MEMORANDUM

To: Elizabeth Ackerman, Director, Division of Economic Development & Planning

From: Anne Marie McShea, Program Administrator, Division of Economic Development & Planning

Cc: Marisa Slaten, Assistant Director, Division of Economic Development & Planning; Ken Sheehan, BPU Chief of Staff; Jake Gertsman, Legal Specialist; Frank Felder, Rutgers CEEEP

Subject: OSW CRA 2016-2018

Date: March 31, 2015

Following is a description of the NJ Offshore Wind Program and draft plan for inclusion in the Comprehensive Resource Analysis Plan (CRA) 2016-2018. Budgets have not been provided here but can be added in upon request.

Status of the New Jersey Offshore Wind Program

New Jersey’s Offshore Wind Economic Development Act, N.J.S.A. 48:3-49 et seq. (“OWEDA”), signed by Governor Chris Christie August 19, 2010, mandates the development of a minimum of 1100 MWs offshore wind resources when there is a demonstrated net economic benefit for New Jersey. OWEDA further directs BPU to establish an Offshore Wind Renewable Energy Certificate (OREC) Program in support of that goal and to establish an application process for interested OSW developers to apply to be eligible to receive ORECs. February 10, 2011 the BPU adopted rules N.J.A.C. 14:8-6 et seq., which were readopted with amendments on February 19, 2013. The rules establish the requirements for offshore wind (“OSW”) energy projects to qualify for ratepayer-based financing in the form of ORECs and provide an application process and a framework under which the Board will review any application and ultimately approve, conditionally approve, or deny the application. The cost of reviewing applications filed pursuant to OWEDA is reimbursed by the applicant.

Although OWEDA did not require the Board to promulgate rules implementing an OREC funding mechanism, the OSW developers expressed concern that these rules were a necessary signal to the
financial community and, therefore, should be adopted prior to the opening of an application window for OSW proposals. BPU staff has been engaged in a lengthy stakeholder process and worked with its consultant, Boston Pacific (“BP”), to develop a legally defensible funding mechanism. An OREC Funding Mechanism rule proposal has been drafted and is under review. The Board anticipates announcing an open application window for ORECs once the OREC funding mechanism rules have been proposed and the federal government completes the lease auction for offshore wind.

BPU is actively collaborating with the federal government to ensure that the lease auction for OSW proceeds in a manner to support the goals of OWEDA. On July 21, 2014, The Bureau of Ocean Energy Management (BOEM) of the U.S. Department of the Interior (DOI) published in the Federal Register, the agency’s Proposed Sale Notice (PSN) regarding commercial leasing for wind power development on the Outer Continental Shelf (OCS) offshore of New Jersey. BPU provided significant input to the process to establish the New Jersey Wind Energy Area and delineate the commercial lease zones to be auctioned for sale (See Figure 1) as reflected in the PSN. To date, BOEM has awarded seven commercial wind energy leases off the Atlantic coast and has announced that the next auction will be for leases off the coast of New Jersey with a Final Sale Notice (FSN) and auction expected to occur in 2015. During this CRA funding cycle (2016-2018) Staff proposes increased evaluation activities to prepare for the open application window and evaluation of OREC applications.

Goals

OWEDA calls for a minimum of 1100 MWs offshore wind resources to be developed by 2020. OSW projects must demonstrate a net economic benefit for New Jersey in order to be eligible to receive ORECs.

The Energy Master Plan (EMP) states that: “The RPS for Class 1 renewable energy resources increases over time, reaching 20% by 2021 and includes carve-outs for solar and offshore wind,” BPU regulations at N.J.A.C. 14:8-6.2(d) require that “A Statewide OREC target will be determined by the Board based on projected OSW production. The total will be allocated among all suppliers/providers in proportion to their retail sales.” The regulations further specify that “The Board will evaluate the credibility of asserted economic benefits.”

However, the Board has not yet approved any OSW Projects so a MWh goal for the OSW RPS carve out has not yet been set. In FY2016, emphasis will be on preparation for opening an OREC Application window and developing evaluation tools to help inform the cost-benefits analysis required of offshore wind projects.

Evaluations

Evaluation plays a critical role in New Jersey’s OSW Program considering that under OWEDA applicants must demonstrate a net economic and environmental benefit in order to be eligible to be approved for ORECs. BPU rules at N.J.A.C. 14:8-6.5 require applicants to submit a “cost-benefit analysis for the project, to show net benefits for the State, which shall include at a minimum: a detailed input-output analysis of the impact of the project on income, employment, wages, indirect business
taxes, and output in the State with particular emphasis on in-State manufacturing employment.” 1 The BPU rules further state that “the Board will evaluate the credibility of asserted economic benefits…” and that “the Board staff may test an applicant’s cost benefit analysis on its own model, which, preferably, would be the same one used by an applicant but it could be a different one, by replicating the analysis using model inputs supplied by the applicant.”

