

187 FERC ¶ 62,047
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Marine Renewable Energy Collaborative of New England Project No. 14775-005

ORDER ISSUING PILOT PROJECT LICENSE
(MINOR PROJECT)

(Issued April 17, 2024)

INTRODUCTION

1. On June 1, 2023, Marine Renewable Energy Collaborative of New England (MRECo) filed, pursuant to Part I of the Federal Power Act (FPA),¹ an application for an 8-year pilot project license to construct, operate, and maintain its proposed Bourne Tidal Hydrokinetic Test Site Project No. 14775 (Bourne Tidal Project, or project). The 50-kilowatt (kW) hydrokinetic project will be located on the Cape Cod Canal (canal) in Barnstable County, Massachusetts and will be within the boundary of the Cape Cod Canal Navigation Project, which is administered by the U.S. Army Corps of Engineers (Corps). The project will occupy 0.84 acres of federal land managed by the Corps.²
2. Commission staff developed the hydrokinetic pilot project licensing process from the Integrated Licensing Process to meet the needs of entities, such as MRECo, who are interested in testing new hydropower technologies while minimizing the risk of adverse environmental impacts. The goal of the process is to allow developers to test new hydrokinetic technologies, to determine appropriate sites for these technologies, and to confirm the technology's environmental and other effects without compromising the Commission's oversight of the projects or limiting agency and stakeholder input.
3. As outlined in Commission staff's pilot project licensing process white paper,³ a pilot project should be (1) small, (2) installed for a short term, (3) located in non-sensitive areas

¹ 16 U.S.C. §§ 791(a) – 825(r).

² The project is required to be licensed under section 23(b)(1) of the FPA, 16 U.S.C. § 817(1), because it will be located in navigable waters of the United States and on federal lands.

³ FERC, *Federal Energy Regulatory Commission Licensing Hydrokinetic Pilot Projects*, available at https://www.ferc.gov/sites/default/files/2020-10/white_paper.pdf (issued April 14, 2008).

based on the Commission's review of the record, (4) removable and able to be shut down on short notice, (5) removed, with the site restored, before the end of the license term (unless a new license is granted), and (6) initiated by a draft application in a form sufficient to support environmental analysis. After review of MRECo's pilot project application, Commission staff concluded that the Bourne Tidal Project meets these criteria.

4. As discussed below, this order issues a pilot project license for the Bourne Tidal Project.

BACKGROUND

5. On June 16, 2023, the Commission issued a public notice that was published in the *Federal Register* accepting the application for filing, indicating the application was ready for environmental analysis, and setting July 17, 2023,⁴ as the deadline for filing motions to intervene, protests, comments, recommendations, terms and conditions, and prescriptions.⁵ No protests or motions to intervene were filed. The Massachusetts Division of Fisheries and Wildlife (Massachusetts DFW) filed comments and recommendations.

6. Commission staff issued an Environmental Assessment (EA) on September 13, 2023, analyzing the impacts of the proposed project and alternatives to it, and set a deadline for comments of October 30, 2023.⁶ Massachusetts DFW filed comments on the EA. The U.S. Coast Guard filed comments, noting that MRECo is required to obtain a Private Aid to Navigation permit, to provide the First Coast Guard District with a Local Notice to Mariners request, and to notify the U.S. Coast Guard of any incident that may result in a hazard to navigation.

7. The comments and recommendations have been fully considered in determining whether, and under what conditions, to issue this license.

⁴ The Commission's Rules of Practice and Procedure provide that if a filing deadline falls on a Saturday, Sunday, holiday, or other day when the Commission is closed for business, the filing deadline does not end until the close of business on the next business day. 18 C.F.R. § 385.2007(a)(2) (2023). Because the 30-day filing deadline fell on a Saturday (i.e., July 15, 2023), the filing deadline was extended until the close of business on Monday, July 17, 2023.

⁵ 88 Fed. Reg. 41,096.

⁶ See *supra* note 4. Because the 45-day filing deadline fell on a Saturday (i.e., October 28, 2023), the filing deadline was extended until the close of business on Monday, October 30, 2023.

PROJECT DESCRIPTION AND OPERATION

A. Project Area

8. The project will be located on the Cape Cod Canal in Barnstable County, Massachusetts. The canal is a 17.4-mile-long man-made canal that connects the Cape Cod Bay and Buzzards Bay of the Atlantic Ocean. The canal entrance in Cape Cod Bay is located in Sandwich, Massachusetts. The canal entrance in Buzzards Bay is located in Buzzards Bay, Massachusetts. The proposed project will be located about 0.67 mile north of the canal entrance at Buzzards Bay.

9. The canal is owned, operated, and maintained by the Corps. The canal contains a navigation shipping channel maintained to a depth of 32 feet at Mean Lower Low Water by the Corps. The width of the canal varies from 480 feet to approximately 1,130 feet. The flow in the canal is governed by the tidal cycles of the Atlantic Ocean.

10. The canal serves as a route for commercial shipping traffic traveling between Cape Cod Bay to the north and Buzzards Bay to the south. Approximately 15,000 commercial vessels up to 825 feet in length use the canal each year. The canal also provides water-based recreational opportunities such as boating and shore fishing.

B. Proposed Project Facilities

11. The Bourne Tidal Project will include an existing 56.2-foot-high, 23-foot-wide steel support structure composed of a platform mounted to three piles embedded in the canal,⁷ an existing vertical turbine mounting pole that is attached to the platform and equipped with an electric lift, and a new tidal turbine-generator unit that will have a maximum installed capacity of 50 kW.⁸

12. Electricity generated at the project will be transmitted via a proposed 48-foot-long submarine lead line that will connect the turbine-generator unit to a rectifier that will be located on the support structure and used to convert the generated power from wild Alternating Current (AC) to Direct Current (DC). The project will also include a proposed onshore station consisting of a 20-foot-long, 8-foot-wide modular structure that will house power control and data management equipment, and a 50-kW inverter to convert DC to AC. A new, approximately 775-foot-long, 13.2-kilovolt (kV) overhead transmission line will

⁷ MRECo installed the steel support structure in the canal in 2017.

⁸ MRECo plans to test various turbine-generator units at the project, including axial, cross flow, oscillating, conveyor, and Archimedes Screw turbine-generator units, but only one turbine-generator unit will be tested at a time.

connect the project to the local utility distribution system.⁹ The transmission line will be located on top of seven new utility poles that will replace existing poles owned and operated by OpenCape.

13. There are no project recreational facilities. A more detailed description of the project facilities is contained in ordering paragraph (B)(2).

C. Proposed Project Installation and Operation

14. To test or operate a turbine-generator unit, MRECo will use a crane or work vessels, such as a motor-powered barge, to mount the unit on the turbine mounting pole of the support structure and use the electric lift to lower the unit into the canal.

15. The proposed Bourne Tidal Project will use the turbine-generator unit being tested to convert the kinetic energy of water in the canal into rotational motion and deliver that energy through the rotors to the generator.¹⁰ The project will operate intermittently, year-round, depending on the testing duration for each turbine-generator unit and the interval between removal of a unit and installation of another one, using the natural tidal currents of the canal. The turbine-generator unit being tested will generate power during a range of water currents present in a full tidal cycle, including the ebb and flood tides. Optimal turbine-generator unit testing will occur during ebb tide when water is flowing east to west through the canal, and certain turbine-generator units, such as axial turbine-generator units, will only be operated during ebb tide. MRECo estimates that testing for any turbine-generator unit will occur for one to two months at a time, with three to four tests per calendar year. The percentage of time a unit will operate depends on the range of velocities at which the turbine-generator unit being tested will operate and whether the unit can operate during both ebb and flood tides.

16. MRECo will operate and monitor the project remotely, with sensors installed on the platform to monitor water velocity and direction, turbine rotational speed, bearing vibration, and other parameters as required for testing and safety. MRECo will also use video recording to determine if any harmful materials are released by the unit being tested. Data collected from these and other sensors will be aggregated and time-stamped in a supervisory control and data acquisition (SCADA) system located in the onshore station. Operational data from the unit will be transmitted to a server for marine research and tidal turbine technology testing.

⁹ The transmission line would extend over the canal for approximately 100 feet from the support structure to the first onshore utility pole and the on-shore station, and approximately 675 feet from the first utility pole to the regional grid.

¹⁰ Under normal conditions, tidal velocities in the Cape Cod Canal are expected to be up to 88.4 feet per second.

17. The annual energy production of the project will vary depending on the type of tidal turbine-generator unit being tested. The estimated average annual energy production of the project is 175 megawatt-hours (MWh).

D. Project Boundary

18. The proposed project boundary encloses approximately 4.39 acres, including the project facilities listed above. Approximately 3.71 acres within the project boundary are federal lands under the jurisdiction of the Corps.

E. Proposed Project Maintenance

19. MRECo proposes to implement an Operations and Maintenance Plan filed with the license application. The plan consists of system monitoring and regular maintenance inspections.

20. System monitoring will be performed remotely and in person. System information collected by sensors will be compiled by the SCADA system located in the onshore station. Data will be time-stamped and transmitted to a server for marine research and tidal turbine technology testing to ensure that all operational parameters fall within acceptable limits.

21. Regular maintenance inspections of project facilities will occur at least quarterly and include all components of the test platform and onshore infrastructure. Additionally, the test platform will be inspected monthly for signs of weather or animal impacts.

F. Proposed Safeguard Plans

22. To ensure safe operation of the project and protect the public and environment, MRECo proposes to implement the following safeguard plans filed with the license application: (1) a Project and Public Safety Plan; (2) a Navigation Safety Plan; (3) an Emergency Shutdown Plan; and (4) a Project Removal and Site Restoration Plan.¹¹

G. Proposed Environmental Measures

23. To protect aquatic species from mortality associated with turbine blade strike, MRECo proposes to operate only one turbine-generator unit at a time, with three to four unit tests per calendar year. Each unit will have a diameter of no more than 13.12 feet, a frontal

¹¹ The Project Removal and Site Restoration Plan addresses the pilot project licensing requirement that the licensee remove the project and restore the site at the end of the license term if a new license is not obtained.

area of no more than 75.35 square feet, and a tip speed of no more than 20 revolutions per minute (rpm), which equates to 10.2 feet per second.

24. To monitor environmental effects and identify corrective actions, MRECo proposes to implement an Environmental Monitoring Plan that includes: (1) acoustic and underwater camera surveillance three days prior to and three days during each month of turbine-generator unit operation to assess the behavior and potential interactions of marine animals with and around the turbine; (2) bird surveys three days prior to and three days during each month of turbine-generator unit operation; (3) a baseline benthic habitat survey followed by annual surveys to assess any changes in benthic habitat and potential causes; (4) a hydrophone to monitor underwater noise levels for three tidal cycles prior to and three tidal cycles during turbine-generator unit operation; (5) receiving notifications from the Corps when endangered marine mammals enter the canal; (6) ceasing project operation when protected species are identified near the project by the Corps or other observers; and (7) shutting down project operation if direct impacts to fish or marine life occur, reporting any interactions with wildlife to the appropriate agencies, and responding to the recommendations of biologists reviewing the data.

