



## Department of Energy

Golden Field Office  
15013 Denver West Parkway  
Golden, Colorado 80401

### FINDING OF NO SIGNIFICANT IMPACT

#### FLORIDA ATLANTIC UNIVERSITY SOUTHEAST NATIONAL MARINE RENEWABLE ENERGY CENTER MARINE HYDROKINETIC TECHNOLOGY TESTING PROJECT

DOE/EA-1965

**AGENCY:** U.S. Department of Energy (DOE), Office of Energy Efficiency and Renewable Energy (EERE)

**ACTION:** Finding of No Significant Impact (FONSI)

**SUMMARY:** DOE is proposing to provide federal funding to Florida Atlantic University (FAU) Southeast National Marine Renewable Energy Center (SNMREC) to install a non-grid-connected offshore test berth and test a variety of small-scale research and development ocean current turbine units<sup>1</sup> on public lands managed by the U.S. Department of Interior, Bureau of Ocean Energy Management (BOEM) off the coast of Broward County, Florida (Proposed Project). In compliance with the National Environmental Policy Act (NEPA), BOEM was the lead federal agency and DOE was a cooperating agency on the Environmental Assessment (EA) titled *Lease Issuance for Marine Hydrokinetic Technology Testing on the Outer Continental Shelf Offshore Florida OCS-EIS/EA-BOEM-2013-01140; DOE/EA 1965*. The EA analyzed four alternatives, including:

1. Alternative A – SNMREC’s original proposed action (SNMREC’s preferred alternative; Chapter 2.1, pgs. 5-30);
2. Alternative B – removal of high-traffic area from Alternative A (Chapter 2.2, pgs. 30-34);
3. Alternative C - removal of aliquot containing high slope hard bottom area (BOEM’s preferred alternative; Chapter; pgs. 34-35); and

---

<sup>1</sup> Prior to the issuance of this FONSI, DOE authorized SNMREC to use a percentage of the federal funding for preliminary activities, which include preparing this EA, preliminary project design and planning, in-lab design/build tasks, and accreditation/standards development. These activities are associated with the Proposed Project and do not significantly impact the environment nor represent an irreversible or irretrievable commitment by the DOE in advance of this finding for SNMREC’s Proposed Project.

#### 4. Alternative D - no action (Chapter 2.4, pg.35).

BOEM and DOE evaluated the potential environmental impacts of leasing public lands (BOEM's Proposed Action) and providing federal funding (DOE's Proposed Action) to the Proposed Project. The final EA is hereby incorporated into this FONSI by reference.

The Proposed Project would involve exploratory geophysical, benthic, and archaeological surveys, the installation and maintenance of up to three surface buoys moored to the sea floor, vessels tethered to the buoy(s) for turbine equipment testing, towed vessel testing of turbine equipment, and collection of metocean/environmental measurements. The objective of the Proposed Project is to characterize Florida Current conditions for energy generation, evaluate and develop turbine technologies, and provide preliminary observations of environmental interactions with ocean current turbines.

Standard operating conditions were developed through the analyses presented in Section 3.1 of the EA and through consultation with other federal and state agencies (Chapter 4.3). The EA considers the standard operating conditions to be part of the Proposed Project and alternatives (Chapter 2.1). As part of BOEM's Proposed Action, these will be incorporated as lease stipulations to reduce or eliminate the potential environmental risks to or conflicts with individual environmental and socioeconomic resources.

DOE places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. In addition to the standard operating conditions, SNMREC is committed to obtaining and complying with all appropriate federal, state, and local authorizations required for the project and will further minimize potential impacts through the implementation of best management practices. These and BOEM's lease stipulations will be incorporated and enforceable through DOE's financial assistance agreement.

#### **Context of Potential Impacts**

DOE must evaluate the significance of an action in several different contexts, such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

The Proposed Project is located approximately 16.7 to 27.8 km (9 to 15 nm) offshore of Fort Lauderdale, Florida where ocean bottom depths range between 262 and 366 m (860 and 1201 ft.). The Proposed Project would be implemented over a period of one to five years. Up to three buoys would be anchored on public submerged lands managed by BOEM. Cumulatively, the Proposed Project would disturb a maximum of 37.8 hectares of sea floor.

