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MOTION TO INTERVENE IN OPPOSITION

Kennebec Tidal Energy Hydroelectric Project

FERC Project No.: 12666-000

E-File

June 29, 2006

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St. NE
Washington, D.C. 20426

RE: COMMENTS

Kennebec Tidal Energy Hydroelectric Project, Project No. 12666-000
Application for Preliminary Permit
Kennebec River, Sagadahoc County, Maine

Dear Secretary Salas:

The following is in response to the Federal Energy Regulatory Commission's (Commission) public notice, dated May 2, 2006, regarding the application for preliminary permit by the Maine Tidal Energy Company for the proposed Kennebec Tidal Energy Hydroelectric Project, located at the Chops in the Kennebec River in Sagadahoc County, Maine.

SUMMARY

Merrymeeting Bay for which the Chops is the only point of ingress and egress from and to the Gulf of Maine is a noted resource of international significance due to its migratory waterfowl, diadromous fish, rare plants and bald eagle populations. Approximately 38% of Maine's water drains through the Chops. The Merrymeeting Bay and lower Kennebec River freshwater tidal riverine estuary system is the second highest priority area in the state [after Cobscook Bay] for federal and state wetland protection efforts aimed at

preserving waterfowl and diadromous fish habitat. Friends of Merrymeeting Bay [FOMB], has reviewed the permit application and strongly objects to the issuance of the proposed preliminary permit. While FOMB seldom takes positions on issues beyond those which directly or indirectly affect Merrymeeting Bay and the watershed which feeds it, many of our members are environmentalists with a global perspective and are concerned with the impacts of global warming. Consequently, many of us are individually prone to look with favor upon sources of energy which are based on renewable resources and which may displace fossil-fuel based electrical generation plants. It is entirely possible that tidal in-stream turbines and other developing technologies may someday prove to be the environmentally benign sources of renewable energy which we would favor.

Unfortunately, the proposed project will utilize unspecified new and untested technology for which limited impact data exist and that the project is proposed in an area that contains significant natural resources. In fact, from the point of view of estuarine resources unique to the Kennebec/Androscoggin/Merrymeeting Bay watershed the proposed project location is the one of maximum sensitivity and probable impact. If the applicants, and their sister corporations applying for permits in various locations in hopes of securing pre-emptive energy rights, wanted to pick a site more susceptible from the point of view of biological impacts than this 280 yard slot in the bedrock, they would be hard pressed to do so. Because of the location, the proposed project will likely have significant adverse impacts on fish, marine mammals and other aquatic resources and should not be permitted to proceed further unless and until the turbines are found in well-designed and documented studies by disinterested parties to be environmentally benign in restricted areas of high flows and high density fish migrations.
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INTERVENOR STATUS

Friends of Merrymeeting Bay [FOMB] respectfully motions here for intervenor status in the proceeding. FOMB is a membership based 501[c][3] organization formed in 1975 whose mission is to preserve, protect and enhance the unique ecosystems of Merrymeeting Bay. FOMB accomplishes this mission through research, advocacy, education and land protection. FOMB members use the proposed project area for recreational and commercial fishing purposes, navigation, scientific study, education and work actively to protect valuable habitat in and near the project area. Our organization and members will clearly be affected by the proposed project and have a direct and substantial stake in the outcome. The proposed project area in the vicinity of the Chops is at the heart of Merrymeeting Bay.

SITE LOCATION

Whether intentionally or unintentionally, the applicant, Maine Tidal Energy Company [MTEC], provides only a limited chart of the project area attached to its application. The chart does not put the project area into the geographical, hydrological or biological context within which it must be considered. Their chart also does not accurately show protected lands in the immediate area or relevant vicinity. Attached please find four

USFWS maps [Exhibits 1-4] which will place the proposed project area into the proper perspective.

Exhibit Map 1: Eel/Dam Map shows the Merrymeeting Bay watershed and also happens to include dams and sites where the American eel has been found through electro fishing efforts of the Maine Department of Inland Fisheries & Wildlife [MDIF&W]. The project area is at the outlet of Merrymeeting Bay in the lower right.