SUMMARY OF LICENSE REQUIREMENTS

25. As summarized below, this license, which authorizes the installation of 50 kW of new, renewable electric generation capacity, requires a number of measures to protect water quality, fish, wildlife, and cultural resources at the project. The requirements include MRECo's proposed measures noted above, with some modifications and additional staff-recommended measures described below.

26. To protect water quality in the canal from the adverse effects of any accidental spills of hazardous materials during vessel operation and project maintenance, the license requires MRECo to develop a hazardous materials spill prevention and response plan.

27. To protect fish and marine mammals from electromagnetic field (EMF) emissions from project operation, the license requires MRECo to develop a plan to monitor project-related EMF emissions that includes the following measures: (1) monitoring for EMF emissions with an EMF1390 electromagnetic field tester or similar device; (2) ceasing project operation if marine animals become disoriented by EMF emissions near the project or are killed by turbine blade strike; and (3) implementing mitigation measures to prevent EMF emissions causing disorientation or mortality in the future.

28. To reduce the risk of fish mortality from derelict fishing gear (e.g., fishing nets) that could be entangled by the test platform, the license requires MRECo to remove any derelict fishing gear entangled in the test platform.

29. To protect fish and wildlife from direct effects from interactions with project components, the license requires MRECo to develop a wildlife carcass recovery plan that includes a post-mortem evaluation of any fish or wildlife species killed by the project.

30. To protect cultural resources, the license requires MRECo to consult with the Massachusetts State Historic Preservation Office (Massachusetts SHPO) and Massachusetts Board of Underwater Archaeology (Massachusetts BUAR) prior to implementing any project modifications not specifically authorized by the license to determine the effects of the activities and the need for any cultural resource measures.

31. To protect cultural resources, if previously unidentified cultural resources are encountered during the course of maintaining and operating project facilities, the license requires MRECo to stop all land-clearing and land-disturbing activities in the vicinity of the resource and consult with the Massachusetts SHPO, Massachusetts BUAR, and federally recognized Tribes to determine the need for any cultural resource measures.

WATER QUALITY CERTIFICATION

32. Under section 401(a)(1) of the Clean Water Act (CWA),¹² the Commission may not issue a license authorizing the construction or operation of a hydroelectric project unless the state water quality certifying agency either has issued water quality certification (certification) for the project or has waived certification by failing to act on a request for certification within a reasonable period of time, not to exceed one year. Section 401(d) of the CWA provides that the certification shall become a condition of any federal license that authorizes construction or operation of the project.¹³

33. By letter dated August 31, 2023, Massachusetts DEP notified MRECo that a November 8, 2016 Final Order of Conditions issued by the Town of Bourne Conservation Commission would serve as the certification for the project.¹⁴ The Final Order of Conditions includes 20 general conditions and 6 special conditions (conditions 3, 12, 14, 16, 19, and 22). The 26 conditions are set forth in Appendix A of this order and are incorporated into the license by ordering paragraph (E).

34. Twenty-two of the certification conditions (General conditions 1 – 17, 19, and Special conditions 3, 12, 14, and 19) are administrative in nature and not discussed further.

¹² 33 U.S.C. § 1341(a)(1).

¹³ *Id.* § 1341(d).

¹⁴ *See* MRECo's August 31, 2023 letter responding to Commission staff's additional information request regarding section 401 Water Quality Certification.

35. The remaining four certification conditions require MRECo to:
- (1) Install sediment control barriers to reduce erosion of disturbed areas and to prevent the release of suspended sediment particles into canal waters (General condition 18).
 - (2) Implement MRECo's proposed Environmental Monitoring Plan, and, if it is determined that the project threatens the public health, safety, or the environment, modify the project as directed by the Massachusetts Conservation Commission or the Massachusetts DEP or implement the Project Removal and Site Restoration Plan (General condition 20).
 - (3) Dispose of construction refuse at an approved landfill to protect wetland habitat (Special condition 16).
 - (4) Dispose of used petroleum products from maintenance of construction equipment and construction debris at an approved landfill (Special condition 22).

COASTAL ZONE MANAGEMENT ACT

36. Under section 307(c)(3)(A) of the Coastal Zone Management Act (CZMA),¹⁵ the Commission cannot issue a license for a project within or affecting a state's coastal zone unless the state CZMA agency concurs with the license applicant's certification of consistency with the state's CZMA program, or the agency's concurrence is conclusively presumed by its failure to act within six months of its receipt of the applicant's certification.

37. The Massachusetts Coastal Zone Management Program is managed by Massachusetts DEP. On December 28, 2016, Massachusetts DEP provided concurrence via email that the Bourne Tidal Project was consistent with Massachusetts' CZMA Program and stated that no further review was required unless the project was modified.¹⁶

¹⁵ 16 U.S.C. § 1456(c)(3)(A).

¹⁶ See June 1, 2023 final license application, Appendix B, *Permits and Approvals for the Bourne Tidal Test Site*. This concurrence was obtained through the Corps' permitting process.

SECTION 18 FISHWAY PRESCRIPTION

38. Section 18 of the FPA¹⁷ provides that the Commission shall require the construction, maintenance, and operation by a licensee of such fishways as may be prescribed by the Secretary of the Interior or the Secretary of Commerce, as appropriate.

39. No fishway prescription or reservation of authority to prescribe fishways were filed under section 18.

ESSENTIAL FISH HABITAT

40. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act¹⁸ (Magnuson-Stevens Act) requires federal agencies to consult with the Secretary of Commerce regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) identified under the Act. Under section 305(b)(4)(A) of the Magnuson-Stevens Act, the National Marine Fisheries Service (NMFS) is required to provide EFH Conservation Recommendations for actions that would adversely affect EFH.¹⁹ Under section 305(b)(4)(B) of the Act, an agency must, within 30 days after receiving recommended conservation measures from NMFS or a Regional Fishery Management Council, describe the measures proposed by the agency for avoiding, mitigating, or offsetting the effects of the agency's activity on EFH.²⁰

41. The project area includes habitat that has been designated as EFH for various life-history stages of groundfish, skates, coastal pelagic species, highly migratory species, squid, and clams. The New England Fisheries Management Council has designated habitats of the inshore areas of the Gulf of Maine and Southern New England at depths between 0 to 65.6 feet (relative to mean high water) as a Habitat Area of Particular Concern (HAPC) for juvenile cod, which is a distinct subset of EFH. The Mid-Atlantic Fisheries Management Council has designated all native species of macroalgae, seagrasses, and freshwater and tidal macrophytes in any size bed, as well as loose aggregations, as an HAPC for summer flounder.

¹⁷ 16 U.S.C. § 811.

¹⁸ *Id.* § 1855(b)(2).

¹⁹ *Id.* § 1855(b)(4)(A).

²⁰ *Id.* § 1855(b)(4)(B). The measures recommended by the Secretary of Commerce are advisory, not prescriptive. However, if the federal agency does not agree with the recommendations of the Secretary of Commerce, the agency must explain its reasons for not following the recommendations.

42. By letter issued September 13, 2023, Commission staff informed NMFS of staff's conclusion that licensing the project, with staff's recommended measures and agency mandatory conditions, would not adversely affect EFH and would not affect rocky habitat identified as an HAPC for juvenile cod or submerged aquatic vegetation identified as an HAPC for adult and juvenile summer flounder.

43. By letter filed on January 16, 2024, NMFS concluded that, based on staff's analysis and the proposed Environmental Monitoring Plan, EFH would be adequately protected in the Cape Cod Canal. The Environmental Monitoring Plan is required by Article 408 of this license.

THREATENED AND ENDANGERED SPECIES

44. Section 7(a)(2) of the Endangered Species Act (ESA) of 1973²¹ requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species or result in the destruction or adverse modification of their designated critical habitat.

45. According to NMFS's Greater Atlantic Regional Fisheries Office (GARFO) Section 7 Mapper, eight federally listed species under NMFS's jurisdiction could occur in the project vicinity: the threatened North Atlantic distinct population segment (DPS) of the green sea turtle (*Chelonia mydas*), the endangered Kemp's ridley sea turtle (*Lepidochelys kempii*), the endangered leatherback sea turtle (*Dermochelys coriacea*), the threatened Northwest Atlantic Ocean DPS of the loggerhead sea turtle (*Caretta caretta*), the endangered Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), the endangered shortnose sturgeon (*Acipenser brevirostrum*), the endangered North Atlantic right whale (*Eubalaena glacialis*), and the endangered fin whale (*Balaenoptera physalus*).²²

46. According to the U.S. Fish and Wildlife Service's (FWS) Information for Planning and Consultation (IPaC) database, the following federally listed species could occur in the project vicinity: the endangered northern long-eared bat (*Myotis septentrionalis*), the endangered roseate tern (*Sterna dougallii dougallii*), and the endangered Plymouth redbelly turtle (*Pseudemys rubriventris bangsi*). According to the IPaC database, the monarch butterfly (*Danaus plexippus*), a candidate for federal listing, could also occur in the project

²¹ *Id.* § 1536(a).

²² See GARFO Section 7 Mapper, NMFS, <https://www.fisheries.noaa.gov/new-england-mid-atlantic/consultations/section-7-species-critical-habitat-information-maps-greater> (accessed November 20, 2023).

vicinity.²³ The application also listed the federally listed endangered hawksbill sea turtle (*Eretmochelys imbricata*) as a species that may occur in the canal.

47. In the EA,²⁴ Commission staff found that licensing the project would have no effect on the northern long-eared bat, Plymouth redbelly turtle, hawksbill sea turtle, and monarch butterfly.²⁵ Additionally, Commission staff found that licensing the project with staff's recommended measures and agency mandatory conditions is not likely to adversely affect the roseate tern, Atlantic sturgeon, shortnose sturgeon, green sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, North Atlantic right whale, and fin whale.²⁶ On September 13, 2023, Commission staff requested concurrence from NMFS and FWS on staff's not likely to adversely affect determinations. NMFS concurred by letter filed on January 16, 2024, and FWS concurred by letter filed December 8, 2023. Therefore, no further action under the ESA is required.

MARINE MAMMAL PROTECTION ACT

48. The Marine Mammal Protection Act (MMPA) prohibits, with certain exceptions, the "take" (defined under statute to include harassment) of marine mammals in U.S. waters and the high seas.²⁷ The MMPA includes a mechanism for allowing, upon request, the incidental taking of small numbers of marine mammals by U.S. citizens engaged in a specified activity within a specified geographical region.²⁸ Take authorization is granted through either a letter of authorization or conditions contained in an incidental harassment authorization.

49. The Corps and MRECo consulted with the FWS and NMFS under the MMPA prior to issuing the pre-construction notification (PCN) for the proposed Bourne Tidal Project in 2017. The PCN included conditions requested by these agencies to ensure protection of species listed under the MMPA during construction and operation. The proposed

²³ See Commission staff's February 8, 2024, Memorandum on FWS's Updated List of Threatened, Endangered, Candidate, and Proposed Species; see also *IPaC*, FWS, <https://ipac.ecosphere.fws.gov/> (accessed February 8, 2024).

²⁴ EA at 50 and F-3 to F-9.

²⁵ Therefore, no further action under the ESA is required for these species.

