

**Ocean Energy Task Force
Tidal Sub Committee**

Human and Ecosystem Impact Meeting / Conference Call
April 29th, 12:30-3:30

MEETING NOTES

In attendance: Dan Prichard (Maine DOC); Dana Murch (Maine DEP); John Ferland (ORPC); Parker Hadlock (Cianbro, LLC); Steve Timpano (Maine DIFW); Mary McCann (HDR/DTA); Jim McCleave (UMaine); Norm Dube (Maine DMR); Robert Scott (City of Eastport); George “Bud” Finch (City of Eastport); Teresa Johnson (UMaine); Ron Beard (UMaine Cooperative Extension/Sea Grant); Susan Elston (UMaine/AEWC); Gayle Zydlewski (UMaine); Arthur Spiess (Maine Historic Preservation Commission); Kim Damon-Randall (NMFS); Dana Hartley (NMFS); Julie Crocker (NMFS); Will Hopkins (Cobscook Bay Resource Center)

Review committee tasks, how we got to this point, where we are going:

- GOETF Mission
 - Relevant to this sub-sub committee:
 - Identify opportunities and means to advance the development of tidal and wave power in Maine’s coastal waters
- GOETF subcommittees (7)
- Tidal Subcommittee scope of work
 - This sub-sub group: Human use and ecosystem function
 - Identify human use and ecosystem function that must be addressed to successfully develop tidal energy while minimizing negative impacts
 - Recommend a process for tidal energy developers to engage stakeholders in considering impacts of new tidal energy projects
- No real overlap with Subcommittee #1, but their work may provide useful to this group.
- Thus far 2 conference calls to narrow down the tasks
- The fate of tidal power development is inextricably linked to the federal permitting process governed by FERC
 - Natural resource agencies (state and federal) have input to licensing (for preliminary, pilot, and commercial permits) at multiple stages
 - These natural resource agencies will determine what environmental factors **must** be considered pre-, during, and post-deployment of any tidal power projects
 - Coordinated discussions among developers and resource agencies will be important to communicating short and long-term goals as technology develops particularly because there is little to no information regarding environmental impacts of this developing technology.

Ecosystem Impacts Discussion

- Different types of tidal projects
 - Dam construction in a tidal region (barrage – takes advantage of elevation difference)
 - Wave power

- Hydrokinetic devices
- “Test projects” will be considered through the FERC “Hydrokinetic Pilot Project Licensing Procedure”
- Full scale commercial licenses would be considered through a different FERC process
- In the immediate future (next 5 – 10 years) will be considering “Pilot Projects”
 - These can be viewed as vehicles to evaluate the feasibility of tidal energy generation
 - Natural resource agencies will define study requirements
 - Scaling up from pilot projects would likely involve phased development
- FERC process can limit the ability to move projects forwards
 - Makah (WA) had to surrender their license because they could not meet FERC monitoring requirements
 - ***How can tidal power development move forward in Maine?***
 - ***FERC must be engaged along with state and federal agencies involved in decision-making.***
- Discussion of adaptive management
 - State natural resource agencies believe in adaptive management as long as there is a clear ENDPOINT
 - ***Guidance on who makes the decisions and what the thresholds (these must be resource dependent) are must be clear (e.g. in hydropower continuous testing of fish passage facilities is not acceptable).***
- Potential ecosystem impacts of hydrokinetic projects have been identified by Department of Energy (http://www.maine.gov/spo/specialprojects/OETF/Documents/Subcommittees/Subc5_TidalPower/attach3_DOEEcosystemimpacts.pdf)
 - It was agreed that this is a good reference to include in the OETF report to the governor
 - It is a good guideline for agencies and others to consider as pilot projects come forward.
 - Historical/archaeological impacts are absent from the table – NEED TO ADD
 - Be sure to capture the possibility of a tidal turbine arrays acting as attractants, e.g. artificial reef for some species
 - There will be site-specific concerns that will need to be considered under the existing permitting structure
 - Acknowledge the barrage and pump/storage tidal technology but their effects are very similar to traditional hydropower and the report will focus on hydrokinetic development
- The initial work done by the OETF regulatory subcommittee aligns the state’s permitting process with the FERC process for tidal power.
 - ***There needs to be continued effort to match the state and federal regulatory processes***
- There is some movement in the industry and conservation communities to be sure the environment is protected as ocean energy develops:
 - Letter to President Obama (Ocean Energy Joint Principles 11-20-08 -attached) – The industry/conservation groups developed a list of principles to guide the initial development of the ocean energy industry in a way that helps gather necessary environmental knowledge while allowing small scale pilot projects.
- Permit environmental costs for hydrokinetic projects are estimated at \$1 Million per site
 - ***Consider having the public sector provide funds for environmental study efforts***
 - Further discussion
 - Is the primary purpose of a **pilot project**: technology feasibility OR suite suitability?
 - Can be either or both