Exhibit Map 2: Land Protected [with Project Area] 1995. This map shows state protected lands in the Merrymeeting Bay/Lower Kennebec area prior to 1995 and outlines the Chops proposed project area in blue.

Exhibit Map 3: Land Protected [with Project Area] 2005. This is a nearly complete map of current protected lands in the Merrymeeting Bay/Lower Kennebec area. In addition to the proposed project area, it shows the effectiveness of protection efforts by the Maine Wetlands Protection Coalition, a partnership including the US Fish & Wildlife Service [USFWS], MDIF&W, The Nature Conservancy, Maine Coast Heritage Trust, FOMB, Lower Kennebec Regional Land Trust and the Phippsburg Land Trust.

Exhibit Map 4: Merrymeeting Bay Protected Lands. This map shows lands in the immediate region which FOMB has taken the lead in protecting. As such, it demonstrates some of our tangible habitat protection work in the area and supports our request to intervene.

Collectively, these maps show the three main areas of Merrymeeting Bay: North-from northern tip of Swan Island to Abbagadassett Pt. including the Eastern River; Central-from Abbagadassett Pt. to the Chops including the Androscoggin, Cathance, Muddy and Abbagadassett Rivers as well as part of the Kennebec; and South-from the Chops to Thorne Head. While the Chops is the key bottleneck directly affecting the central portion of Merrymeeting Bay, it must be noted that Thorne Head and further downstream, the Doubling Point/Fiddlers Reach area are similarly narrow sections of river where impacts of hydro development on the fishery resource could also be expected to be quite high.

PERTINENT LAWS

[Italics added for emphasis]

The Federal Power Act: (16 U.S.C. Chapter 12)

Sec. 797(e)

"In deciding whether to issue any license under this subchapter for any project, the Commission, in addition to the power and development purposes for which licenses are issued, *shall give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality.*

Sec. 803:

"All licenses issued under this subchapter shall be on the following conditions:

(a) Modification of plans; factors considered to secure adaptability of project; recommendations for proposed terms and conditions

(1) That the project adopted, including the maps, plans, and specifications, shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of water-power development, *for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses,* including irrigation, flood control, water supply, and recreational and other purposes referred to in section 797(e) of this title \1\ if necessary in order to secure such plan the Commission shall have authority to require the modification of any project and of the plans and specifications of the project works before approval."

(j) "Fish and wildlife protection, mitigation and enhancement; consideration of recommendations; findings

(1) *That in order to adequately and equitably protect, mitigate damages to, and enhance, fish and wildlife (including related spawning grounds and habitat) affected by the development, operation, and management of the project, each license issued under this subchapter shall include conditions for such protection, mitigation, and enhancement.* Subject to paragraph (2), such conditions shall be based on recommendations received pursuant to the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) from the National Marine Fisheries Service, the United States Fish and Wildlife Service, and State fish and wildlife agencies." [It is interesting to note that neither the Department of Commerce (NOAA Fisheries, a. k. a. NMFS) or the Department of Homeland Security-(US Coast Guard-navigation issues) were copied on the MTEC's permit application].

The Federal Water Pollution Control Act, a.k.a. The Clean Water Act.
33 U.S.A §§ 125-1387

"The objective of the Clean Water Act is to *restore and maintain the chemical, physical and biological integrity of the nation's waters.* Among the national goals stated in the Act are the elimination of the discharge of pollutants into navigable waters by 1985 and, where attainable, the achievement by mid-1983 of an interim goal of water quality sufficient to provide for the protection and propagation of fish, shellfish, and wildlife and for recreation in and on the water."
"Except as otherwise provided, the Administrator of the EPA administers the Act. EPA, in cooperation with other federal agencies, states, interstate agencies, municipalities and industries, is to develop comprehensive programs for preventing, reducing or eliminating

pollution and improving the sanitary condition of surface and underground waters. *Due regard must be given to the improvements necessary to conserve these waters for the protection and propagation of fish and aquatic life and wildlife, recreational purposes,* and the withdrawal of water for public water supply, agricultural, industrial and other purposes. §§ 1251 and 1252."