²⁶ EA at 49-50.

²⁷ 16 U.S.C. §§ 1361-1423.

²⁸ *Id.* § 1371(a)(5). Any take of marine mammals listed as threatened or endangered under the ESA must be authorized under both the ESA and MMPA.

construction and operation of the Bourne Tidal Project will continue to meet these conditions.

50. Unlike the ESA, the MMPA does not require consultation by the federal action agency but prohibits the “take” of marine mammals.²⁹ Consequently, MRECo must work with NMFS to satisfy the requirements of the MMPA.³⁰ To ensure protection of marine mammals, Article 409 requires the licensee to file an annual report documenting its consultations with NMFS and provide information as to whether its compliance with the MMPA requires it to modify aspects of the project, including project construction, operation, maintenance, and removal. Article 409 also requires the licensee to seek any needed amendments to its license as a result of these consultations.

NATIONAL HISTORIC PRESERVATION ACT

A. National Historic Preservation Act

51. Under section 106 of the National Historic Preservation Act (NHPA),³¹ and its implementing regulations,³² federal agencies must consider the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of Historic Places (National Register) (defined as historic properties) and must afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking. This process generally requires the Commission to consult with the SHPO to determine whether and how a proposed action may affect historic properties, and to seek ways to avoid or minimize any adverse effects.

52. On September 20, 2021, the Commission initiated consultation with the Massachusetts SHPO and designated MRECo as its non-federal representative for carrying

²⁹ Under the MMPA, “take” means to harass, hunt, capture, or kill, or attempt to harass, hunt, capture or kill any marine mammal. 16 U.S.C. § 1362.

³⁰ With regard to the Commission’s responsibilities to protect marine mammals, section 7(a)(2) of the ESA requires federal agencies to consult with NMFS to ensure that any actions these agencies authorize are not likely to jeopardize the continued existence of a listed species. As noted above, NMFS found that licensing the project will not jeopardize listed species, including listed marine mammals.

³¹ 54 U.S.C. § 306108.

³² 36 C.F.R. pt. 800 (2023).

out informal consultation pursuant to section 106 of the NHPA.³³ MRECo initiated consultation with the Massachusetts SHPO to identify historic properties, determine the eligibility of cultural resources for listing on the National Register, and assess potential adverse effects of the project on historic properties.

53. As discussed in the EA,³⁴ the area of potential effects (APE) includes the 2.6 acres associated with the project boundary.³⁵ The project will be located within the Cape Cod Canal Historic District, which is eligible for listing on the National Register. The Cape Cod Canal Historic District includes 18 contributing resources, including the Buzzards Bay Railroad Lift Bridge that is adjacent to the project.

54. In a letter dated August 30, 2016, the Massachusetts BUAR concluded that the project is unlikely to impact submerged cultural resources.³⁶ In a letter filed on August 22, 2022, the Massachusetts SHPO concluded that the project would have no adverse effect on significant historic or archaeological properties.³⁷

55. In the EA,³⁸ Commission staff concluded that the proposed project facilities would be in-kind with the industrial development of the project area and would not visually impact historic properties in the vicinity of the project (i.e., the Cape Cod Canal Historic District and Buzzards Bay Lift Bridge). Therefore, licensing the project as proposed will have no adverse effect to historic properties.

56. To ensure the continued protection of cultural resources, Article 413 of this license requires MRECo to consult with the Massachusetts SHPO, Massachusetts BUAR, and federally recognized Tribes prior to implementing any project modifications not specifically authorized by this license that may affect cultural resources, in order to determine the effects

³³ See Commission staff's September 20, 2021 Notice of Intent to File License Application, Filing of Draft Application, Document, Request for Waivers of Integrated Licensing Process Regulations Necessary for Expedited Processing of a Hydrokinetic Pilot Project License Application, and Soliciting Comments.

³⁴ EA at 62.

³⁵ As discussed further below, this license required MRECo to revise its proposed project boundary. The revised project boundary would encompass approximately 2.6 acres.

³⁶ Filed as part of MRECo's June 1, 2023, license application.

³⁷ Filed as part of MRECo's August 22, 2022, response to the Commission's April 7, 2022 request for additional information.

³⁸ EA at 62.

of the activities and the need for any cultural resource studies or measures. If previously unidentified cultural resources are discovered during project operation or maintenance, Article 412 of this license also requires MRECo to stop all land-clearing and land-disturbing activities in the vicinity of the resource and consult with the Massachusetts SHPO, Massachusetts BUAR, and federally recognized Tribes to determine the need for any cultural resource studies or measures.

B. Tribal Consultation

57. On October 5, 2021, Commission staff invited consultation with the Wampanoag Tribe of Gay Head (Aquinnah), Mashpee Wampanoag Tribe, and Stockbridge-Munsee Community (Tribes). None of the Tribes responded to the initial consultation letter. Additionally, none of the Tribes filed comments or requested studies.

ENVIRONMENTAL JUSTICE

58. In conducting National Environmental Policy Act reviews of proposed hydropower projects, the Commission follows Executive Order 12898 and Executive Order 14096, which direct federal agencies to identify and address disproportionate and adverse human health or environmental effects of their actions on minority and low-income populations (i.e., environmental justice communities).³⁹ Executive Order 14008 also directs agencies to develop “programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts.”⁴⁰ Environmental justice is “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”⁴¹ The

³⁹ Exec. Order No. 12898, 59 Fed. Reg. 7629 (Feb. 11, 1994); Exec. Order No. 14096, 88 Fed. Reg. 25,251 (Apr. 21, 2023). While the Commission is not one of the specified agencies in Executive Order 12898, the Commission nonetheless addresses environmental justice in its analysis, in accordance with its statutory duties.

⁴⁰ Exec. Order No. 14008, 86 Fed. Reg. 7619, at 7629 (Jan. 27, 2021). The term “environmental justice community” includes disadvantaged communities that have been historically marginalized and overburdened by pollution. *Id.* The term also includes, but may not be limited to, minority populations, low-income populations, or indigenous peoples. *See* EPA, *EJ 2020 Glossary* (Sept. 7, 2022), <https://www.epa.gov/environmentaljustice/ej-2020-glossary>.

⁴¹ EPA, *Learn About Environmental Justice* (Sep. 19, 2023), [https://www.epa.gov/environmentaljustice/learn-about-environmental-justice#:~:text=Environmental%20justice%20\(EJ\)%20is%20the,environmental%20laws%2C](https://www.epa.gov/environmentaljustice/learn-about-environmental-justice#:~:text=Environmental%20justice%20(EJ)%20is%20the,environmental%20laws%2C)

term “environmental justice community” includes disadvantaged communities that have been historically marginalized and overburdened by pollution.⁴²

59. In the EA, Commission staff identified seven environmental justice communities within a one-mile radius of the project boundary and considered how licensing the project could affect the communities.⁴³

60. In the EA,⁴⁴ Commission staff identified beneficial effects to water quality, aquatic resources, terrestrial resources, and threatened and endangered species.⁴⁵ Staff found there would be no significant effects on surrounding environmental justice communities; however, the use of heavy equipment to install the onshore station may cause a minor and temporary adverse impact. Therefore, licensing the project as conditioned in this license will not result in a disproportionate and adverse impact on the environmental justice communities present within the project area.

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES PURSUANT TO SECTION 10(j) OF THE FPA

61. Section 10(j)(1) of the FPA⁴⁶ requires the Commission, when issuing a license, to include conditions based on recommendations submitted by federal and state fish and wildlife agencies pursuant to the Fish and Wildlife Coordination Act,⁴⁷ to “adequately and

[%20regulations%20and%20policies.](#)

⁴² Environmental justice communities include, but may not be limited to minority populations, low-income populations, or indigenous peoples. See USEPA, *EJ 2020 Glossary* (Aug. 18, 2022), <https://www.epa.gov/system/files/documents/2024-02/ej-2020-glossary.pdf>.

⁴³ EA at 66.

⁴⁴ *Id.* at 67.

⁴⁵ The test site currently operates without a grid interconnection and without environmental requirements. Because the license authorizes, among other things, grid interconnection and requires environmental protection measures, there will be a net benefit to environmental resources, including federally listed species, relative to current conditions.

⁴⁶ 16 U.S.C. § 803(j)(1).

⁴⁷ *Id.* §§ 661 *et seq.*

equitably protect, mitigate damages to, and enhance fish and wildlife (including related spawning grounds and habitat)” affected by the project.

62. In response to the June 16, 2023, public notice that the project was ready for environmental analysis, Massachusetts DFW filed ten recommendations under section 10(j) and section 10(a);⁴⁸ however, Massachusetts DFW did not specify which section of the FPA the recommendations apply. Therefore, the recommendations are considered under section 10(a).⁴⁹

SECTION 10(a)(1) OF THE FPA

63. Section 10(a)(1) of the FPA⁵⁰ requires that any project for which the Commission issues a license 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 waterpower development; for the adequate protection, mitigation, and enhancement of fish and wildlife; and for other beneficial public uses, including irrigation, flood control, water supply, recreation, and other purposes.

64. On July 17, 2023, Massachusetts DFW filed 10 recommendations for the Bourne Tidal Project. Four of the recommendations (recommendation 6, and recommendations 8 through 10) are general or administrative in nature. The remaining recommendations are discussed below.

A. Massachusetts DFW Recommendations

Winter Operation

65. Massachusetts DFW recommends that MRECo cease operation between mid-November through mid-March each year.

66. Massachusetts DFW does not provide any rationale for the proposed measure; therefore, it is unclear how ceasing project operation from mid-November through mid-March each year will benefit fish and wildlife resources. As described in the EA,⁵¹ the proposed turbine design will have minimal adverse effects on fish, marine animals, and birds, because the test turbine diameter, rotational speed, and installation depth is unlikely to

⁴⁸ Massachusetts DFW’s recommendations were filed on July 17, 2023.

⁴⁹ See *PP&L Montana LLC*, 92 FERC ¶ 61,261 (2000).

⁵⁰ 16 U.S.C. § 803(a)(1).

⁵¹ EA at I-1.

kill or injure fish, marine animals, and birds, or emit noise and EMF that will significantly affect marine fish and wildlife and their movements. In addition,⁵² the Environmental Monitoring Plan proposed by MRECo and recommended by Massachusetts DFW includes provisions for conducting bird surveys three days prior to and three days during operation of each test turbine. It also includes provisions for ceasing operation if there are direct effects on marine life, reporting any interactions with wildlife to the appropriate agencies, and responding to the recommendations of biologists who review the data. Staff concluded that because there is a low risk of an adverse interaction between the proposed project and fish and wildlife species during project operation, ceasing project operation from mid-November through mid-March each year is not likely to provide a significant benefit to fish and wildlife.

67. The opportunity cost of ceasing project operation from November 15 through March 15 would be \$5,207. Without significant benefits to fish and wildlife populations, there is no justification for the winter shut-down and associated cost. Therefore, this license does not require MRECo to cease project operation from mid-November through mid-March each year. Article 401 of this license requires MRECo to install and operate axial, cross flow, oscillating, conveyor, and Archimedes screw hydrokinetic turbines with a diameter of no more than 13.12 feet, a frontal area of no more than 75.35 square feet, and a tip speed of no more than 20 rpm, which will protect aquatic species year-round from injury and mortality associated with turbine blade strike. Article 408 requires MRECo to implement an Environmental Monitoring Plan which will minimize project effects on marine species and establish a protocol for ceasing project operation if adverse operational effects on fish or wildlife occur.

