions for specific exemptions; and newly added Section 33, alternative analyses for any suggested alternative to our mandatory authorities previously noted.

The Service's latest collaboration is with new hydroelectric power technology, wave and tidal generation. The Service has been working with both MMS, for offshore wave generation technology, and the FERC, for near-shore and estuarine generation. Our coordination effort with the MMS is under the jurisdiction of the Fish and Wildlife Coordination Act.

FERC held a workshop in December 2006 to discuss the new hydro generating technologies. Several issues and concerns were highlighted including the following: (1) preliminary permits promote too much abuse and no accountability; (2) cumulative impacts need to be addressed including an approach to adaptive management which currently in the FERC licensing process cannot be addressed; (3) FERCs current process does not provide reclamation plan or process for the estuary and the removal of the tidal energy technology if studies and other factors prove the technology is detrimental to the environment; (4) continuous, long-term studies and monitoring should be part of the process to ensure the new technologies are not having a deleterious effect on the surrounding environment; (5) licenses

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<sup>1</sup> In the Federal Power Act, authority is given to the Federal Power Commission. The Federal Power Commission became the Federal Energy Regulatory Commission sometime during the Carter Administration when it was also reassigned into the Department of Energy.

should be shorter in term<sup>2</sup>; (6) applicant accountability for actions in estuaries; and (7) standardized guidance for tidal projects which should be different than traditional FERC hydro licensing<sup>3</sup>.

Ocean energy can be associated with wetlands conservation, fish passage, estuary health, and anadromous and elosa fish. Ocean energy and wave generation technology is very much an “unknown” with environmental impacts. The “traditional” types of studies conducted and used for a typical FERC hydropower project does not apply to non-dam hydropower. Additionally, the effectiveness of new studies is questionable. We are committed to working with these new technologies with both FERC and MMS in the promotion of clean energy and the minimization of any possible short-term/long-term deleterious effects.

For more information on MMS’s ocean program please visit:

<http://ocsenergy.anl.gov/eis/guide/index.cfm>

For more information on FERC’s tidal program please visit:

<http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics.asp>

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<sup>2</sup> Current FERC licenses can be issued for a term ranging between 30 – 50 years.

<sup>3</sup> Licensing standards for MMS and FERC should be similar in process and term lengths.