

**130 FERC ¶ 62,234**  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Maine Maritime Academy

Project No. 12777-001  
DI10-1

DECLARATORY ORDER

(March 23, 2010)

1. On October 28, 2009, Maine Maritime Academy (Academy) filed a declaration of intention and petition for relief from the requirement to obtain a license with respect to its proposal to deploy and test hydrokinetic devices at two coastal sites in Hancock County, Maine. As discussed below, I find that, based on the facts in this case, the contemplated activities do not require licensing under Part I of the Federal Power Act (FPA).<sup>1</sup>

**Background**

2. The Academy holds a preliminary permit to study the feasibility of, and maintain priority for, its proposed Castine Harbor and Bagaduce Narrows Hydrokinetic Project No. 12777-000, issued on October 9, 2007.<sup>2</sup>

3. The project that is the subject of the declaration of intention would be located in the Bagaduce River and Estuary in coastal Maine.<sup>3</sup> The Tidal Energy and Demonstration Center at the Academy, a research and education-based non-profit center, plans to “offer students new educational opportunities, develop and codify means to engage the community in the advancement of tidal power, and provide a special relationship for the regulatory agencies to engage in studying the effects of proposed tidal energy devices.”<sup>4</sup> The Academy strives to be a globally recognized leader in providing the highest quality maritime, engineering technology, marine science, and logistics education with facilities and laboratories that are at the leading edge of technological innovation.<sup>5</sup> The mission of

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<sup>1</sup> 16 U.S.C. § 797(f) (2006).

<sup>2</sup> 121 FERC ¶ 62,017 (2007).

<sup>3</sup> The proposed project would not occupy federal lands.

<sup>4</sup> October 28, 2009, filing at 3.

<sup>5</sup> See <http://www.mainemaritime.edu>.

the Academy is to provide a quality education primarily focused on marine related programs. The Academy states that it wants to deploy (at two sites located in Bagaduce Narrows and Castine Harbor) and test various experimental hydrokinetic devices to provide an educational experience for students who seek to develop skills in deploying, retrieving, maintaining, and repairing hydrokinetic devices.

4. The experimental hydrokinetic devices could include Cross Flow Darrius style rotors, Cross Flow Savonius type rotors, and Axial Flow turbines. Power output from any device tested at each site would be less than 3 kilowatts (kW) during peak current flow and about 1.5 kW on average.

5. The devices would be mounted to floats attached to a concrete superstructure, concrete or stone blocks, and other gravity-based weighted frameworks connected to research vessels, small launches or barges. The hydrokinetic devices would convert mechanical power from the tidal currents and the rise and fall of the tides in Bagaduce Narrows and Castine Harbor into electrical power without constructing any permanent facilities.

6. Further, the Academy states that the electrical power generated from the test devices would be used to heat water or charge 3 or 4 batteries which could sustain a charge and power a 12/24/32 volt array of instruments and lights aboard research vessels or small barges. The Academy would initially test the hydrokinetic devices for 12 to 14 hours during tidal cycles, and once the initial tests are completed, would continue to test the devices for durability for up to five weeks.

7. On January 6, 2010, the Commission issued public notice of the Academy's petition. Timely comments in support of the Academy's proposal were filed by the Chewonki Foundation and Shearwater Design Inc.<sup>6</sup> No motions to intervene were filed.

### **Discussion**

8. Section 23(b) of the FPA<sup>7</sup> provides that

[i]t shall be unlawful for any person, State, or municipality, *for the purpose of developing electric power*, to construct, operate, or maintain any dam, water conduit, reservoir, power house, or other works incidental thereto across, along, or in any of the navigable waters of the United States, or upon any part of the public lands or reservations of the United States . . .

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<sup>6</sup> Shearwater Design Inc. is the permittee from the Homeowner Tidal Power Electric Generation Project No. 13345. 128 FERC ¶ 62,001 (2009).