Environmental Monitoring Plan

68. MRECo proposes to monitor environmental effects and identify corrective actions by implementing an Environmental Monitoring Plan that includes: (1) acoustic and underwater camera surveillance three days prior to and three days during each month of turbine operation to assess the behavior and potential interactions of marine animals with and around the turbine; (2) bird surveys three days prior to and three days during each month of turbine operation; (3) a baseline benthic habitat survey followed by annual surveys to assess any changes in benthic habitat and potential causes; (4) a hydrophone to monitor underwater noise levels for three tidal cycles prior to and three tidal cycles during turbine operation; (5) receiving notifications from the Corps when federally listed marine mammals enter the canal; (6) ceasing project operation when state or federally listed species are identified near the project by the Corps or other observers; and (7) shutting down project operation if direct effects to fish or marine life occur, reporting any interactions with wildlife to the appropriate agencies, and responding to the recommendations of biologists reviewing the data. Massachusetts DFW supports the implementation of the proposed Environmental

⁵² EA at I-5.

Monitoring Plan and recommends that the plan be modified to incorporate information learned about the interactions between the turbines and marine resources during the testing process, in consultation with the resource agencies.

69. In its comments on the EA, Massachusetts DFW states that MRECo's Environmental Monitoring Plan may not produce the information necessary to evaluate the environmental resources affected during the winter period (i.e., from mid-November through mid-March) and recommends that MRECo consult with the resource agencies prior to operating in the winter and amend the plan to address effects on environmental resources during the winter.

70. In the EA,⁵³ Commission staff concluded that implementing the proposed Environmental Monitoring Plan would minimize project effects on marine species and establish a protocol for ceasing project operation if impacts to fish or wildlife occur. Staff stated that the plan is adaptive and could be modified in consultation with resource agencies and with Commission approval, where needed, to eliminate direct effects and reduce indirect effects, if they occur. Therefore, staff recommended that MRECo implement the plan in consultation with the resource agencies.

71. As described in the EA,⁵⁴ during the winter, large congregations of sea birds and other coastal birds including loons, mergansers, scoters, cormorants, bufflehead, and goldeneye spend the season in the canal. In addition, marine mammals such as harbor seals, harp seals, hooded seals, and the North Atlantic right whale also have the potential to occur in Cape Cod Canal during the winter.⁵⁵ Although the Environmental Monitoring Plan would minimize project effects on marine species, consulting with the resource agencies prior to operating the project in the winter could provide additional protection to overwintering birds, marine mammals, and migratory fish from the effects of project operation. Article 408 of this license requires MRECo to implement the Environmental Monitoring Plan and to consult with Massachusetts DEP, Massachusetts DFW, Massachusetts Division of Marine Fisheries (Massachusetts DMF), FWS, and NMFS prior to operating the project in the winter.

Notification of Direct Interactions with State-Listed Species

⁵³ EA at I-2.

⁵⁴ EA at 45.

⁵⁵ EA at C-1.

72. Massachusetts DFW recommends that MRECo report all direct interactions with state-listed species to Massachusetts DFW, Massachusetts DMF, and relevant federal resource agencies.

73. As discussed in the EA,⁵⁶ MRECo proposes, as part of the Environmental Monitoring Plan, to cease project operation if direct impacts to fish or marine life occur, to report any interactions with wildlife to the appropriate agencies, and to respond to the recommendations of biologists reviewing the data. Article 408 of this license requires MRECo to implement the proposed Environmental Monitoring Plan; therefore, a separate reporting requirement would be duplicative and unnecessary, and the license does not adopt this recommendation.

Wildlife Carcass Recovery Plan

74. Massachusetts DFW recommends that MRECo develop a wildlife carcass recovery plan and examine any wildlife killed or injured as a result of interaction with project components.

75. As discussed in the EA,⁵⁷ operation of the proposed turbines is not expected to cause any mortality or affect fish or marine wildlife; however, if fish or marine wildlife are killed during project operation, ceasing operation for one day, reviewing data, and implementing measures recommended by biologists would prevent further mortality. Commission staff recommended that MRECo develop a wildlife carcass recovery plan that includes a post-mortem examination of any marine animals killed during project operation, which would provide information on project-related injuries that could be used to develop measures to prevent future mortalities. Staff estimated that developing the plan would have an estimated annual levelized cost of \$533 and found that the benefits of the plan would be worth the cost. Article 411 of this license requires MRECo to develop a wildlife carcass recovery plan that includes a post-mortem evaluation of fish or wildlife species killed by the project.

Annual Meeting

76. Massachusetts DFW recommends that MRECo hold an annual project review meeting to review compliance with license articles and results of monitoring reports, and to provide comments and recommendations.

77. As described in the EA,⁵⁸ MRECo proposes to provide monitoring reports to the Commission and relevant resource agencies as part of the proposed Environmental

⁵⁶ EA at I-1.

⁵⁷ EA at I-4.

⁵⁸ EA at 43.

Monitoring Plan. In addition, MRECo proposes to cease project operation if direct impacts to fish or marine life occurs, to report any interactions with wildlife to the appropriate agencies, and to respond to the recommendations of biologists reviewing the data. Staff concluded that an annual meeting would not provide any additional project-related benefit to fish and wildlife resources. Therefore, this license does not require MRECo to hold an annual project review meeting.

Fuel and Hazardous Substances Spill Plan

67. Massachusetts DFW recommends that MRECo develop and implement a fuel and hazardous substance spill plan to prevent and minimize adverse effects associated with the handling of hazardous materials during project deployment, operation, and removal.

68. As described in the EA,⁵⁹ during vessel operations, there is potential for vessels to leak or spill petroleum or other chemicals into the surrounding waters and adversely affect aquatic resources. Commission staff recommended that MRECo develop a fuel and hazardous substances spill plan that includes visual monitoring for oil sheen around vessels used for project-related purposes, spill prevention measures, and spill response measures to help protect and mitigate any adverse effects of accidental spills from vessels on water quality. Staff estimated that developing the plan would have an estimated annual levelized cost of \$533 and found that the benefits of the plan would be worth the cost. Article 407 requires that MRECo develop and file, for Commission approval, a fuel and hazardous substances spill plan.

B. Electromagnetic Field Monitoring Plan

70. MRECo proposes to test a number of experimental turbines which could generate EMF emissions. MRECo proposes to transmit power generated by the turbines with an approximately 48-foot-long lead line designed for underwater use (i.e., the project's submarine cable) which could also generate in-water EMF emissions. As described in the EA, although EMF is expected to dissipate within 10 feet of the project, exact levels of EMF emissions are unknown and EMF emitted by the project could adversely affect fish and marine life.⁶⁰ Commission staff recommended that MRECo develop an EMF monitoring plan in consultation with the resource agencies that includes monitoring of EMF emissions with a EMF1390 electromagnetic field tester at distances of 3 and 6 feet from the lead line and generating units to provide information on EMF emissions from the project and how in-water EMF emissions dissipate with distance from the project.⁶¹ Staff concluded that the

⁵⁹ EA at I-2 to I-3.

⁶⁰ EA at 32 and I-3.

⁶¹ EA at I-3.

benefits of the plan would outweigh the estimated levelized annual cost of \$413. Article 410 of this license requires MRECo to develop and file, for Commission approval, an EMF monitoring plan that includes monitoring of EMF emissions at distances of 3 and 6 feet from the lead line and generating units.

C. Entanglement

71. As part of its Inspection and Maintenance Plan, MRECo proposes to inspect the platform monthly to look for potential impacts to wildlife. MRECo also proposes to visit the project 20 to 40 other times throughout the calendar year to conduct maintenance, retrieve and install the test turbines, and conduct the annual benthic survey. Additional observations of the project would occur during these visits.

72. As discussed in the EA,⁶² derelict fishing gear (e.g., lobster or crab pots with floats and fishing nets) can kill or entangle fish and marine mammals, including endangered and protected species; cause damage to underwater habitats, such as coral reefs and benthic fauna; and contribute to marine pollution. In addition, derelict fishing gear can damage turbine operation. Staff concluded that MRECo's proposal to inspect the platform monthly to look for potential impacts to wildlife, as well as its additional planned observations of the project as part of the proposed Environmental Monitoring Plan, would decrease the likelihood of entangled gear going unnoticed for extended periods of time. Staff concluded that MRECo's proposed Inspection and Maintenance Plan and Environmental Monitoring Plan would decrease the risk of entangled gear collecting on the platform and adversely affecting marine mammals and fish. Article 403 of this license requires MRECo to implement the proposed Inspection and Maintenance Plan. Article 408 of this license requires MRECo to implement the proposed Environmental Monitoring Plan.

PROJECT BOUNDARY

73. Project boundaries enclose the project works that are to be licensed and should include "only those lands necessary for operation and maintenance of the project and for other project purposes, such as recreation, shoreline control, or protection of environmental resources."⁶³

74. MRECo's proposed project boundary includes approximately 3.27 acres of water in the canal. This area encloses the test platform and extends from approximately 1,100 feet west of the test platform to approximately 1,300 feet east of the test platform, along the northern shore of the canal. MRECo states that the extensions of the proposed project boundary in the canal are needed to ensure that project operation would not be affected by

⁶² EA at 42.

⁶³ 18 C.F.R. § 4.41(h)(2) (2023).

any future projects in the canal. The areas immediately adjacent to the test platform would be needed for operation and maintenance of the test platform and for installing safety devices. The extensions of the proposed project boundary beyond approximately 250 feet east and west of the test platform (approximately 1.36 acres and 0.43 acre of water, respectively), however, do not appear to be necessary for project purposes; therefore, they should not be included in the project boundary. The revised project boundary will encompass approximately 2.6 acres including 0.84 acre of federal land administered by the Corps.

75. Article 204 of this license requires MRECo to file a revised project boundary map that excludes the 1.36 acres and 0.43 acre of water located in the canal approximately 250 feet east and west of the test platform, respectively.

ADMINISTRATIVE PROVISIONS

A. Annual Charges

76. The Commission collects annual charges from licensees for administration of the FPA. Article 201 provides for the collection of funds for administration of the FPA. Under the regulations currently in effect, projects with an authorized installed capacity of less than or equal to 1,500 kW, like this project, are not assessed an annual charge for administering the FPA.⁶⁴ However, Article 201 provides for the collection of funds for recompensing the United States for the use, occupancy, and enjoyment of the 0.84 acre of federal land occupied by the project.⁶⁵

B. Exhibit A Project Description

77. The Exhibit A filed on June 1, 2023, does not provide dimensions for the onshore station. Article 202 requires the licensee to file a revised Exhibit A that includes values for the dimensions of the onshore station.