Based on the analysis in the EA, impacts of the Proposed Project would range from negligible to

minor due to the nature of the proposed activities (i.e., small project footprint and short duration), and actions are prescribed therein to identify and avoid sensitive seafloor habitats and cultural resources. The Proposed Project by itself would not cause any significant or cumulative adverse effects nationally, regionally, locally, or at the statewide level.

### **Intensity of Potential Impacts**

The following discussion is organized around the ten (10) intensity factors, described in the Council for Environmental Quality NEPA Implementing Regulations, 40 CFR 1508.27, which refer to severity of impact. The intensity of effects considered is in terms of the following:

#### *1) Impacts that may be both beneficial and adverse:*

The EA analyzed and considered the beneficial and adverse impacts for the implementation of the Proposed Project. The action alternatives would impact resources as described in Chapter 3 of the EA. Impacts identified in the final EA include possible impacts to: air quality (Chapter 3.1.1.1); water quality (Chapter 3.1.1.2); coastal habitats (Chapter 3.1.2.1); benthic habitat (Chapter 3.1.2.2); marine mammals (Chapter 3.1.2.3); sea turtles (Chapter 3.1.2.4); avian resources (Chapter 3.1.2.5); bats (Chapter 3.1.2.6); fish and essential fish habitat (Chapter 3.1.2.7); cultural resources (Chapter 3.1.3.1); commercial and recreational fishing activities (Chapter 3.1.3.2); recreational resources (Chapter 3.1.3.3); demographics and employment (Chapter 3.1.3.4); environmental justice (Chapter 3.1.3.5); and other uses of the OCS (Chapter 3.1.3.6).

Project design features such as marine animal vessel strike avoidance measures, seafloor geophysical and benthic surveys, endangered species observers, navigational aids and notices, and restricted operational timeframes have been established to minimize or eliminate potential adverse impacts to these resources. These project design features detailed in Chapter 2.1 and 2.3 of the EA shall be incorporated and are enforceable through BOEM's lease stipulations and DOE's financial assistance agreement.

The EA evaluated adverse effects of the Proposed Project separately from beneficial effects, to determine whether such adverse effects would have been significant in their own right, and no such effects were found to be significant. In no cases did the analysis in the EA use beneficial effects to offset the potential significance of any adverse effect. In addition, the EA did not use any long-term beneficial effects to offset the potential significance of any short-term adverse effects.

Accordingly, DOE concludes the Proposed Project will not have any significant adverse impacts and that the Proposed Project would have negligible to minor beneficial impacts to the resources evaluated in the EA.

#### *2) The degree to which the proposed action affects public health or safety:*

The EA evaluated and concluded that there would be no disproportionately high or adverse human health or environmental effects related to the Proposed Project. The EA addressed two potential impacts that the Proposed Project could have on public health and safety – release of emissions by project vessels (Chapter 3.1.1.1) and collisions with project equipment/vessels (Chapter 3.1.3.6). With respect to emissions, the EA concludes that due to the low level of emissions associated with routine activities, potential impacts to onshore ambient air quality from the proposed action would be negligible. Prevailing westerly winds would prevent pollutant emissions from drifting to onshore non-attainment areas from offshore areas and the proposed lease blocks, which are at least 12 miles offshore. Emissions from vessel traffic associated with the proposed action in ports and harbors would be negligible, if detectable, due to the low volume of vessel activity in comparison to the volume of pollution emitted by existing vessel activity in and around these areas. It is unlikely that vessels would collide with any of the Proposed Project buoys or deployment vessels during the installation, operation, relocation and removal of a buoy system and device testing due to compliance with U. S. Coast Guard marking and lighting requirements and guidelines, the use of active radar and AIS transponders alerting mariners to the presence of a buoy, and publication of testing locations in local Notices to Mariners. There are therefore no adverse effects expected to public health or safety. The Proposed Project would not be a likely target for intentional destructive acts that could further affect public safety. As presented in the EA, the Proposed Project will not cause any significant effects on public health and safety.

*3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas:*

While the EA identifies unique characteristics (ecologically critical areas) in the vicinity of the Proposed Project and evaluated the potential impacts of the Proposed Project on natural and cultural resources (Chapters 3.1.2 and 3.1.3.1), the impacts are expected to be minimal to non-existent. Benthic video surveys will be used to identify and avoid sensitive habitats prior to mooring installations.