"Pollution: *the man-made or man-induced alteration of the chemical, physical, biological and radiological integrity of water*." [This CWA definition was just upheld by the U.S. Supreme Court in S.D. Warren v Maine Board of Environmental Protection]

Clearly a project of the scope proposed will affect hydraulics in the area creating new turbulence with possible effects on mixing, turbidity and sedimentation. Just the addition of the proposed structures in the water column will create at minimum a "man-induced alteration of the physical [and probably biological] integrity of the water." The project will thus be considered as creating pollution and will be contrary to the objectives of the Clean Water Act.

Maine Water Quality Certification, Department of Environmental Protection [DEP] Rules

Under Section 401 of the Clean Water Act MTEC would need to seek state Water Quality Certification for the hydro project.
"In order to grant certification, the Department must conclude that there is a reasonable assurance that the continued operation of a hydropower generating or storage project will not violate applicable Water Quality Standards. These standards have been established in the State's Water Classification Program (Title 38 MRSA Sections 464-469). These standards designate the uses and related characteristics of those uses for each class of water and establish water quality criteria necessary to protect those uses and related characteristics."

Maine Surface Water Classification, Title 38

§465
The area of the Kennebec and Merrymeeting Bay above the Chops is classified B. "Class B waters must be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; agriculture; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, section 403; navigation; and *as habitat for fish and other aquatic life. The habitat must be characterized as unimpaired."*

It would seem obvious that multiple generating units occupying the Chops waterway would create very impaired habitat at that point as well as up stream and downstream if those areas are not accessible or not easily accessible.

§465-B
The Kennebec below the Chops is classified SB. "Discharges to Class SB waters *shall not cause adverse impact to estuarine and marine life in that the receiving waters shall be of sufficient quality to support all estuarine and marine species indigenous to the*

receiving water without detrimental changes in the resident biological community. There shall be no new discharge to Class SB waters which would cause closure of open shellfish areas by the Department of Marine Resources."

Here again it seems clear that structures blocking a good portion of the Chops would create an adverse impact to at least migratory fish whether by physically harming them or preventing or limiting access or affecting their food supply. Any leakage of lubricating oils or shedding of antifouling coatings from these structures would constitute a prohibited adverse discharge into these waters.

§ 467
(14) "From a line drawn across the tidal estuary of the Kennebec River due east of Abagadasset Point, to a line across the southwesterly area of Merrymeeting Bay formed by an extension of the Brunswick-Bath boundary across the bay in a northwesterly direction to the westerly shore of Merrymeeting Bay and to a line drawn from Chop Point in Woolwich to West Chop Point in Bath - Class B. *Further, the Legislature finds that the free-flowing habitat of this river segment provides irreplaceable social and economic benefits and that this use must be maintained."*

FISHERY RESOURCE

Merrymeeting Bay is the only body of water in the Gulf of Maine to provide spawning/nursery habitat to all anadromous fish species of the Gulf. These species are Atlantic sturgeon [special concern], Atlantic salmon [endangered], shortnose sturgeon [endangered], striped bass, brown trout, rainbow smelt, alewives, American shad, Atlantic tomcod, blueback herring and sea lamprey [SPO, 1993]. In addition, the American eel [considered for ESA listing] is an important catadromous resident and migrant [Watts 2004]. While there are obvious issues of possibly unacceptable mortality [or *take* as it is often euphemistically referred] to the threatened and endangered species that might prohibit this project development, there is also the issue of exceptional shad sensitivity to noise, corralling and blockages. American shad probably rate at near the top for sensitivity to disturbance [such as that caused by a wall of turbine blades] [Mann, Lu & Popper, 1997]. It is unlikely they would proceed past such obstacles to spawn up river.