- Would a test facility for tidal power make sense?
 - Probably not since FERC permits require specification of a turbine technology when a permit application is filed.
 - Most developers are likely to want to test at a specific site and go commercial at THAT site
 - Prototype turbines can be tested on a barge without a FERC permit so temporarily moored testing platforms are feasible
 - Effects on natural resources will be site specific
- ***Path forward on ecosystem impacts***
 - Acknowledge and describe the well-defined regulatory processes in place: state and FERC
 - Acknowledge that data gaps exist regarding the environmental impacts of hydrokinetic tidal power development (include DOE table)
 - Acknowledge the need to evaluate (R&D) as the technology is developed
 - Acknowledge the need to balance industry needs and environmental concerns
 - The importance of collaborative/shared development of a public resource (watersheds)
 - Acknowledge the need for adaptive management AND decision-making thresholds for moving technology forward
 - The subcommittee might consider supporting pilot project activities as per the Ocean Energy Joint Principles as a way of balancing the interrelated need for acquiring environmental information (filling the knowledge gaps) and achieving R&D progress on the technology.
 - ***RECOMMEND: State (initiated as a letter from the Governor) enter into a memorandum of understanding with FERC***
 - This would include close communication among state and federal resource agencies involved in the FERC process for application decision-making

Human Dimensions Discussion

- A case study on local stakeholder relationships: ORPC's experiences in Eastport
 - ORPC: John Ferland
 - Approach has been community involvement from the beginning
 - Recognition of Eastport as a working marine city where education, jobs, and the way of life are linked to the water; the resource is globally recognized and their human resources are water-related
 - It has been important to be visible and open; to leverage local talents and resources
 - ORPC has focused on generating value in the community
 - E.g. Eastport Port Authority
 - Biggest advice: LISTEN; communicate and adjust
 - Community direction gives the project value
 - There is a need to establish credibility in the community
 - Lessons learned
 - Engage community leadership BEFORE moving through the permitting process

- Use common sense: extend extra effort to identify and speak to the right people
 - During “pre-filing activity” scope community relationships
 - Be as specific as possible because antagonism from one side or other is usually a desire to have more specific information
- Cobscook Bay Resource Center (CBRC): Will Hopkins
 - The basic need at an ocean energy site is site access, which necessitates stakeholder participation
 - When Eastport was pointed out in the Energy Power Research Institute Report of 2006 several entities started to approach the Eastport area
 - The CBRC had been fighting to protect scallop beds and the Cobscook Bay ecosystem since 1998. They became the facilitative body for ocean energy in Eastport.
 - There have been 2 years of meetings with ORPC and fishermen’s associations to build relationships.
 - ORPC has been using local groups and communicating their broad goals from the start by
 - Developing an MOU with the city
 - Maintaining informed communication
 - Listening to local knowledge and adjusting their strategies accordingly
 - Investing in the community
- City of Eastport: Bud Finch
 - Eastport has been an industry city from the beginning with the industry changing over time
 - Fourteen years ago the city decided to talk about their economic purpose and decided that industries important to the city were to have a shipping-based industry; aquaculture; and tourism
 - When the EPRI report came out in 2006 the City was approached by ORPC
 - The city feared natural resource impacts
 - Eastport partnered with ORPC to invest time into a possible economic benefits for the City and local city talents have been contributing to ORPC; Benefits for the city could have ranged from nothing to good public relations to manufacturing
 - There are regular open forum meetings to hear local concerns
 - There is a need for “kitchen table” and local diner discussions of industry as it “comes to town”
 - **ADVICE: *Do a better job of “bottom up” engagement and ensure that ideas from the local communities are heard UP to the federal process.***
- Some general conclusions from ORPC experiences in Eastport thus far
 - Use the “right” approach
 - There is a ***need for a NEUTRAL HONEST BROKER*** (outside industry and town government)
 - ***Community outreach MUST be beyond the regulatory process***
 - Get the right people in the same place at the same time (kitchen table discussions)
 - Use an adaptive approach with people
 - ***Have the people who KNOW the answers to important, technical questions at public meetings***

- Be able to articulate the local benefit
- Question: Would you approach a larger community differently? Answer: Probably not, the fundamentals are the same but it may be difficult to use an informal process in a larger setting
- ***Need a consistent message to communicate***
 - Need local “buy-in”
 - The possibility of energy coops?
 - Need to find a way to articulate the global economic advantages

Path forward on Human Dimensions

- Frame a process to move tidal energy development forward in Maine – This will help developers AND towns/local communities on how the process might work. Principles include:
 - ***Having a NEUTRAL HONEST BROKER*** (outside of industry and town government)
 - ***Having community outreach BEYOND the regulatory process***
 - Getting the right people in the same place at the same time (kitchen table discussions)
 - Using an adaptive approach
 - ***Having the people who KNOW the answers to important, technical questions at public meetings***
 - Articulating the local benefit