The EA also identifies cultural resources (submerged and coastal) which might be affected by the Proposed Project. Although the project has the potential to affect cultural resources, those effects will be avoided with relocation of project components. As a part of the BOEM lease stipulations, all bottom-disturbing activities that may have impacted offshore archaeological sites (shipwrecks) will be relocated to areas within the leaseholds where offshore cultural resources are not located. Secondly, vessel traffic and lighted buoys that may have visually impacted onshore historic properties would be indistinguishable from other vessel traffic, and their effects will be minor and temporary in nature. Finally, based on a search of the Florida Division of Historical Resources Master Site File; information gathered for an updated study of archaeological resource potential on the Atlantic OCS that compiles information on historic shipwrecks and models the potential for pre-European contact sites based on reconstruction of

past landscapes, human settlement patterns, and site formation and preservation conditions; and consultations with the State Historic Preservation Office, there is considered to be no potential for the presence of submerged, pre-contact archaeological sites within the proposed action area. Therefore, while the potential exists for historic properties in the form of shipwrecks to be located within the Proposed Project area, and vessel traffic and buoys to be visible from onshore historic properties, there exists little to no potential for those resources to be affected.

Based on the analysis provided in the EA, DOE has concluded that the Proposed Project would not cause any adverse effects on unique characteristics of the geographic area.

*4) The degree to which the effects on the quality of the human environment are likely to be highly controversial:*

While BOEM received several comment letters from the public and other agencies on the EA which resulted in minor changes to the EA to add clarification or modify the outcome, nothing received as part of the scoping or public comment period indicated a high level of controversy regarding the Proposed Project. Accordingly, the effects of the Proposed Project are not highly controversial.

*5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks:*

Although some elements of the Proposed Project involve relatively new technology, testing and scientific peer reviewed research on the technology are sufficient to support the findings and assessment of effects outlined in the EA. The potential impacts to the human environment are fully analyzed and supported by previous projects, comparable marine technology, and studies and publications, as referenced in the EA. There is a low probability of highly uncertain effects or unique or unknown risks resulting from the Proposed Project.

*6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:*

The implementation of the Proposed Project is not likely to establish a precedent for future actions with significant effects. Because of the nature of this research project, it could provide beneficial guidance for future development and deployment of ocean current turbines. However, because the Proposed Project deployment is small- scale and temporary, it does not establish a precedent for future actions or represent a decision in principle about a future consideration. Neither scoping nor public comment for the Proposed Project raised any concerns pertaining to the appropriate scope of the Proposed Project, connectedness of other actions, or reasonably foreseeable future actions other than those considered. Accordingly, the Proposed Project would not establish a precedent.

*7) Whether the action is related to other actions with individually insignificant but cumulatively*

*significant impacts:*

Of the other activities that would occur during the five year lease term of the Proposed Project, the chief impact-producing activity would be vessel traffic. As discussed in Chapter 2.1 of the EA, it is anticipated that Port Everglades and the Port of Miami would be used by vessels supporting the Proposed Project. Between 275 and 475 total vessel trips would occur as a result of the Proposed Project over the 5 year BOEM lease term. These trips would be divided between Port Everglades and the Port of Miami. No expansion of either facility is anticipated as a result of either DOE's proposed action or the Proposed Project. The two existing ports are located in already heavily impacted areas, but the Proposed Project would add a relatively minor amount of additional vessel traffic (approximately 1-2 percent for Port Everglades and less than 1 percent for the Port of Miami), the incremental impacts to coastal habitats and the economy from onshore would be negligible, if detectable when compared to existing vessel traffic.

The Proposed Project, when evaluated together with other past, present, or reasonably foreseeable resource disturbing activities in the area, would not result in other cumulatively significant impacts at the local or regional scale.

The EA evaluated the Proposed Project in the context of other past, present and reasonably foreseeable actions. When considering other activities within the area affected, the cumulative impacts of the Proposed Project are anticipated to be minor. Whether the Proposed Project is related to other actions with individually insignificant but cumulatively significant impacts is discussed in the EA (Chapter 3.5). As supported by that discussion, DOE concludes the cumulative impacts of the Proposed Project would not be significant, and the Proposed Project is not related to other actions, that when combined, would have significant impacts.

