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Ocean Energy Development and Regulation: Issues and Concerns

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California Sportfishing Protection Alliance (CSPA)

- 501(c)(3) non-profit formed in 1983 to represent anglers in regulatory processes
- Areas of focus include water quality, Delta fisheries, water rights, water policy
- Part of CA Hydropower Reform Coalition
- Very active in relicensing CA hydroelectric projects regulated by Federal Energy Regulatory Commission (FERC)

A little about me and my work

- “FERC Projects Director”: directly involved in the relicensing and license implementation of 12 CA hydroelectric projects (Merced to Butte)
- Vice-chair, CA Hydropower Reform Coalition
- Steering committee, national Hydropower Reform Coalition (energy policy, regulatory process)
- Lifelong California fisherman

Conventional hydropower: Mature technology

- 2 common forms of hydropower
- (1) Water diverted from river or stream into pipe or canal, dropped through a penstock through a powerhouse, returned to river
- (2) Powerhouse located at the base of a large dam, “head” from stage height of reservoir allows generation as water passes through

2006-2008

Ocean “hydrokinetic” energy push

- “Wave, tidal and ocean current” generation
- Untested technologies (similar level of development as low head in-river generation)
- Unclear economics
- Unclear who would regulate ocean generation: FERC or Department of the Interior’s (DOI) Minerals Management Service

2009 DOI-FERC

Memorandum of Understanding

- DOI has jurisdiction over non-hydrokinetic energy on outer continental shelf (OCS) (e.g., wind)
- FERC issues licenses and “exemptions” (under 10 MW) for hydrokinetic projects on OCS
- DOI retains authority to issue leases, easements and rights-of-way for all offshore development on the OCS
- FERC jurisdiction in state waters (< 3 mi. offshore)
- FERC will not issue preliminary permits for hydrokinetic projects (unlike conventional hydro)

2012: DOI-FERC Guidelines on offshore hydrokinetic development

- MMS superseded by Bureau of Ocean Energy Management (BOEM); 2009 MOU continues
- Defines new term: Marine Hydrokinetic (MHK)
- Sequencing (lease first, then apply for license)
- Non-MHK projects must file Construction and Operations Plan (COP) with BOEM
- “Hybrid” project must have COP and FERC license
- Limited pilots and test MHK projects without FERC license or exemption (case-by-case)

MHK licensing: Clear for developers Unclear for reps of public interest

- Defined roles in hydropower licensing for agencies other than FERC
- Forest Service, BLM, National Marine Fisheries US Fish & Wildlife, state water quality agency have federally authorized mandatory conditioning authorities
- Other agencies like CDFW have strong advisory authorities
- No defined agency roles for MHK licensing

Unknown technologies

Unknown impacts

- Hydropower impacts to aquatic species, river function and recreation have been observed for a century, and intensively studied and analyzed in the past 25 years
- To evaluate offshore energy, agencies and public often don't even know moving parts
- No legacy in understanding new technologies
- MHK licensing will mirror hydropower licensing: but what studies will inform it?

Some known impacts of ocean energy:

Recreational and commercial fishing

- Fragmentation of accessible areas for recreational and commercial fishing
- Offshore areas already fragmented by Marine Protected Areas, fishing regs, navigation
- More restrictions on boat traffic
- More restrictions on fishing
- Areas relatively close to shore are prime both for energy and for fishing.
- Fishing industry already hammered and declining

Some known impacts of ocean energy:

Aquatic species

- Construction impacts
- Storm impacts
- Maintenance impacts
- Transmission impacts (miles of cable)
- Noise and vibration of machinery
- Avian mortality to wind turbines
- Possible avian and fish mortality in underwater turbines

Some known impacts of ocean energy:

Visual quality

- The entire west coast prizes its almost completely unblemished views of the ocean
- Federal entities permitting offshore power facilities may not respect this heritage
- Wind projects in particular could be very destructive of ocean views
- Economic effect of visual impacts could be substantial

Potentially large footprint

- Offshore energy, like hydropower, has the potential to affect very large geographic areas
- Transmission likely to account for the biggest default area of effect
- Clusters of projects could reduce effect of transmission but cumulatively increase other effects
- FERC poor at addressing cumulative impacts

Summary

- Ocean energy is a new technology with impacts not well understood
- Regulatory process for developers has had more attention than process for mitigation
- There is substantial risk that initial deployment of first generation technology could cause irreversible, substantial damage to marine ecosystems and to fishing

Questions?