There are hundreds of millions of migratory fish that have to pass through the various narrows on the Kennebec including the Chops [SPO, 1993]. There have been millions of dollars spent on dam removal, fish passage and fishery restoration in the Merrymeeting Bay watershed [MDMR, 2001]. One of the predicted effects of the Edwards Dam removal in Augusta was the growth and return of a healthy striped bass fishery [MDMR, 2004]. Indeed, this has come to pass and the striped bass fishery, of great economic importance is now considered world class.

The endangered shortnose sturgeon reside primarily within the river system and they frequently transit the proposed project area, They tend to spawn near the head of tide on the Androscoggin River, winter off the mouth of the Eastern River and often move up and down the Kennebec River from Merrymeeting Bay to the Sagadahoc Bay area at the mouth of the Kennebec River [Squiers, 1999 & pers comm.]. Given this pattern of

movement they would typically be subject to multiple exposures to any obstructions at the Chops.

The Kennebec channel area just above the Chops was historically the best place in the river for gill netting sturgeon when there was a commercial fishery. This section was known as "the gully." On July 21, 1900, Kenneth Edgecomb whose fishing operation was based on Sturgeon Island just above the Chops **[Exhibit 5]** even netted a beluga whale in the gully [Lipfert, 1978] **[Exhibit 6]**. About 15 years after Edwards Dam was completed, the Atlantic sturgeon fishery dropped in half as the fish were deprived of their traditional spawning area between Augusta and Waterville [Atkins, 1867]**.** With the dam removed, Atlantic sturgeon are once again actively using that section of river and are frequently seen jumping in the Bay. Atlantic sturgeon are currently undergoing a full species status review to determine if ESA listing is justified.

The Kennebec/Androscoggin drainage once was home to the greatest Atlantic salmon population in the northeast. Salmon traveled up the Kennebec above the 16 foot Caratunk Falls more than 100 miles from the sea and on the Androscoggin 80 miles from the sea to Rumford Falls [Atkins, 1867]. These majestic fish survived the river's damming hanging on and spawning in tributaries below Augusta including Bond Brook and Togus Stream. With the dam removed, they are back in the main stem spawning and attempting to travel further upriver. The National Research Council of the National Academies has noted the endangered status of the entire Gulf of Maine Distinct Population Segment [DPS] [NRC, 2004] yet salmon on the Kennebec and Penobscot were not "listed" several years ago as they were on eight small coastal rivers. This has been challenged in an endangered species petition filed by FOMB, Douglas and Timothy Watts and the Maine Toxics Action Coalition [Watts, Watts, FOMB and MTAC, 2005]. The full status review of the species is currently undergoing peer review as part of the listing process with NOAA Fisheries serving the lead agency [NMFS, 2006].

1996 Amendments [PL 104-267] to the Magnuson-Stevens Fishery Conservation and Management Act [MSA] [16 U.S.C. §1801 et seq. [1998], define Essential Fish Habitat [EFH] as "waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." EFH has been designated for over a dozen federally managed species, including Atlantic salmon, which utilize the Kennebec-Sheepscot-Androscoggin-Merrymeeting Bay estuary system. FERC is required to consult with NMFS on any action or proposed action FERC takes that funds, permits or undertakes which may adversely affect the EFH [NMFS, Ibid.].

American eels, rapidly declining throughout their range in large part due to anthropogenic causes such as habitat blockage by dams [during upstream migration] and turbine mortality [on out migrations], are also the subject of an ESA petition [Watts & Watts, 2004]. Following a review of the petition and positive 90-day agency finding, the finishing touches are being put on the full status review by USFWS the lead agency.

The point here is that every single migratory fish, recovering or not, must transit the Chops, the only point of access to the Merrymeeting Bay area and upstream spawning grounds. The proposal as submitted is hopelessly vague as to generator type [though the applicants lean toward propeller type generators] and does not even address how they

would monitor any possible adverse impacts on the fishery and hydrology. From the fishery standpoint, there is everything to lose and nothing to gain. In the case of underwater obstructions, the effects of multiple units obviously will be greater than for that of a single test unit. A single test unit, even with no *apparent* ill effects, would not be an accurate indication of the effects of "20-50 units" that would take up a substantial part of the waterway. There is ample evidence [discussed below] that small organisms whether current borne [i.e. striped bass larvae] or free swimming [fry] are subject to multiple passages through the Chops due to changing tides. As such they will be subject to the cumulative effects of multiple exposures to whatever structures might be placed in the proposed project area.

