

Wave Energy

The following letter to FERC outlines our concerns that we are jumping into another situation like we did with the dams- little on no scientific knowledge on how it will affect fisheries, not only marine but anadromous runs could be seriously threatened. We applaud the search for clean power sources, but let's do our homework first!

Kimberly D. Bose

Secretary

Federal Energy Regulatory Commission

888 First Street, NE

Washington, DC 20406

Re: FERC Docket No. AD07-14-000, "Proposed Licensing Process for Hydrokinetic Pilot Projects."

Dear Secretary Bose,

Oregon Anglers (OA) and the Recreational Fishing Alliance (RFA) Oregon Chapter thank you for the opportunity to comment on the proposed licensing process for hydrokinetic pilot projects. The mission of Oregon Anglers is to further the interests of present and future generations of recreational anglers in our state. The RFA is a national 501(c)(4) non-profit grassroots political action organization whose mission is to safeguard the rights of salt water anglers, protect marine, boat, and tackle industry jobs, and ensure the long-term sustainability of our nation's marine fisheries.

We understand the critical importance of developing our nation's renewable energy infrastructure and exploring new ways to generate electricity.

For recreational fishermen, the primary concern is the loss of fishing grounds because most of these devices will take up significant area and will likely be surrounded by an exclusion zone banning all fishing and vessel traffic. There are several categories of this proposed process where RFA-Oregon has concerns: jurisdiction, navigation, environmental effects including socio-economic impacts, development process and lead times.

Jurisdiction: The first and primary concern is the fact that when looking at the Federal Power Act no mention is found of FERC having jurisdiction in the Exclusive Economic Zone or the Territorial Sea (state waters). A determination is made therefore that this authority in the marine environment is being assumed. This jurisdictional ambiguity must be clarified before this licensing proposal is considered.

Navigation: FERC hydroelectric projects are required to maintain open navigable waters at no charge to the United States. Exclusion zones present navigational problems and safety issues as well.

Environmental effects including socio-economic concerns: Our number one concern is the proposal to bypass the normal federal environmental impact analysis process.

A baseline status inventory of all environmental and socio-economic conditions in place before any projects are placed is the one area that cannot be bypassed. The necessity for this is in no way related to project size. Impact determinations are impossible to determine if no original status is known. This inventory must include analysis of cumulative impacts.

Location of projects is critical to impact minimization. RFA agrees that this is important, yet it is revealed that a project is being proposed for the waters of the Olympic National Marine Sanctuary. The FERC pilot project white paper states: "The pilot project licensing process will not be available to projects that would be located in waters with sensitive designations". Is this an indication that the "white paper" is not being taken seriously by FERC. A federal sanctuary is by default sited in waters with sensitive designations.

The proposed project size limitation of 5 MW has less to do with potential impact than other factors such as size of footprint, unit size, configuration, and other mechanical and electrically induced fields of force. The criteria should not be focused on generating capacity.

Cumulative impacts to fisheries and fishing communities: Area management already constrain commercial and recreational fishing vessels to defined areas, and any further loss of fishing area concentrates the effort in smaller areas, contributing to localized depletion of fish stocks. These projects will cause adverse economic impacts on fisheries. The only question is to what degree.

The cultural and economic value must be estimated accurately before project placement no matter what the size. There are more factors than just displacement from a select area. Displacement will cause increased effort in remaining areas open to harvest. This could cause a situation of overcapacity of fishing vessels/effort. The domino effect could lead to fishing infrastructure being lost as well as possible fishing related business failures due to inadequate supply to maintain profitability for commercial and charter sectors and opportunity for private recreational. Smaller communities could suffer total fishery economic collapse especially if their margins were very thin at the onset of these constraints. Reduction of fishery harvest capacity is not a simple fix as there are many parts of the support structure that cannot be removed without collapsing the whole. Mitigation of losses will be necessary regardless of size of economic impact. Once again cumulative impacts come in to play and must not be ignored.

There is a long list of known and potential ecosystem impacts which must be fully examined. Some of the predictable impacts will be in the form of fish attracting devices, acoustic pollution, species entanglement potential, marine life obstruction, wave loss, biofouling, benthic habitat loss, entrainment of juvenile fish, predator prey balance, seabird landings/obstruction, and a dramatic change in species population composition. Some possible impacts could include electromagnetic fields, in-water electrical short circuits, navigation impediments for marine species, shoaling and scouring, and localized ocean current velocity and/or direction alteration.