In FY2016 Staff proposes increased focus on the development of evaluation tools and resources in support of OSW. In October 2014 Treasury released an RFP for an Offshore Wind Economic Analysis Contractor to assist the Board with the evaluation of OREC applications and advise the Board on related matters. OWEDA provides that all costs for the evaluation of OREC Applications will be paid by the applicants. In addition to the Offshore Wind Economic Analysis Contractor, BPU has funded Rutgers CEEEP and Rutgers Institute of Marine and Coastal Sciences (IMCS) to provide advanced wind resource modeling and economic impact analysis. The objective of these studies is to provide the OCE with any integrated set of tools in order to evaluate OSW developer proposals for offshore wind projects in New Jersey. Rutgers CEEEP is working to link the various environmental and economic models (DAYZER, R/ECON, CMAQ, RU-WRF) to determine the direct and indirect economic impacts of a generic offshore wind project in New Jersey. Continued focus in this area will provide greater insight and the necessary tools to measure, evaluate and forecast the net economic and environmental cost-benefits associated with offshore wind projects.

Of particular note, Rutgers Institute of Marine & Coastal Studies has developed offshore wind resource models to assess offshore wind resources specific to New Jersey’s coastal area. To date NJBPU has invested over two million dollars in the model development/validation program, which includes coastal/offshore in-situ/remote sensing monitoring systems and dedicated computer systems. The RU-WRF modeling program has been developed, validated, and proven to be one of the most advanced models for analyzing and predicting the coastal/offshore wind resources. RU-WRF Model results can then be used by RU CEEEP to determine potential offshore wind energy distribution into the electrical grid and how this ingestion of supplemental energy can efficiently alleviate a substantial portion of the “congestion” that is experienced over certain areas of the grid, especially during periods of peak energy demand and the economic impacts of that resource. Additionally, CEEEP is using the wind resource data generated by the RU-WRF model to evaluate the impact of offshore wind development relative to the PJM wholesale market and related services.

FY2016 Evaluation Activities

In FY2016 staff proposes outreach activities to “highlight” our modeling efforts that will demonstrate why New Jersey’s program is considered innovative and more advanced when compared to other modeling programs used for offshore wind assessments and subsequent projections of offshore wind power production potential. Our intent is to continue to improve and update the model and associated monitoring network to ensure that the model performance conforms to or surpasses the current “state-of-the-science”.

1 The Board will not specify what input-output models are acceptable, and will allow applicants to use any model that successfully captures New Jersey economic benefits.
Until the wind developers submit their applications for developing offshore wind energy projects to be located within the BOEM NJ WEA, the RU-WRF model will be run and evaluated on a continuous basis to ensure adequate model performance while maintaining the resultant data files that will include both historical and current results. Consequently, the model and supporting data sets will be available in a timely manner when required for evaluating Offshore Wind Energy Development Applications. Also, in-situ and remote sensing monitoring technology used for model input and verification will be maintained, analyzed, and updated on a continuous basis to ensure that an acceptable percent of data capture is achieved. Therefore, costly “lag times” associated with model support will be avoided.

FY2017-FY2018 Evaluation Activities

Once the OREC funding mechanism (e.g., ORECs) and the BOEM NJ Lease Area auction has been completed, the wind developer applications should be submitted to NJBPU for evaluation. The Offshore Wind Economic Analysis Contractor will assist the Board with the evaluation of OREC applications. In addition, the OSW advanced modeling tools will be used to compare wind resource assessments and subsequent power production estimates submitted by applicants to determine if discrepancies exist and the potential economic impacts of the proposed projects. These results will be provided to BPU to be used as a basis for discussion and possible resolution of relevant issues associated with the information presented in the applications.

Jobs

Initial economic impact analysis conducted by CEEEP estimates that 1100 MW of OSW projects could create anywhere from between 38,200 and 100,400 career jobs within the next 20 years. Continued development of the OSW evaluation models will be important to understanding the key factors that contribute to jobs and evaluating applicant estimates about offshore wind jobs.
The NJ Wind Energy Area comprises a total of 343,833 acres, to be offered as two lease areas as shown in Figure 1: South LA consists of 160,480 acres and North LA consists of 183,353 acres. NJ WEA is capable of supporting a potential wind resource capacity ranging from 3,000 MWs to 3,400 MWs as estimated by NREL and Rutgers Institute of Marine and Coastal Studies (IMCS).