The National Oceanic and Atmospheric Administration [NOAA] Coastal Resource Consideration [CRC] Programs provide technical expertise to EPA on resources and ecological risk assessment, mitigative measures, and cleanup strategies to ensure protection of NOAA trust resources.

"NOAA trust species in Maine include anadromous and catadromous species such as Atlantic salmon, alewife, American shad, blueback herring, Atlantic herring, sea-run brown trout, rainbow smelt, striped bass, American eel, sea lamprey, Atlantic sturgeon, and the federally endangered shortnose sturgeon. Some estuarine and marine fish found in Maine are: menhaden, banded killifish, mummichug, 3-spine stickleback, haddock, Atlantic tomcod, bluefish, and 9-spine stickleback. [NOAA, CRC ME. Fact Sheet]"

"The NOAA CRC program works to protect and restore natural resources throughout Maine. *However, the Androscoggin and Kennebec Rivers, as well as Merrymeeting Bay where the two rivers meet, are of special concern to NOAA. This is one of the most productive estuaries in Maine, providing important habitat for NOAA trust resources.* The shortnose sturgeon, a federally endangered species, uses the Androscoggin River for spawning, nursery, and adult habitat. [NOAA, Ibid]"

MARINE MAMMALS

There is a little studied but very prominent harbor seal population in this part of the river. Their favorite haul out is a few hundred yards below the Chops on ledges just above Lines Island [**Exhibit 7**]. As many as fourteen seals have been observed here at once. Prior to the Edwards Dam removal seals traveled as far north as Augusta, 30 miles. Now with the dam gone, seals have been observed at Waterville about 48 miles above the Chops. Still the vicinity of the Chops with its mixing of salt and freshwater and its currents and whirlpools appears to be their favorite spot no doubt because of its superior qualities as a food resource. Surely the effects of a field of turbines will not be positive for the seal population. Perhaps as wind generators have sometimes been known to kill bats and birds attracted to insects trapped in their generated eddys, so too may seals [and larger fish] be affected as they are attracted to larvae and fry caught up in the vicinity of generating units.

HABITAT PROTECTION & EFFECTS

During recent years development pressures around the project area have dramatically escalated. So too have efforts to protect wetland habitat, upland buffers and essential fish habitat. The Maine Wetlands Protection Coalition as described in the Site Location section has been successful at bringing millions of federal and state dollars [matched by in-kind contributions] to the Merrymeeting Bay/Lower Kennebec area to permanently protect valuable habitat. Combined efforts of the Coalition and the individual partners have protected well over 10,000 acres in the area [Fichtel, 2006]. A total of over 27,000 [mostly wetland] acres in the Merrymeeting Bay/ Lower Kennebec area have been identified by USFWS as "highest value habitat" [USFWS, 1994].

In large part these efforts at land protection have been directed at migratory waterfowl and diadromous fish habitat which are often one and the same. There are roughly 5700 acres of tidal wetland between Thorne Head and the north end of Swan Island. [Sewall, 2000] Most of this area is densely vegetated with a variety of emergent aquatic species such as wild rice, river bulrush, softstem bulrush, and pickerel weed. The Bay also hosts a population of approximately a dozen small mud plants that are considered of special concern, threatened or globally rare [MNAP, 1998]. The biomass of plants on these flats is enormous. The biomass of hundreds of millions of fish in the system is enormous. Beyond the obvious habitat/spawning/nursery connection between the two, very little is known. If the system were deprived of the fish biomass, the effects on the plant community would likely be significant. Major changes in nutrient flow in and out of the Bay would be likely, as might changes in seed dispersal. Bird life dependant on these fish would also be expected to suffer. Merrymeeting Bay is designated as a Globally Important Bird Area by the American Bird Conservancy [Friedman, 2001].