Fish Attracting Devices (FADs): many of the devices are anchored and tethered to the sea floor, forming an artificial structure that attracts and holds predatory fish, like rockfish, throughout the water column, up to near the surface in areas where they previously could not live. Out-migrating salmon smolts could face a gauntlet of these fish, further impacting threatened and endangered species.

Acoustic pollution: Noise will emanate from these devices due to mechanical systems used for generation and anchoring.

Species entanglement potential: Large marine species, such as whales, already have a history of entanglements with anchoring systems and cabling.

Marine life obstruction: These devices will cause normal paths of travel for many marine species to be altered.

Wave loss: wave energy power reduces the wave height and could reduce circulation in the surf zone.

Biofouling: Animals such as barnacles and algae form encrustations on anything in the ocean environment; anti-fouling agents used on metallic surfaces of the devices can kill marine life.

Benthic habitat loss: anchoring alters the bottom structure, and damaged devices may damage intertidal habitat.

Entrapment of juvenile fish: some hydrokinetic generators work on tidal flow, rather than wave energy, and use turbines to create power from devices submerged underwater; these can kill fish that get sucked into the works.

Predator-prey balance: This will change significantly due to habitat changes. Reef dwelling species will increase in abundance. There will be an increase in the mortality of prey that is the target of reef predators. Anchoring systems may serve as ambush points by lingcod and others directed at small fish such as ESA listed salmon that may be passing through.

Seabird landings/obstruction: Seabirds will use any floating device for a landing site. This could alter their feeding patterns. Seabirds that fly low over the water while foraging may move elsewhere due to obstruction. Pelicans are an example.

[JM1] *Dramatic change in species population composition:* Groundfish species composition will change due to habitat changes. “Overfishing” by predators could occur resulting in constraints on fisheries caused by hydrokinetic devices alone. More cumulative effects.

Electromagnetic Fields (EMF): What are the effects of stray current, and electromagnetic fields? Fish species are extremely sensitive to these electrical impulses and may be attracted to and repulsed from the wave energy plants, altering their migration routes. Salmon are believed to navigate using magnetic fields. Some salmon species are ESA listed so there is little room for error.

In-water electrical short-circuits: This should be of particular concern as it a known method used to stun fish in rivers and lakes. If the shock is not fatal these species become easy prey for predators and scavengers.

Navigation impediments for marine species: Physical obstacles may alter the normal migration and/or movement paths for marine species.

Shoaling and scouring: Disruption of normal sediment transfer would likely occur. This effect has been well documented with regard to devices placed in marine waters. Port entrance jetties are an example.

Localized changes in ocean current and/or velocity: If this were to occur it could potentially affect the entire living and physical ecosystem. More cumulative effects.

Development Process: We find the process to be almost totally lacking in accountability and definition. If FERC proceeds down this road of loose control and concern we would recommend that an astronomic level of bonding be required to cover catastrophic environmental damage. With possible impacts to ESA listed species and the potential for more to become listed, this rush to market appears to be similar to the process that was used to site the hydro dams. We are all familiar with the environmental impact results.

This proposed process carries little in the way of definitions. What is a significant impact? Who determines any of the stated criteria? All appears vague and changeable. There is no comprehensive plan. Environmental analysis is proposed to take place only after the impacts are realized. No prior

analysis of likely impact is to take place other than considering other existing pilot projects with very little history in different environments. Nowhere in this process is there mention of cumulative impacts.

Lead times: The six month time frame for the decision process leaves no time for meaningful consultation with other entities whose jurisdictions and interests include the marine environment.

It is recommended that the time frame be set to a length necessary to accommodate full consultation with affected entities.

It is our conclusion that FERC may not actually have the legal authority to regulate energy projects in the marine environment. This pilot project process appears to violate the federal Administrative Procedure Act. We see this as an attempt to implement projects without public display of crucial details. At the very least FERC needs to use an open and public notice-and-comment rulemaking process and perform environmental analysis before it takes any further action to authorize any projects.

Sincerely,

John Holloway

Oregon Anglers, Ocean Co-chair

Recreational Fishing Alliance, Oregon State Chapter