<sup>7</sup> 16 U.S.C. § 817(b).

except under and in accordance with . . . a license granted pursuant to this Act. [Emphasis added.]

9. The Bagaduce River is a navigable water of the United States.<sup>8</sup> Thus, section 23(b) applies on its face to facilities for the development of electric power that are located across, along, or in the river. The question remains whether the facilities proposed by the Academy to deploy and test the tidal power technology are such that they must be licensed.

10. As the Commission explained in *Verdant Power LLC (Verdant)*,<sup>9</sup> the legislative history of section 23(b) is not of assistance here. There is no indication that Congress, in establishing the Commission's licensing jurisdiction, considered the possibility that experimental facilities could be installed temporarily for the purpose of testing.

11. In *Verdant* the Commission concluded that, in order to find that hydrokinetic devices are not required to be licensed, the Commission must find that: (1) the technology in question is experimental; (2) the proposed facilities are to be utilized for a short period for the purpose of conducting studies necessary to prepare a license application; and (3) power generated from the test project will not be transmitted into, or displace power from, the national electric energy grid.<sup>10</sup>

12. The Academy's proposal meets these three requirements. The devices that it proposes to test represent experimental, tidal-power technology; and the electrical power generated from the test devices would be used to heat water or charge batteries to power an array of instruments and lights aboard research vessels or small barges which would not be connected to the national electric energy grid. The Academy's proposal to initially test the hydrokinetic devices for 12 to 14 hours during tidal cycles, and continue to test the devices for durability for up to five weeks, meets the short period requirement of the

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<sup>8</sup> See Annual Report of the Chief of Engineers, United States Army, 1901 pp 125-126.

<sup>9</sup> *Verdant Power LLC*, 111 FERC ¶ 61,024 (2005), *order on clarification*, 112 FERC ¶ 61,143 (2005).

<sup>10</sup> *Id.* The Commission has previously held that, as long as a hydropower project is connected to the interstate electric power grid, either directly or indirectly, project power may displace power that would otherwise be provided by facilities connected to the grid, and thus would affect interstate commerce. See, e.g., *Yesteryear Power and Equipment*, 78 FERC ¶ 61,172 (1997); *Habersham Mills*, 57 FERC ¶ 61,351 (1991), *aff'd*, *Habersham Mills v. FERC*, 976 F.2d 1381 (11<sup>th</sup> Cir. 1992); *Fairfax County Water Authority*, 43 FERC ¶ 61,062 (1988).

second of the Commission's prior findings. Moreover, I conclude that the Academy's intention to deploy hydrokinetic devices to provide educational experiences for students and a testing laboratory for technology developers is consistent with the remaining component of the second prior finding, which states that the purpose of the facilities is to conduct studies necessary to prepare a license application.

13. The academic and technical learning experiences afforded by the Academy's proposal may well result in the advancement of hydrokinetic technology. This advancement will aid future applicants in the preparation of license applications utilizing the very technology being tested by the Academy. With all three criteria thus confirmed, the proposal will not require a license under Part I of the FPA to conduct the proposed, short-term tests of its experimental hydrokinetic devices.

14. This determination does not free the Academy from the need to comply with applicable state and federal law. I am simply deciding that the facilities to be used for this short-term experiment are not required to be licensed by the Commission. The Academy will have to satisfy all applicable state and federal requirements and provide agencies that do have jurisdiction over its activities with such environmental and other information as they may require. Further, because I have determined that a license is not required for the test period, I am not making any findings with respect to the environmental impacts of the experimental facilities.

The Director orders:

The petition filed by Maine Maritime Academy on October 28, 2009, is granted as discussed herein, based on the experimental nature of the technology; the operation of the facilities for short periods of time for the purpose of providing educational experience for students to develop skills in deploying, retrieving, maintaining, and repairing hydrokinetic devices; and Maine Maritime Academy not delivering power into, or displacing power from, the interstate electric power grid.

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