*8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) or may cause loss or destruction of significant scientific, cultural, or historical resources:*

The Florida State Historic Preservation Officer (SHPO) indicated, in a letter dated June 21, 2011, that a review of the information in the Florida Master Site File indicates that there may be shipwrecks in waters offshore of Fort Lauderdale. However, because of the project location and/or nature, it is considered unlikely that historic properties will be affected. Therefore, it is the opinion of the SHPO that the Proposed Project will have no effect on historic properties listed, or eligible for listing in the National Register of Historic Places, or otherwise of historical or archaeological value.

No known historic or cultural resources have been identified in the project area, but measures to avoid any that may be discovered during mooring site surveys are described in detail in the EA (Section 3.1.3.1 and Appendix A) and will be enforced through BOEM's lease stipulations and provisions in DOE's financial agreement. The Proposed Project will have no adverse effect on districts, sites, highways, structures, or objects listed or eligible for listing in the National

Register of Historic Places, and there is no loss of significant scientific, cultural, or historical resources. Accordingly, DOE concludes the Proposed Project will have no adverse effect on districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places.

*9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (ESA) of 1973:*

As required by Section 7 of the Endangered Species Act (ESA), the National Marine Fisheries Service and U.S. Fish and Wildlife Service were consulted on potential impacts from the Proposed Project on endangered/threatened species and designated critical habitat under their jurisdiction. A complete list of assessed marine mammals and their status can be found in Table 3.6 of the EA. Analyses in the EA concluded that the impacts of the proposed action, in consideration of existing operating conditions and BOEM's lease stipulations (EA Section 2.1), are expected to be discountable and insignificant and thus not likely to adversely affect ESA-listed sea turtles, marine mammals, fish and birds. In addition, the EA concluded that the proposed action will have no effect on ESA-listed bats.

In a letter dated July 25, 2013, NMFS concurred with these findings. NMFS concurred that the proposed action "may affect, but is not likely to adversely affect", as defined in the ESA, the five ESA-listed species of sea turtles, eight species of whales (of which five are endangered), and the endangered smalltooth sawfish. Additionally, the USFWS concurred, in a letter dated February 27, 2013, that the Proposed Project, "may affect, but is not likely to adversely affect" the endangered West Indian manatee.

Florida Atlantic university will implement Best Management Practices for Avoiding Impacts (as described in the NMFS consultation letter), and will be enforced through BOEM's lease stipulations and provisions in DOE's financial agreement.

Based on analysis provided in the EA and consultations with the USFWS and NMFS, DOE has concluded that the Proposed Project will not adversely affect an endangered or threatened species or any critical habitat.

*10) Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the human environment:*

The Proposed Project does not violate any federal, state, or local law or requirement imposed for the protection of the environment. The SNMREC's commitment to obtain and comply with all appropriate federal, state, and local authorizations required for the project and to minimize potential impacts through the implementation of best management practices detailed in the EA shall be incorporated and will be enforceable through BOEM's lease stipulations and through provisions of DOE's financial assistance agreement.

**Conclusion:**

Based on the EA and the above considerations, DOE finds that the proposed action is not a major federal action that constitutes a significant effect on the human environment. This finding and decision is based on the consideration of DOE's NEPA implementing regulations (10 CFR Part 1021) and the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), both with regard to the context and the intensity of impacts analyzed in the EA. Accordingly, the proposed action does not require the preparation of an environmental impact statement.

For questions about this FONSI or the Final EA, please contact:

Laura Margason  
NEPA Document Manager  
U.S. Department of Energy  
Golden Field Office  
15013 Denver West Parkway  
Mail Stop: RSF DOE  
Golden, CO 80401

or

[GONEPA@go.doe.gov](mailto:GONEPA@go.doe.gov)

For information about the DOE NEPA process, please contact:

Office of NEPA Policy and Compliance  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585  
<http://energy.gov/nepa/office-nepa-policy-and-compliance>

Issued in Golden, Colorado this 13<sup>th</sup> day of November, 2013.



*FON*  
Carol J. Battershell  
Manager