**COMMISSION TO STUDY OFFSHORE WIND AND PORT DEVELOPMENT**

**MINUTES – Nov. 16, 2020 \*\*\*DRAFT\*\*\***

**Commission members present:** Sen. David Watters – Chair, Michael Behrmann (Clean Energy NH) – Vice-Chair, Mark Laliberte (BEA alternate) – Clerk, Matthew Mailloux (OSI), Rep. Jane Beaulieu, Rep. Cathryn Harvey, Rep. Peter Somssich, Ted Diers (DES), Dianne Martin (PUC), Diane Foster (UNH), Jim Titone (Yankee Fisherman’s Cooperative), Tony Giunta (BIA NH), Vandan Divatia (Eversource), Jennifer Czysz (Strafford Regional Planning Commission), Cheri Patterson (NH Fish & Game Dept.)

**Also present:** Jay Borkland, Sr. Engineering Manager, Renewables Lead, Lloyd’s Register North America.

**NOTE: The meeting of the Commission to Study Offshore Wind and Port Development will take place via conference call or by virtual methods; details will be included in meeting announcements.**

*Meeting commenced at 3:05 p.m. by Sen David Watters. Sen. Watters also read the COVID-19 statement regarding electronic meetings pursuant by the Governor’s Emergency Order.*

**Minutes for October 19, 2020, meeting:** Approved *(first – Mailloux, second – Behrmann)*

**Presentation Focus Area: Offshore Wind Background Information**

**Jay Borkland, PG – Sr. Engineering Manager, Renewables Lead Lloyd’s Register North America:**

Borkland gave a presentation called “OSW Ports and NH Review and Opportunities.” He gave an overview of the industry as well as the floating turbines technology. OSW became a reality in 1990; with the largest windfarm slated is Vineyard 1 (800 MW). While most OSW projects are seabed-fixed, by 2030 floating turbines should provide a much larger share of energy. Another major development is vessel technology (which are carrying more people and parts). In addition, the size of the components are getting larger (one blade can be more than 320 feet long). The first OSW floating turbine projects in North America is in Maine (demonstration project near Monhegan, ME). As for ports in the U.S., there will need to be up to eight ports available; right now, there is only one ready to handle OSW production. In addition, there will need repair and operations ports, as well, which means there will be a need for around 30 ports in all. Portsmouth (Port of NH) could be one of those ports.

Borkland then discussed the anatomy of a port, discussing how New Bedford’s port was updated for OSW. He then went into the “competitor ports,” which would also be available for collaboration. That includes ports in RI, NY, MA, and overseas. He then discussed marshalling port (ports for construction of wind farms, active for 3-4 years but may have down time; and operations and maintenance ports (ongoing beyond the construction of wind farm). There are more than 100 ports in the U.S. that could be fitted for OSW, but only New Bedford is ready to go now.

Borkland said the cost for floating OSW is coming down to parity with fixed-bottom. In addition, there are discussions on the different type of turbines that could be used to generate similar amounts of energy. This includes the types of materials that are used.

Martin asked about tension-leg moorings and if it has been successful. Borkland said these have been successful on oil and gas installations, but not as much focus on OSW. Sen. Watters asked how hydrogen technology changes this. Borkland said in the North Sea, there is hydrogen OSW happening. There is a lot of speculation OSW farms could provide hubs for hydrogen fuel as well as transmission lines. While there is there a hybrid component for hydrogen development at ports, he said a lot of this is preliminary. Foster asked where the limitations are for tension-leg moorings. Borkland said they are looking at other systems and the technology transfer has not happened yet.

The second part of his presentation was how the Port of NH could get ready for OSW. The first consideration are the bridges. There are three bridges in the Piscataqua River that can limit some of the port options. As for assets, the main one is Schiller-Newington Station (Newington and Portsmouth), which can be used as a distribution center or some limited construction. In addition, Pease Tradeport has a lot of opportunities as a manufacturing hub. Also, the Navy facility at Portsmouth Naval Shipyard (Kittery, ME) that may be an additional resource.

Borkland sees opportunities for construction, manufacturing, and O&M bases in the Portsmouth area. O&M can be done on 15-20 acres, which NH could accommodate. As for collaboration, there are places in ME and MA where all parties can collaboration. Footprint Power Site in Salem could build the turbines after Schiller manufactured the floating platforms.

Finally, financing stacks for them are complicated. They include property developer, OEM, and private funding; federal grants, state input, group financing, and “blue bonds.” (The World Bank says Blue Bonds are *“a debt instrument issued by governments, development banks or others to raise capital from impact investors to finance marine and ocean-based projects that have positive environmental, economic, and climate benefits.”*)

Rep. Somssich said there are rail lines that can be utilized for OSW. He also asked about hydrogen and wanted to make sure this be a part of the conversation. Borkland said rail connection can be a major benefit, especially for manufacturers. Giunta asked for questions about the financial stack; is there any way to do a “permitting stack.” Foster discussed workforce needs. She asked where there is a hole in education. Borkland said there is a layered system; while many are highly trained, there is a myriad of needs. Beyond engineers and scientists, there is a huge need for the technicians, manufacturers, and welders. Getting out ahead of this is important.

**Commission Planning**

Behrmann discussed the path for OSW Commission meetings in the future. In December, the plan is to meet with Massachusetts and Maine officials to connect and get communications going. In addition, here are five topics (with subtopics) that can be a part of the 2021 agenda.

**Environmental and Community Impacts**

* Public/recreational perceptions
* Fisheries
* Community/Seacoast comments and involvement

**Economic Development**

* Academia/Innovation/R&D
* Supply chain development
* Developer perspectives

**Site Capabilities**

* Port(s) status and needs
* Energy storage incorporation

**Infrastructure and Transmission**

* Floating wind technology
* Electric markets/Procurement/Transmission
* OSW financing

**Federal and Regional Issues/Activities**

* BOEM needs/updates
* How OSW auctions work
* MA/ME activities and areas of collaboration

Ted Diers said mapping and the Ocean Data portal can be important presentation. Rep. Somssich thinks the old prison at PNS may be worth considering.

**Public Comment**

**Jeffrey Dickinson**: caution that hydrogen is great, but it could complicate OSW and slow things down.

**Next Meeting**

The next commission meeting will be at **3:00 p.m.; Monday, December 21**.

*Meeting adjourned by Sen. Watters at 5:00 p.m.*