C. Exhibit F and G Drawings

78. The Commission requires licensees to file sets of approved project drawings in electronic file format. The Exhibit F drawing filed on June 1, 2023 does not conform to the Commission's regulations and is not approved. Exhibit F Sheets S1 through S13 and Sheets A-1 through A-3, do not conform to section 4.39(a) of the Commission's regulations

⁶⁴ *Id.* § 11.1(b)(1).

⁶⁵ The regulations currently in effect, however, do not exempt licensees of projects with an installed capacity less than or equal to 1,500 kW from reimbursing the United States for the use of federal lands. *See* 18 C.F.R. § 11.2 (2023).

because: (1) they are not appropriately labeled as Exhibit F drawings and as Critical Energy/Electric Infrastructure Information; (2) Sheets S1 through S13 appear to show detailed construction plans and specifications for previous construction activities of the existing support structure that is not proposed in Exhibit A of the license application; and (3) Sheet 1 does not include a north arrow and scale. Article 203 requires the licensee to file a revised Exhibit F drawing that only includes Sheets A-1 through A-3 renamed as Sheets F-1 through F-3, and revised sheet F-1 to include a north arrow and scale. The revised Exhibit F drawing must conform with sections 4.39 and 4.41 of the Commission's regulations.

79. The Exhibit G drawing filed on June 1, 2023, does not conform to the Commission's regulations and is not approved. Exhibit G-1 does not show the relative locations and physical interrelationships of the principal project works and other features described in Exhibit A, including the test platform, transmission line, and onshore station. In addition, the Exhibit G drawing should not include the 1.36 acres and 0.43 acre of water located in the canal beyond approximately 250 feet east and west of the test platform, respectively, because the acreage does not serve a project purpose, as discussed above. Article 204 requires the licensee to file a revised Exhibit G drawing that shows the location of all of the principal project works and shows a project boundary that only include lands necessary for operation and maintenance of the project. The revised Exhibit G must meet the requirements of sections 4.39 and 4.41(h) of the Commission's regulations.

D. Reservation of Authority to Require Financial Assurance Measures

80. To confirm the importance of licensees maintaining sufficient financial reserves, Article 205 reserves the Commission's authority to require future measures to ensure that the licensee maintains sufficient financial reserves to carry out the terms of the license and Commission orders pertaining thereto.

E. As-Built Drawings

81. Where new construction or modifications to the project are involved, the Commission requires licensees to file revised drawings of project features as built. Article 206 provides for the filing of these drawings.

F. Project Financing

82. To ensure that there are sufficient funds available for project construction, operation, and maintenance, Article 207 requires the licensee to file, for Commission approval, documentation of project financing necessary for the construction, operation, and maintenance of the project at least 90 days before starting any construction associated with the project.

G. Project Land Rights Progress Report

83. The project will occupy 2.6 acres, including 0.84 acre of federal land under the jurisdiction of the Corps. Standard Article 5 set forth in L-Form 19 requires the licensee to acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project, within five years. In order to monitor compliance with Standard Article 5, Article 208 requires the licensee to file no later than four years after license issuance, a report detailing its progress on acquiring title in fee or the necessary rights to all lands within the project boundary. The report must include specific documentation on the status of the rights that have been acquired as of the filing date of the progress report, and a plan and schedule to acquire all remaining land prior to the five-year deadline.

H. Use and Occupancy of Project Lands and Waters

84. Requiring a licensee to obtain prior Commission approval for every use or occupancy of project land would be unduly burdensome. Therefore, Article 414 allows the licensee to grant permission, without prior Commission approval, for the use and occupancy of project lands for such minor activities as landscape planting. Such uses must be consistent with the purposes of protecting and enhancing the scenic, recreational, and environmental values of the project.

I. Start of Construction

85. Article 301 requires the licensee to commence construction within one year from the issuance date of the license and complete construction within two years from the issuance date of the license.

J. Review of Final Plans and Specifications

86. Article 302 requires the licensee to provide the Commission's Division of Dam Safety and Inspections (D2SI) – New York Regional Engineer with final contract drawings and specifications and a supporting design document, a Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan.

87. Article 303 requires the licensee to provide the Commission's D2SI – New York Regional Engineer with cofferdam and deep excavation construction drawings.

K. Conditions for Projects at Corps Facilities

88. Pursuant to a 2016 Memorandum of Understanding between the Commission and the Corps, seven special articles are included in licenses for hydroelectric projects to be

developed at Corps facilities. The articles are incorporated in this license as Articles 306 through 312.

L. Safeguard Plans

89. The safeguard plans in this license include a Navigation Safety Plan, Project and Public Safety Plan, Project Removal and Site Restoration Plan, and an Emergency Shutdown Plan. The Navigation Safety Plan provides strategies for alerting local residents and marine traffic to the presence of the project to avoid collisions (Article 402). The Project and Public Safety Plan includes measures for ensuring the public is aware of the potential hazards of the project (Article 404). The Project Removal and Site Restoration Plan includes a schedule for project removal, methods for the removal of the project, and a plan for restoring the project site following removal of the project components (Article 405). The Emergency Shutdown Plan includes procedures for the immediate shutdown of the project turbine in response to emergencies at the project (Article 406).

90. These plans will work interdependently to ensure that the project is operated and maintained in a safe manner such that the potential for harm to the public and environmental and developmental resources in the project area is minimal. Revisions to these plans may be necessary as information is gathered through project operation over the term of the license. Therefore, the licensee should file any revised plans with the Commission for review and comment prior to implementation.

M. Annual Performance Report and Certification

91. Article 305 requires MRECo to submit a report to the Commission's D2SI describing the project's performance, including the adequacy of project monitoring and operations, the findings of inspections, and a summary of the major maintenance and repairs performed during the previous year.

STATE AND FEDERAL COMPREHENSIVE PLANS

92. Section 10(a)(2)(A) of the FPA⁶⁶ requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.⁶⁷ Under section 10(a)(2)(A), federal and state agencies filed 44 comprehensive plans that address

⁶⁶ 16 U.S.C. § 803(a)(2)(A).

⁶⁷ Comprehensive plans for this purpose are defined at 18 C.F.R. § 2.19 (2023).

various resources in Massachusetts. Of these, staff identified and reviewed 26 comprehensive plans that are relevant to the Bourne Tidal Project.⁶⁸ No conflicts were found.

NEED FOR POWER

93. To assess the need for power from the project, staff looked at the needs in the operating region in which the project is located, which is the Northeast Power Coordinating Council's (NPCC) New England region of the North American Electric Reliability Corporation (NERC). NERC annually forecasts electrical supply and demand in the nation and the region for a 10-year period. NERC's most recent report indicates summer peak demand in the NPCC's New England region is projected to increase at an annual rate of 1.3% from 2024 through 2033. Therefore, the project's power will help meet the regional need for power.

94. The Bourne Tidal Project will provide power that could displace a small amount of generation from non-renewable sources. Displacing the operation of non-renewable facilities may avoid some power plant emissions and create an environmental benefit. The successful operation of the Bourne Tidal Project will also help to demonstrate the viability of tidal energy and could advance the commercialization of tidal energy.

SAFE MANAGEMENT, OPERATION, AND MAINTENANCE OF THE PROJECT

95. Commission staff reviewed MRECo's preliminary plans to build the project as described in the license application. The project will be safe when constructed, operated, and maintained in accordance with the Commission's standards and provisions of this license.

CONSERVATION EFFORTS

96. Section 10(a)(2)(C) of the FPA⁶⁹ requires the Commission to consider the electricity consumption improvement program of the applicant, including its plans, performance, and capabilities for encouraging or assisting its customers in conserving electricity cost-effectively, and taking into account the published policies, restrictions, and requirements of state regulatory authorities. MRECo plans to sell the project's power to the local electric utility provider, EverSource, for distribution to the local power grid.

97. Given that the project is a testing facility and MRECo will sell all of the project's power to EverSource for distribution, MRECo will have a limited ability to influence users

⁶⁸ The list of applicable comprehensive plans can be found in Appendix J of the EA.

⁶⁹ 16 U.S.C. § 803(a)(2)(C).

of the electricity generated by the project. For these reasons, MRECo will operate the project in a manner that is consistent with section 10(a)(2)(C) of the FPA.

PROJECT ECONOMICS

98. In determining whether to issue a license for an original hydrokinetic pilot project, the Commission considers a number of public interest factors, including the economic benefits of project power. Under the Commission's approach to evaluating the economics of hydropower projects, as articulated in *Mead Corp.*,⁷⁰ the Commission uses current costs to compare the costs of the project with the costs of the likely alternative source of power with no forecasts concerning potential future inflation, escalation, or deflation beyond the license issuance date. The basic purpose of the Commission's economic analysis is to provide a general estimate of the potential power benefits and the costs of a project, and of reasonable alternatives to project power. The estimate helps to support an informed decision concerning what is in the public interest with respect to a proposed license.

99. In applying this analysis to the Bourne Tidal Project, Commission staff considered three options: a no-action alternative, MRECo's proposal, and the project as licensed herein.⁷¹ Under the no-action alternative, the project would not be built. As proposed by MRECo, the levelized annual cost of operating the project is \$200,890. The proposed project would have an installed capacity of 50 kW, generate an average of 175 MWh of energy annually, and have negligible capacity benefit.⁷² The alternative source of power's cost to produce the same amount of energy with a negligible capacity benefit is \$12,499, in 2023 dollars.⁷³ Therefore, the project would cost \$188,391 more than the alternative source of power's cost.

⁷⁰ 72 FERC ¶ 61,027 (1995).

⁷¹ Details of Commission staff's economic analysis for the project as licensed herein, and for the other two alternatives, are included in section Appendix G of the EA.

⁷² The term "capacity benefit" is used to describe the benefit a project receives for providing capacity to the grid, which may be in the form of a dependable capacity credit or credit for monthly capacity provided. However, due to multiple unknown factors affecting the capacity benefit of the test site, including the frequency and duration of testing turbines, staff assumes that the capacity benefit of the project is negligible.

⁷³ Because the capacity benefit of the project is negligible, the alternative source of power's cost of \$12,499 is based entirely on energy production. The energy production cost per MWh is \$71.42, based on natural gas energy prices from the *Annual Energy Outlook 2023* published by the Energy Information Administration in March 2023.

100. As licensed herein, with mandatory conditions and Commission staff's measures, the levelized annual cost of operating the project is \$202,489. The proposed project would have an installed capacity of 50 kW, generate an average of 175 MWh of energy annually, and have negligible capacity benefit. The alternative source of power's cost to produce the same amount of energy with a negligible capacity benefit is \$12,499, in 2023 dollars. Therefore, the project would cost \$189,990 more than the alternative source of power's cost.

101. Although staff's analysis shows that the project as licensed herein would cost more to operate than the estimated cost of alternative power, it is the applicant who must decide whether to accept this license and any financial risk that entails.

102. Although staff does not explicitly account for the effects inflation may have on the future cost of electricity, the fact that hydropower generation is relatively insensitive to inflation compared to fossil fueled generators is an important economic consideration for power producers and the consumers they serve. This is one reason project economics is only one of the many public interest factors the Commission considers in determining whether or not, and under what conditions, to issue a license.