There are a number of freshwater mussel species that live in the Bay including *Elliptio complanata, Anodonta implicata, Leptodea ochracea, Lampsilis cariosa, Margaritifera margaritifera,* and *Pyganodon cataracta*. Freshwater mussels depend on specific host fishes for distribution of their larvae. No fish-no mussels, it's as simple as that. Host species for the *Anodonta* [alewife floater] are the alewives and possibly a few other river herring species, host species for *Margaritifera* include the Atlantic salmon and brown trout. Host species for the threatened *Leptodea* [tidewater mucket] and *Lampsilis* [yellow lamp mussel] are unknown but as the common name of one and the habitat for both suggest they may well be diadromous host species affected by the proposed project [Nadeau, McCollough & Swartz, 2000].

NAVIGATION

The proposed project area is one of intense currents and counter-currents, whirlpools and sometimes large wave trains. The Chops is subject to a great deal of recreational boat traffic particularly in the summer. Some of these are paddle and sailing craft but the majority of vessels are power boats of various sizes from small to very large. Some boaters are trolling. In the not too distant past oil barge traffic used the river as far north as Gardiner. At present, the largest craft are Coast Guard icebreakers and buoy tenders as well as nature tour boats from Boothbay Harbor and Bath. Aside from depth issues for larger boats a second issue affecting smaller boats might be the increase in violent

upwellings that submerged structures could easily cause. How the proposed "undersea" units would be maintained in a location this wild is also an unanswered and serious question.

HYROLOGY & CIRCULATION

The proposed project area is considered tidal riverine by the USFWS [USFWS, 1994]. It is also considered an estuary in that there is some mixing of salt and fresh water here. The area above the Chops is primarily fresh water in spite of being tidal to Augusta 30 miles up the Kennebec. Geologically, Merrymeeting Bay is considered an inland delta where six rivers meet. Tidal range varies from four to six feet with much of the Bay becoming quite shallow or exposed at low tide. The Bay freezes over in winter and can have up to four feet of ice on it. The Chops, while it used to freeze, has not in recent years. Areas above and below it [particularly above] typically do freeze over. Most years the spring freshet brings substantial river ice back and forth through the proposed project area as well as carrying huge amounts of debris including large trees, ice-fishing camps and pulpwood still in the river from the last major log drives in the early 1970s. We have measured flows in the Chops of 150,000 cubic feet per second [cfs] in the summer. This would be far higher in annual or unusual flood conditions.

FOMB first looked at circulation patterns in the Bay in 1998 using an Acoustic Doppler Current Profiler [ADCP] and CTD probe. In 1999 we did more extensive ADCP traverses with the cooperation of the USGS office in Augusta, Maine. Peter Lea of Bowdoin College in Brunswick, Maine has over the last few years looked more intensively at various areas in the Bay [including the Chops] using an ADCP to measure current direction and speeds through the water column. From all of the ADCP work done in the past; data indicate for the most part a consistency of flow direction from top to bottom of the water column. In other words, the water appears pretty well mixed. Any significant differences in direction or velocity of flows with depth are rare and data gathered near the surface can generally serve as an indicator of the movement of the entire water column. Last year FOMB began a more extensive study of circulation study of the Bay and tributaries using elongate drifter buoys floating vertically with 80% of their length beneath the surface [**Exhibit 8**]. The drifters carry GPS units logging position at intervals of 15 or 30 seconds; small radio transmitters allow the buoys to be located at the end of a deployment for downloading of the position data and for reuse under differing flow conditions. Our primary interest has been the movement of the water as a function of tidal state and river flow, to allow us to predict the dispersal of its load, whether toxics, invasive species, nutrients, fish larvae, sewage, oil spills, etc., around the Bay. While our work continues, one very clear result visible in our drifter animations is that the same water can move back and forth through the Chops repeatedly with the changing tides. This has been particularly true at low summer [or winter] flows, when the tidal flow through the Chops is much greater than the river flows. When drifters were deployed from the Chops on falling tides at times of low river flows, they easily made their way back up through the Chops and into the Bay.