COMPREHENSIVE DEVELOPMENT

103. Sections 4(e) and 10(a)(1) of the FPA⁷⁴ require the Commission to give equal consideration to the power development purposes and to the purposes of energy conservation; the protection, mitigation of damage to, and enhancement of fish and wildlife; the protection of recreational opportunities; and the preservation of other aspects of environmental quality. Any license issued must be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration.

104. The EA for the project contains background information, analysis of effects, and support for related license articles. Based on the record of this proceeding, including the EA and the comments thereon, licensing the Bourne Tidal Project as described in this order will not constitute a major federal action significantly affecting the quality of the human environment. The project will be safe if operated and maintained in accordance with the requirements of the license.

105. Based on staff's independent review and evaluation of the Bourne Tidal Project, recommendations from the resource agencies and other stakeholders, and the no-action alternative, as documented in the EA, the Bourne Tidal Project as licensed herein is selected

⁷⁴ 16 U.S.C. §§ 797(e) & 803(a)(1).

and found to be best adapted to a comprehensive plan for improving or developing the Cape Cod Canal.

106. This alternative was selected because: (1) issuance of a pilot project license will allow MRECo to test the generating equipment's dependability as a source of electrical energy for the region and evaluate the tidal energy potential of Cape Cod Canal; (2) the 50 kW of electric capacity will come from a renewable resource that does not contribute to atmospheric pollution; (3) the public benefits of the staff alternative will exceed those of the no-action alternative; and (4) the recommended measures will protect and enhance water quality, marine animals, federally threatened and endangered species, and cultural resources.

LICENSE TERM

107. Although the FPA establishes that the maximum license term length the Commission can set is 50 years, the FPA does not establish a minimum license term for original projects. MRECo, referencing guidance criteria provided in Commission staff's whitepaper for licensing hydrokinetic pilot projects,⁷⁵ requested an 8-year license term to allow it sufficient time to validate the efficiency of the project prior to applying for a longer-term license for the platform. An 8-year license term for the Bourne Tidal Project is appropriate.

The Director orders:

(A) This license is issued to the Marine Renewable Energy Collaborative of New England (MRECo or licensee), for a period of 8 years, effective the first day of the month in which this order is issued, to construct, operate, and maintain the Bourne Tidal Project. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in these lands, described in the project description and the project boundary discussion of this order.

(2) Project works consisting of: (1) an existing 56.2-foot-high, 23-foot-wide steel support structure composed of a platform mounted to three piles embedded in the canal; (2) an existing vertical turbine mounting pole that is attached to the platform and equipped with an electric lift; (3) a tidal turbine-generator unit with a maximum installed capacity of 50 kilowatts (kW); (4) a 48-foot-long submerged lead line connecting the turbine-generator

⁷⁵ See FERC, Licensing Hydrokinetic Pilot Projects (Apr. 14, 2008), available at https://www.ferc.gov/sites/default/files/2020-10/white_paper.pdf.

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unit to a rectifier located on the support structure and used to convert the generated power from wild Alternating Current (AC) to Direct Current (DC); (5) an approximately 775-foot-long, 13.2-kilovolt (kV) overhead transmission line connecting the project to the regional grid; (6) seven new utility poles to replace seven existing poles; (7) an onshore station consisting of a 20-foot-long, 8-foot-wide modular structure housing power control and data management equipment, and a 50-kW inverter to convert DC to AC for distribution on the local utility distribution system; and (8) appurtenant facilities.

(3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project; all portable property that may be employed in connection with the project; and all riparian or other rights that are necessary or appropriate for the operation or maintenance of the project.

(C) The Exhibits A, F, and G filed as part of the application for license do not conform to Commission regulations and are not approved.

(D) The following sections of the FPA are waived and excluded from the license for this minor project:

4(b), except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army; 6, insofar as it relates to public notice and to the acceptance and expression in the license of terms and conditions of the FPA that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

(E) This license is subject to the articles set forth in Form L-19 (October 1975), entitled "Terms and Conditions of License for Unconstructed Minor Project Affecting Navigable Waters and Lands of the United States" (see 54 F.P.C. 1876), as reproduced at the end of this order, and the following additional articles:

Article 201. Administrative Annual Charges. The licensee must pay the United States annual charges as determined in accordance with the provisions of the Commission's regulations in effect from time to time, effective as of the date the licensee is required to commence project construction, or as that date may be extended, but in no case longer than four years after license issuance, for the purposes of:

(a) To reimburse the United States for the cost of administration of Part 1 of the Federal Power Act. The authorized installed capacity for that purpose is 50 kilowatts (kW). Under the regulations currently in effect, projects with an authorized installed capacity of less than or equal to 1,500 kW will not be assessed an annual charge.

(b) To recompensate the United States for the use, occupancy, and enjoyment of 0.84 acre of its lands (other than for transmission line right-of-way).

Article 202. Exhibit A Project Description. Within 90 days of the issuance date of this license, the licensee must file, for Commission approval, a revised Exhibit A that includes the dimensions of the onshore station. The revised Exhibit A must comply with section 4.61 of the Commission's regulations.

Article 203. Exhibit F Drawings. Within 90 days of the issuance date of this license, the licensee must file, for Commission approval, revised Exhibit F drawings that include only the facilities that are proposed in Exhibit A. The drawings must include: (1) drawing numbers from F-1 through F-3; (2) Critical Energy/Electric Infrastructure Information labels on each drawing; and (3) north arrow and scale on sheet 1. The Exhibit F drawings must comply with sections 4.39 and 4.41(g) of the Commission's regulations.

Article 204. Exhibit G Drawing. Within 90 days of the issuance date of this license, the licensee must file, for Commission approval, a revised Exhibit G drawing enclosing within the project boundary all principal project works necessary for operation and maintenance of the project. The Exhibit G drawing should show the relative locations and physical interrelationships of the principal project works and other features described in Exhibit A including the test platform, transmission line, and onshore station. The revised Exhibit G drawing must exclude the 1.36 acres and 0.43 acre of water located in the canal beyond approximately 250 feet east and west of the test platform, respectively, as was shown in Exhibit G drawing filed on June 1, 2023. The revised Exhibit G drawing must comply with sections 4.39 and 4.41(h) of the Commission's regulations.

Article 205. Reservation of Authority to Require Financial Assurance Measures. The Commission reserves the right to require future measures to ensure that the licensee maintains sufficient financial reserves to carry out the terms of the license and Commission orders pertaining thereto.

Article 206. *As-built Exhibits.* Within 90 days of completion of construction of the facilities authorized by this license, the licensee must file, for Commission approval, revised Exhibits A, F, and G, as applicable, to describe and show those project facilities as built.

Article 207. *Documentation of Project Financing.* At least 90 days before starting construction authorized by this license, the licensee must file, for Commission approval, the licensee's documentation for project financing. The documentation must show that the licensee has acquired the funds, or commitment for funds, necessary to construct, operate, and maintain the project in accordance with the license. The documentation must include, at a minimum, financial statements, including a balance sheet, income statement, and a statement of actual or estimated cash flows over the license term, which provide evidence that the licensee has sufficient assets, credit, and projected revenues to cover project construction, operation and maintenance expenses, and any other estimated project liabilities and expenses. The financial statements must be prepared in accordance with generally accepted accounting principles and signed by an independent certified public accountant. The licensee must not commence project construction associated with the project before the filing is approved.

Article 208. *Project Land Rights Progress Report.* No later than four years after license issuance, the licensee must file a report with the Commission describing the status of acquiring title in fee or the rights for all the lands within the project boundary. The report must provide an overview map of each parcel and summary table identifying the licensee's rights over each parcel within the project boundary. The report must also include specific supporting documentation showing the status of the land rights on all parcels of land within the project boundary that: (1) have been acquired up to the date of filing the report, including pertinent deeds, lease agreements, and/or bill of sale information that specifically verify the licensee's rights; and (2) the licensee's plan and schedule for acquiring rights to all remaining project lands prior to the five-year deadline, including a history of actions taken, current owner information, the type of rights to be acquired whether in fee or by easement, and the timeline for completing property acquisition.

Article 301. *Start of Construction.* The licensee must commence construction of the project works within one year from the issuance date of the license and must complete construction of the project within two years from the issuance date of the license.

Article 302. *Final Design Documents.* At least 60 days prior to the start of any construction, the licensee must file final design documents with the Commission by eFiling to the appropriate Regional Office. The design documents must include: final plans and specifications, supporting design report, Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan. The licensee may not begin construction until the Division of Dam Safety and Inspections – New York Regional Engineer has reviewed and commented on the documents, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

Article 303. *Cofferdam and Deep Excavation Construction Drawings.* Should construction require cofferdams or deep excavations, the licensee must: (1) have a Professional Engineer who is independent from the construction contractor, review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction; and (2) ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days before starting construction of any cofferdams or deep excavations, the licensee must file the approved cofferdam and deep excavation construction drawings and specifications, and the letter(s) of approval with the Commission by eFiling to the appropriate Regional Office.

Article 304. *Annual Navigation Safety Report.* Following the start of operations and by December 31 of each year, the licensee must file a Navigation Safety Report with the Commission by eFiling to the appropriate Regional Office. The report must describe: (a) the operation and maintenance of private aids to navigation during the previous year; and (b) any navigation safety incidents that occurred during the previous year.

Article 305. *Annual Performance Report and Certification.* Following start of operations and by December 31 of each year, the licensee must file a Performance Report and Certification with the Commission by eFiling to the appropriate Regional Office. The performance report must include: the dates the turbines were installed and removed; the adequacy of project monitoring and operations; the findings of inspections; and a summary of the major maintenance and repairs performed during the previous year. The report should certify that the project features are being operated, monitored, inspected, and maintained in accordance with the license and approved plans.

Article 306. *Facility Design and Construction.* The design and construction of those permanent and temporary facilities, including cofferdams and deep excavations, that would be an integral part of, or that could affect the structural integrity or operation of the Government project must be done in consultation with and subject to the review and approval of the U.S. Army Corps of Engineers' (Corps') District Engineer. The Corps' review of the cofferdams will be in addition to the licensee's review and approval of the final plans and shall in no way relieve the licensee of responsibility and liability regarding satisfactory performance of the cofferdams. Within 90 days from the issuance date of the license, the licensee must furnish the Corps and the Commission, by eFiling to the appropriate Regional Office, a schedule for submission of design documents and the plans and specifications for the project. If the schedule does not afford sufficient review and approval time, the licensee, upon request of the Corps, must meet with the Corps and Commission staffs to revise the schedule accordingly.

Article 307. *Review of Contractor Designs.* The licensee must review and approve the design of contractor-designed cofferdams and deep excavations, other than those approved according to Article 306, *Facility Design and Construction*, prior to the start of construction, and must ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days prior to starting construction of the

cofferdam and deep excavation, the licensee must provide the U.S. Army Corps of Engineers the approved cofferdam and deep excavation construction drawings and specifications and the letter(s) of approval.

Article 308. *Agreement with the U.S. Army Corps of Engineers (Corps).* Within 90 days from the issuance date of this license, the licensee must enter into an agreement with the Corps to coordinate its plans for access to and site activities on lands and property administered by the Corps so that the authorized purposes, including operation of the federal facilities, are protected. In general, the agreement must not be redundant with the Commission's requirements contained in this license, must identify the facility, and the study and construction activities, as applicable, and terms and conditions under which studies and construction will be conducted. The agreement must be mainly composed of reasonable arrangements for access to the Corps site to conduct studies and construction activities, such access rights to be conditioned by the Corps as may be necessary to protect the federally authorized project purposes and operations. Should the licensee and the Corps fail to reach an access agreement, the licensee must refer the matter to the Commission for resolution.

Article 309. *Periodic and Continuous Inspections by the U.S. Army Corps of Engineers (Corps).* The construction, operation, and maintenance of the project works that, in the judgment of the Corps may affect the structural integrity or operation of the Corps project, shall be subject to periodic or continuous inspections by the Corps. Any construction, operation, and maintenance deficiencies or difficulties detected by the Corps inspection must be immediately reported to the Division of Dam Safety and Inspections (D2SI) – Regional Engineer. Upon review, the D2SI – New York Regional Engineer shall refer the matter to the licensee for appropriate action. In cases when construction, operation, or maintenance practices or deficiencies may create a situation posing imminent danger to the structural integrity and safety of the Corps project, the Corps inspector has the authority to stop construction or maintenance while awaiting the resolution of the problem. The licensee must immediately inform the D2SI – Regional Engineer of the circumstances surrounding the cessation of construction, operation, or maintenance activities. The licensee must not resume construction, operation, or maintenance activities until notified by the D2SI – New York Regional Engineer that the problem or situation has been resolved.

Article 310. *Regulating (or Operating) Plan.* The licensee must, at least 60 days prior to start of construction, submit for approval a regulating plan to the U.S. Army Corps of Engineers (Corps), describing: (a) an explanation of proposed hydrokinetic operations, (b) any diversion and regulation requirements for operation of the Corps' project during construction as established by the Corps, and (c) integration of the operation of the hydrokinetic facility into any existing Corps' plans or documents.

In addition, the licensee, prior to start of power plant operation, must enter into an operating Memorandum of Agreement (MOA) with the Corps describing the detailed operation of the facility acceptable to the Corps. The MOA must specify any restrictions needed to protect the primary purposes of the Corps project. The Division of Dam Safety

and Inspections (D2SI) – New York Regional Engineer must be invited to attend meetings regarding the agreement. The MOA must be subject to revision by mutual consent of the Corps and licensee as experience is gained by actual project operation. Should the licensee and the Corps fail to reach an agreement, the matter will be referred to the Director, Office of Energy Projects (OEP), for resolution. The regulating plan and signed MOA between the Corps and the licensee and any revision thereof must be furnished to the Commission by eFiling to the appropriate Regional Office.

Article 311. No Claim. The licensee shall have no claim under this license against the United States arising from the effect of any changes made in the operation of the U.S. Army Corps of Engineers project.

Article 312. U.S. Army Corps of Engineers (Corps) Written Approval. The licensee must file with the Commission by eFiling to the appropriate Regional Office all correspondence between the licensee and the Corps. The Division of Dam Safety and Inspections (D2SI) – New York Regional Engineer shall not authorize construction of any project work until the Corps' written approval of construction plans and specifications has been received by the D2SI – Regional Engineer.

Article 401. Project Operation. The licensee is authorized to operate the following types of marine hydrokinetic turbines: (1) axial, (2) cross flow, (3) oscillating, (4) conveyor, and (5) Archimedes screw. Each turbine must have a diameter of no more than 13.12 feet, a frontal area of no more than 75.35 square feet, and a tip speed of no more than 20 revolutions per minute, which equates to 10.2 feet per second. The licensee must only install and operate one turbine at a time and must install and operate no more than four turbines per calendar year. At least 30 days prior to installation, the licensee must file documentation of turbine specifications for each turbine tested.

Unplanned Deviations

The operational requirements of this license may be temporarily modified if required by operating emergencies beyond the control of the licensee (i.e., unplanned deviations). For any unplanned deviation from the operational requirements of this license that lasts longer than three hours or results in visible environmental effects such as a marine wildlife kill, or accidental spill, the licensee must notify the resource agencies within 24 hours, and file a report with the Commission as soon as possible, but no later than 14 days after each such incident. The report must include: (1) the cause of the deviation; (2) the duration and magnitude of the deviation; (3) any pertinent operational and/or monitoring data; (4) a timeline of the incident and the licensee's response; (5) any comments or correspondence received from the resource agencies, or confirmation that no comments were received from the resource agencies; (6) documentation of any observed or reported environmental effects; and (7) a description of measures implemented to prevent similar deviations in the future.

For unplanned deviations from the operational requirements of this license lasting three hours or less that do not result in visible environmental effects, the licensee must file an annual report by March 1, describing each incident that occurred during the prior January 1 through December 31 time period. The report must include for each deviation: (1) the cause of the deviation; (2) the duration and magnitude of the deviation; (3) any pertinent operational and/or monitoring data; (4) a timeline of the incident and the licensee's response to each deviation; (5) any comments or correspondence received from the resource agencies, or confirmation that no comments were received from the resource agencies; and (6) a description of measures implemented to prevent similar deviations in the future.

Article 402. *Navigation Safety Plan.* Upon license issuance, the licensee must implement the Navigation Safety Plan, filed June 1, 2023. This plan may not be amended without prior Commission approval.

Article 403. *Project Inspection and Maintenance Plan.* Upon license issuance, the licensee must implement the Project Inspection and Maintenance Plan, filed June 1, 2023. This plan may not be amended without prior Commission approval.

Article 404. *Project and Public Safety Plan.* Upon license issuance, the licensee must implement the Project and Public Safety Plan, filed June 1, 2023. This plan may not be amended without prior Commission approval.

Article 405. *Project Removal and Site Restoration Plan.* The Project Removal and Site Restoration Plan, that starts on page 646 of the license application, filed June 1, 2023, is approved. This plan may not be amended without prior Commission approval. Any amendments to the plan must be developed in consultation with the U.S. Army Corps of Engineers, Massachusetts Department of Environmental Protection, Massachusetts Division of Fisheries and Wildlife, Massachusetts Division of Marine Fisheries, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service. The licensee must notify the Commission within 30 days of commencing implementation of the plan. Within 30 days of completing the site restoration, the licensee must file documentation of completion of project removal and site restoration activities. The licensee must implement the plan if a new license is not being sought for the project at the end of the license term.

Article 406. *Emergency Shutdown Plan.* Upon commencement of project operation, the licensee must implement the Emergency Shutdown Plan, filed June 1, 2023. Within five days of the commencement of project operations, the licensee must file written notification of the commencement date of project operations with the Commission. This plan may not be amended without prior Commission approval.

Article 407. *Fuel and Hazardous Substances Spill Plan.* Within six months of the issuance date of this license, the licensee must file, for Commission approval, a fuel and hazardous substances spill plan. The plan must include, at a minimum: (1) protocols that will allow project personnel to respond to spills of fuel or hazardous substances in a quick

and efficient manner to minimize effects on water quality; (2) a reporting requirement to notify the Massachusetts Department of Environmental Protection (Massachusetts DEP) and the Commission of any project-related spills of hazardous substances; (3) documentation of any observed or reported environmental effects related to a spill; and (4) a description of measures implemented to prevent similar spills in the future.

The licensee must develop the plan after consultation with Massachusetts DEP. The licensee must include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agency, and specific descriptions of how the agency's comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the agency to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan must not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee must implement the plan, including any changes required by the Commission.

Article 408. Environmental Monitoring Plan. Upon license issuance, the licensee must implement the Environmental Monitoring Plan, filed June 1, 2023, with the following modification: at least three months prior to operating the project from mid-November until mid-March, the licensee must consult with Massachusetts Department of Environmental Protection (Massachusetts DEP), Massachusetts Division of Fisheries and Wildlife (Massachusetts DFW), Massachusetts Division of Marine Fisheries (Massachusetts DMF), the U.S. Fish and Wildlife Service (FWS), and the National Marine Fisheries Service (NMFS) to identify if additional monitoring or measures may be needed to help protect overwintering birds, marine mammals, and migratory fish from the effects of project operation.

This plan may not be amended without prior Commission approval. Any amendments to the plan must be developed in consultation with the Massachusetts DEP, Massachusetts DFW, Massachusetts DMF, FWS, and NMFS.

The licensee must file an annual report that describes pertinent monitoring data by March 1.

Article 409. Marine Mammal Protection Act Report. The licensee must file with the Commission an annual report documenting its consultations with the National Marine Fisheries Service (NMFS) under the Marine Mammal Protection Act (MMPA), starting January 1, 2025, and annually thereafter until such time as it completes its responsibilities under the MMPA. The licensee's report must update the Commission on the status of its consultations, include information as to whether its compliance with the MMPA requires it to modify aspects of project construction, operation, maintenance, or removal, and include information detailing how the licensee will initiate any required modifications to the project. If compliance with the MMPA requires an amendment to license, the licensee must seek Commission approval before implementing the measures.

In lieu of an annual report, the licensee may file with the Commission documentation of a determination from NMFS that the project's construction and operation is not expected to result in "take" under the MMPA.

Article 410. Electromagnetic Field Monitoring Plan. Within six months of the issuance date of this license, the licensee must file, for Commission approval, an electromagnetic field (EMF) monitoring plan. The plan must include, at a minimum:

1. a description of measuring devices that will be used to monitor in-water EMF emissions from the licensed project facilities, including: (a) the locations of the measuring devices; (b) a description of the monitoring frequency; and (c) a log for documenting measurements and observations of any effects to marine animals;
2. procedures for operating, maintaining, and calibrating monitoring equipment;
3. procedures for ceasing project generation and notifying the Commission and resource agencies upon the observation of marine animal disorientation or mortality caused or reasonably suspected to be caused by EMF emissions from the licensed project facilities;
4. a description of measures to be implemented if marine animals are disoriented or killed by EMF emitted from the licensed project facilities;
5. an annual report that describes pertinent monitoring data; and
6. an implementation schedule.

The plan must also specify that the licensee is required to notify the resource agencies within 24 hours and the Commission within 14 days of any visible environmental effects (e.g., disoriented fish or marine mammals), and file a report with the Secretary of the Commission as soon as possible, but no later than 30 days after each such incident. The report must include: (1) any pertinent operational and/or monitoring data; (2) a timeline of

the incident and the licensee's response; (3) any comments or correspondence received from the resource agencies, or confirmation that no comments were received from the resource agencies; and (4) documentation of any observed or reported environmental effects and how potential effects were evaluated.

The licensee must develop the plan after consultation with the Massachusetts Department of Environmental Protection, Massachusetts Division of Fisheries and Wildlife, Massachusetts Division of Marine Fisheries, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service. The licensee must include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan must not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee must implement the plan, including any changes required by the Commission.

Article 411. *Wildlife Carcass Recovery Plan.* Within six months of the issuance date of this license, the licensee must file, for Commission approval, a wildlife carcass recovery plan. The plan must include, at a minimum:

1. procedures for recovering fish or wildlife species killed or injured by the project, with consideration given to the safety of project personnel conducting the recovery;
2. a designated recovery area consistent with the project's anticipated area of direct effect on fish and wildlife species; and
3. a provision for a post-mortem evaluation of fish or wildlife species recovered pursuant to item (1), either as a group or individually, as appropriate.