This project's hard data support our concerns over multiple exposures to whatever structures might be installed in this vicinity. Exposures could to biological organisms [small and large], sediments or debris all of which will undergo cumulative effects from

repeated encounters with the Chops and whatever is in that body of water. In the case of debris [up to the size of entire trees] or ice, it could also be the structures that are subjected to adverse cumulative effects. Drifter animations may be viewed in the hydrology section at the "cybrary" link of the FOMB web site at www.friendsofmerrymeetingbay.org .

PROPOSAL INCONSISTENCIES

We are asked to respond to the presented proposal. Aside from its non-specific nature regarding the technology to be used, the experimental nature of those technologies as a group [EPRI, 2005], the lack of effects data and the lack of biological monitoring methodologies there are some very important inconsistencies present. The following sections in quotes are directly from the applicant's March 30, 2006 FERC submission. Italics are added for emphasis.

"1. Statement of Purpose
Maine Tidal Energy Company (METidal) applies to the Federal Energy Regulatory Commission for a preliminary permit for the proposed Kennebec Tidal Energy Project as described in the attached exhibits. *This application is made in order that the applicant may secure and maintain priority of application for a license for the project* [emphasis added-here and below] under Part i of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the project and to support an application for a license."

If the companion applications for other water bodies and the quality of this application don't already make it clear, the phrase italicized here seems to confirm the primary motivation of the applicant is to lock up energy rights at these sites-not necessarily realistically evaluate them prior to making application.

"2. Project Location
The location of the Project is under water in a section of the Kennebec River in Maine. The under water area begins southeast of West Chops Point and extends northwest between the northern tip of West Chops Point and the southern tip of Chops Point. The coordinates of the requested permit area are provided below. Water depths in the area are variable and range from 25 feet to over 100 feet deep. Potential transmission line routes to the shore include routes along the northern tip of West Chops Point or the southern tip of Chops Point."

"5. Term of Permit
The proposed term of the requested permit is not to exceed 36 months. The project concept includes phased development, as follows:

First Phase- demonstration of a pilot Tidal In Stream Energy Conversion (TISEC) device, initially testing and refining the design components and subsequently installing and delivering the devices power onshore to a distributing entity;

Second Phase- build-out of additional devices in the field, up to the capacity of the cable infrastructure sited in the initially used transmission corridor to land; and

Third Phase- build-out of other appropriately sited fields, based on identification and use of appropriate sites, transmission corridors and business arrangements for delivered power.

It is targeted that ***at least the First phase*** would occur in the three-year timeframe of this permit."

In neither of the applicant's attached project schedules is Phase One even mentioned however detailed work on Phase Two begins at about 18 months and build-out on the site is scheduled for about 35 months just prior to the end of the 3-year permit. It is very clear from the application quoted above that the applicant proposes to have a demonstration unit in the water early on and that *"at least the First Phase"* would occur within the initial permit period."

The above excerpt from the applicant's proposal is in sharp contrast to what is contained in FERC's Notice of Application Accepted… of May 2, 2006 that says:

"q. Proposed Scope of Studies under Permit -- A preliminary permit, if issued, does not authorize construction. The term of the proposed preliminary permit would be 36 months. The work proposed under the preliminary permit would include economic analysis, preparation of preliminary engineering plans, and a study of environmental impacts. Based on the results of these studies, the Applicant would decide whether to proceed with the preparation of a development application to construct and operate the project."

The applicant's proposal appears to include a significant in-river component while FERC's response does not. We are responding to the proposal as presented by the applicant, not what could be or might be or was possibly intended.

The applicant goes on to say in their proposal that:

"METidal does not believe the project will negatively impact aquatic organisms, wildlife, vegetative species, historical and cultural resources, recreation uses, navigation, or commercial and recreational fishing. To document this subject matter during the preliminary permit period, there are plans to:

• Evaluate fish mortality and injury prevention measures,
• Study the impacts of construction and placement of the TISEC devices and transmission lines on aquatic organisms, historical and cultural resources, recreation, navigation, commercial and recreational fishing;
• Study the impacts on potentially affected aquatic organisms due to the operation of the TISEC devices, especially addressing fish and other organisms' movement around the units; and
• Study the impacts of the TISEC devices and transmission lines on surrounding wetlands, riparian wildlife and vegetative species, where applicable, and
• Study the extent and impacts of phenomena such as biological fouling on performance and microhabitat."

That Maine Tidal "*does not believe the project will negatively impact…*" does not make it so. Considering the location and state of technology, this statement appears to be an incredible stretch of the imagination. There are no supporting details to defend this statement or presented for the study issues they raise. Again we stress the common sense differences between one unit in a confined site and a field of fifty and the possible difficulties in extrapolating from one to many.

CONCLUSIONS

It is interesting to note that the extensive Electric Power Research Institute [EPRI] survey of tidal energy sites along the Maine coast did not include this very obviously high energy site [EPRI, 2006]. Perhaps this was an oversight on their part or perhaps it was because the EPRI group did at least a certain amount of research and realized that an instream facility or blockage at this site could not pass the straight-face test from the natural resources point of view. EPRI did look at one Kennebec River site further downstream [Doubling Point/Fiddlers Reach] and rejected it due to its narrowness with regard to navigational issues and instream debris. They rejected another at the river mouth for other reasons.

There is no arguing with the fact that this country and the world need to move to cleaner and non-carbon dioxide-emitting sources of power. There is also no arguing with the fact that conservation is the "low hanging fruit" of carbon dioxide reduction. There is not a word of conservation in this proposal. There is not a suggestion of taking out of service greenhouse gas producing energy sources and replacing them with megawatt equivalents in cleaner energy. FERC might do well to consider such issues and possibilities as the Commission receives more alternative energy proposals in the future. That we need cleaner sources of energy should not give us carte blanche when it comes to alternatives.

This proposal suggests taking the keystone of an important and incredibly unique ecosystem into which a great deal of effort and restoration expense has been put and turning it into an electrical generating station. Protection of natural resources and power generation are not necessarily mutually exclusive. The proverbial devil is however in the details and the need for clean energy should not, and indeed legally may not, preclude the need to protect important resources. The details then are in the site selection and the technology. The biological importance of a site can vary tremendously and there is a plethora of proven and experimental energy producing technologies out there. Some sites will be so important that they should not be disturbed. We feel that the Chops as well as several similarly narrow sites along the Kennebec River, fits this category. It is one scenario to use a portion of a wider section of river with adequately screened generating units allowing room for other users, it is quite another to install what essentially constitutes an obstacle course or possibly even a blockade in a narrow section of river negatively impacting the natural resource and the river's other users.

This application is at best ill prepared, and at worst intentionally disingenuous. The project is vague and speculative in nature and gargantuan in scope. The Chops site is a world-class biologic, geologic and hydrologic feature unsuited and inappropriate for such an untested venture. Unfortunately there is a long history of very bad ideas taking on

lives of their own following initial permitting. FOMB recommends FERC deny this permit at the outset finding the project incompatible with the unique natural resources and characteristics of the Kennebec/Androscoggin/Sheepscot/Merrymeeting Bay system.

Thank you for your consideration.

Sincerely,

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Exhibit List

Exhibits 1-4: Merrymeeting Bay Maps [USFWS].

Exhibit 5: Photo-Sturgeon processing on Sturgeon Island early 1900's [Maine Maritime Museum].

Exhibit 6: Photo-Times Record article-"Kenny Catches a Whale" [The Times Record].

Exhibit 7: Photo-Lines Island seal haulout below Chops [E. Friedman, FOMB].

Exhibit 8: Photo-FOMB circulation study. Drifter deployment in the Chops [E. Friedman, FOMB].

Other References

A great deal of valuable material can be found following the "cybrary" link on the FOMB web site at www.friendsofmerrymeetingbay.org and about the Bay and project area in general at: www.http://link75.org/mmb/

A great deal of valuable material can be found on the web site of Friends of Kennebec Salmon at www.kennebecriver.org

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