The plan must also specify that the licensee is required to notify the Massachusetts Department of Environmental Protection, Massachusetts Division of Fisheries and Wildlife, Massachusetts Division of Marine Fisheries, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service within 24 hours and the Commission within 14 days of fish or wildlife recovered pursuant to this article and file a report with the Secretary of the Commission as soon as possible, but no later than 30 days after each such incident. The report must include, to the extent known: (1) the cause of mortality; (2) the number of fish or wildlife recovered; (3) any pertinent operational and/or monitoring data; and (4) a timeline of the incident and the licensee's response. The report must also include: (1) any comments

or correspondence received from the resource agencies, or confirmation that no comments were received from the resource agencies; (2) documentation of any observed or reported environmental effects and how potential effects were evaluated; and (3) a description of measures implemented to prevent future mortality.

The licensee must develop the plan after consultation with the resource agencies identified above. The licensee must include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Implementation of the plan must not begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee must implement the plan, including any changes required by the Commission.

Article 412. Protection of Previously Undiscovered Cultural Resources. If the licensee discovers any unidentified cultural resources during construction, operation, or maintenance of project works or other facilities at the project, the licensee must stop all land-clearing and land-disturbing activities in the vicinity of the resource and consult with the Massachusetts State Historic Preservation Office (Massachusetts SHPO), Massachusetts Board of Underwater Archaeology (Massachusetts BUAR), and the Wampanoag Tribe of Gay Head (Aquinnah), Mashpee Wampanoag Tribe, and Stockbridge-Munsee Community (federally recognized Tribes) to determine the need for any cultural resource studies or measures. If no studies or measures are needed, the licensee must file with the Commission documentation of its consultation with the Massachusetts SHPO, Massachusetts BUAR, and federally recognized Tribes.

If a discovered cultural resource is determined to be eligible for the National Register of Historic Places (National Register), the licensee must file, for Commission approval, a Historic Properties Management Plan (HPMP) prepared by a qualified cultural resource specialist after consultation with the Massachusetts SHPO, Massachusetts BUAR, and federally recognized Tribes. In developing the HPMP, the licensee must use the Advisory Council on Historic Preservation and the Commission's Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects, dated May 20, 2002. The HPMP must include the following items: (1) a description of each discovered property that is eligible to be listed in the National Register; (2) a description of the potential effect on each discovered property; (3) proposed measures for avoiding or mitigating adverse effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for implementing mitigation and conducting additional studies. The Commission reserves the right to require changes to the HPMP.

The licensee must not resume land-clearing or land-disturbing activities in the vicinity of a cultural resource discovered during construction, until informed by the Commission that the requirements of this article have been fulfilled.

Article 413. Protection of Cultural Resources. Prior to implementing any project modifications not specifically authorized by the license, including but not limited to maintenance activities, land-clearing or land-disturbing activities, or changes to project operation or facilities, the licensee must consult with the Massachusetts State Historic Preservation Office (Massachusetts SHPO) and Massachusetts Board of Underwater Archaeology (Massachusetts BUAR), and the Wampanoag Tribe of Gay Head (Aquinnah), Mashpee Wampanoag Tribe, and Stockbridge-Munsee Community (federally recognized Tribes) to determine the effects of the activities and the need for any cultural resource studies or measures. If no studies or measures are needed, the licensee must file with the Commission documentation of its consultation with the Massachusetts SHPO, Massachusetts BUAR, and federally recognized Tribes.

If a project modification is determined to affect a historic property, the licensee must file for Commission approval a Historic Properties Management Plan (HPMP) prepared by a qualified cultural resource specialist after consultation with the Massachusetts SHPO, Massachusetts BUAR, and federally recognized Tribes. In developing the HPMP, the licensee must use the Advisory Council on Historic Preservation and the Commission's Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects, dated May 20, 2002. The HPMP must include the following items: (1) a description of each historic property; (2) a description of the potential effect on each historic property; (3) proposed measures for avoiding or mitigating adverse effects; (4) documentation of the nature and extent of consultation; and (5) a schedule for implementing mitigation and conducting additional studies. When filing the HPMP for Commission approval, the licensee must include any documentation of consultation with the Massachusetts SHPO, BUAR, and federally recognized Tribes during the development of the HPMP.

The Commission reserves the right to require changes to the HPMP. The licensee must not implement any project modifications, other than those specifically authorized in this license, until informed by the Commission that the requirements of this article have been fulfilled.

Article 414. Use and Occupancy. (a) In accordance with the provisions of this article, the licensee must have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee must also have a continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee must take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and waters for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 water craft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee must require multiple use and occupancy of facilities for access to project lands or waters. The licensee must also ensure that, to the satisfaction of the Commission's authorized representative, the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee must: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the impoundment shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads

where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kilovolts or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project impoundment. No later than January 31 of each year, the licensee must file with the Commission a copy of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed. No report filing is required if no conveyances were made under paragraph (c) during the previous calendar year.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 water craft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must file a letter with the Commission, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Commission's authorized representative, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee must consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee must determine that the proposed use of the lands to be conveyed is not inconsistent with any approved report on recreational resources of an Exhibit E; or, if the project does not have an approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed must not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee must take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee must not unduly restrict public access to project lands and waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project must be consolidated for consideration when revised Exhibit G drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article must not apply to any part of the public lands and reservations of the United States included within the project boundary.

(F) The licensee must serve copies of any Commission filing required by this order on any entity specified in the order to be consulted on matters relating to that filing. Proof of service on these entities must accompany the filing with the Commission.

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(G) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in section 313(a) of the FPA, 16 U.S.C. § 8257 (2012), and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2023). The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

for
Terry L. Turpin
Director
Office of Energy Projects

Form L-19
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

**TERMS AND CONDITIONS OF LICENSE FOR UNCONSTRUCTED
MINOR PROJECT AFFECTING NAVIGABLE WATERS
AND LANDS OF THE UNITED STATES**

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project works shall be constructed in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared

with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.

Article 4. The construction, operation, and maintenance of the project and any work incidental to additions or alterations shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. Construction of the project works or any features or alteration thereof shall not be initiated until the program of inspection for the project works or any such feature thereof has been approved by said representative. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of any alteration thereof, and shall notify him of the date upon which work will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and

mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 7. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 8. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 9. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such

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waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 10. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 11. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 12. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be

interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 13. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 14. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon the request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 15. The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, the Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. Upon approval of the clearing plan all clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statues and regulations.

Article 16. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 17. Timber on lands of the United States cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be

paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, that timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

Article 18. The Licensee shall do everything reasonably within its power, and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.

Article 19. The Licensee shall interpose no objection to, and shall in no way prevent, the use by the agency of the United States having jurisdiction over the lands of the United States affected, or by persons or corporations occupying lands of the United States under permit, of water for fire suppression from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license, or the use by said parties of water for sanitary and domestic purposes from any stream, conduit, or body of water, natural or artificial, used by the Licensee in the operation of the project works covered by the license.

Article 20. The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.

Article 21. The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment of said lands by the Licensee for the purposes of the license.

This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.

Article 22. In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.

Article 23. The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.

Article 24. The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.

Article 25. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission

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may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 26. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 27. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

APPENDIX A

Water Quality Certificate Conditions

Issued by the Town of Bourne Conservation Commission on November 16, 2016, and confirmed as Certification Conditions by the Massachusetts Department of Environmental Protection on August 31, 2023

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on November 8, 2019 unless extended in writing by the Department.

7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]

"File Number SE7-1956

11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.

15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.
17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
19. The work associated with this Order (the "Project") is subject to the Massachusetts Stormwater Standards
20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.

This Order of Conditions is being issued based upon strict accordance with the information submitted in the Notice of Intent filed on September 7, 2016 and the Plans of Record dated June 6, 2016 and signed by JAA. Also considered was other pertinent supplemental information such as:

- An October 14th 2014 letter from the U.S. Army Corps of Engineers
- Chapter 91 Public Notice
- An October 6th 2016 letter from the Massachusetts Division of Marine Fisheries
- A November 3rd, 2016 Letter from Natural Heritage and Endangered Species Program

In addition to the GENERAL CONDITIONS referenced in the Order of Conditions, the Commission has found it necessary to impose the following Special Conditions pursuant to M.G.L. Ch. 131, s.40 and the Town of Bourne Natural Resources Protection Bylaw Article 3.7.

THE SPECIAL CONDITIONS AND BYLAW CONDITIONS CHECKED BELOW APPLY TO YOUR PROPOSAL. NOTE THAT THE ABOVE LISTED GENERAL CONDITIONS ARE AUTOMATICALLY PART OF THIS ORDER OF CONDITIONS.

SPECIAL CONDITIONS Pursuant to M.G.L. C. 131, s. 40.

3. The project engineer and contractors (and all subcontractors) must be informed of the conditions of this Order. A copy of this Order of Conditions must be available at all times at the construction site for reference. The Applicant is held responsible for compliance with this Order of Conditions
12. The landowner and/or his contractor will notify the Commission in writing 5 days prior to the start of work. The letter shall state the name, address, telephone number (business & home phone) of the project supervisor who will be responsible for insuring on-site compliance with this Order. All sedimentation/erosion control devices shall be installed BEFORE the start of work.
16. Any refuse material generated through the project construction will be removed to an approved landfill, and in no case will these materials be allowed to be buried or disposed of on site or on abutting property. REMOVAL MUST BE DONE WEEKLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. REFUSE MUST NOT BE ALLOWED TO ENTER ANY WETLAND AREAS.
19. The applicant as a condition of this Order, grants to the Commission members, and agents of the Commission the right to enter, inspect, and sample the premises to evaluate compliance with the conditions and performance standards stated in this Order, the Act, and 310 CMR 10.00 and the Town of Bourne Wetlands Protection Bylaw Article 3.7, and may require the submittal of any data deemed necessary by the Commission for that evaluation.

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22. Used petroleum products from the operation or maintenance of construction equipment and construction debris shall be collected weekly and disposed of off-site at an approved landfill. No on-site disposal is permitted.

SPECIAL CONDITIONS pursuant to the Town of Bourne Natural Resources Protection By-Law Article 3.7

14. This Order of Conditions (OOC) is not valid until the applicant applies for and receives a License from the DEP Division of Wetlands and Waterways relative to Chapter 91, The Public Waterfront Act & its regulations at 310 CMR 9.00.

ADDITIONAL SPECIAL CONDITIONS pursuant to the Town of Bourne Natural Resources Protection By-law Article 3.7

General condition Number(s), Special Condition Number(s), Bylaw Conditions Number(s) above shall continue in perpetuity beyond the limitations of this Order and with the sale of the property to others.

The Applicant is reminded of his/her right to Appeal this Order or any part herein. This Appeal must be a dual appeal to both DEP within 10 days and to Superior Court pursuant to M.G.L c. 249 s. 4 within 60 calendar days of the issuance of this Order of Conditions.

Document Content(s)

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