

**MEMO**

**To: Alex Elvin**

**From: Carlos Pena and Richard Andre**

**Date: March 19, 2021**

**Re: Combined Supplemental Information Provided through March 19, 2020**

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**MEMO**

**To: Alex Elvin**

**From: Carlos Pena and Richard Andre**

**Date: March 1, 2021**

**Re: Response to February 2 Commissioner and staff comments on Tisbury Marine Terminal expansion (DRI 699)**

**HOUSING AND EMPLOYEMENT**

Thank you for providing a list of questions and comments on the Tisbury Marine Terminal (TMT) expansion (DRI 699), and in particular with respect to the local hiring and employment plan. You asked that the plan address 7 key points, which we reprint below. As we have discussed, TMT is not able to prepare the final plan because that plan must be developed by TMT's future tenant(s), which we assume to be a developer of Offshore Wind Projects, or contractors working to support those same projects.

TMT recognizes that some of the conditions in the eventual DRI approval pertaining to the local hiring and employment plan relate primarily to the tenant(s) who will be doing the local hiring and employment. TMT would agree to include a requirement in lease(s) associated with Offshore Wind Projects that obligate the tenant to develop a local hiring and employment plan addressing each of these 7 key points as they relate to that specific tenant. TMT would conduct the work if the tenant does not complete the plan. TMT would then submit the plan to the MVC.

In addition, we have been able to provide general responses to those 7 key points, not specific to one particular tenant. We have reprinted your questions below along with responses to the extent available

**1. Provide a Local Hiring and Housing Study Plan, as mentioned on Jan. 25. This should include the following:**

**How you will you reach the goal of 100% on-Island employees within 5 years of the start of operations**

The specific path to 100% on-Island employees will be developed by the future tenant(s). However, Table 1 (below) summarizes the typical Operation and Maintenance (O&M) job titles, descriptions, anticipated qualifications, and average salaries, as presented by the [Massachusetts Clean Energy Center \(MassCEC\) Offshore Wind Assessment](#) (further discussed as the response to question 5). The office and warehouse support (onshore) personnel skills are anticipated to be opportunities easily transferrable from existing on-island industry competencies. In addition to these jobs, turbine technicians (offshore) and mariners (offshore) will be needed throughout the lifespan of a wind farm. Although many of the skills and training requirements for these positions are unique to the Offshore Wind industry, Martha's Vineyard residents currently work in related jobs involving similar skills. Examples include employees currently in the maritime trades, radio, cellular, & tower equipment installers & repairers, electric/electronic repairers, commercial and industrial equipment operators, industrial machinery mechanics, and machinery maintenance workers. In addition, trade workers and construction laborers who worked in construction are considered potentially well qualified to transition into this role. In the offshore industry a person with no experience over the course of 5 years, can development the skillset and knowledge to excel into more senior level positions.

Vineyard Power Cooperative (Vineyard Power) has established a local based workforce development program to develop a ready supply of O&M Technicians & Mariners that meet the anticipated demand. Vineyard Power has been assisting the TMT in developing and permitting its offshore wind hub to attract offshore wind developers to benefit the community. In partnership with Adult and Continuing Education of Martha's Vineyard (ACE MV), it is supporting Martha's Vineyard residents with offshore workforce development by organizing promotion and outreach events, coordinating on-island enrollment, offering tuition assistance and academic support in the following programs offered at Bristol Community College and other leading Massachusetts educational institutions:

- Offshore Wind Power Technician Certificate (accredited)
  - Certificate courses can be applied to the Associates program.
- Associate in Science in Engineering Technology (Offshore Wind Power Technology) (accredited)
- Maritime Science Certificate (accredited)
  - Certificate courses can be applied to the Associates program.
- Associate in Science in Engineering Technology (Marine Science and Technology) (accredited)
- Drone Technology Certification (accredited)
- Protected Species Observer Certification
- Professional Development Education
- Includes GWO Training

To date, Vineyard Power has conducted 4 Open House information sessions where members of the public were able to learn about the offshore wind industry and the many career opportunities. In addition, Vineyard Power and ACE MV will schedule at least two Open House information sessions each year over the next two years. This will be supported by advertising in local newspapers and amongst the Vineyard Power Cooperative membership. Finally, each year there will be presentations, through the Martha’s Vineyard Regional High School’s Exploratory Program, to every freshman student.

Currently ACE MV is reimbursing 50% of the cost of tuition through the funding the offshore wind industry, in partnership with the Commonwealth, has brought to the island.

These training programs indicate that on-island competencies would be in place as early as December 2021. There are currently 16 island-resident students enrolled and the first cohort of students is completing their third semester of a four-semester certificate, with the second cohort beginning this past January. Future cohorts are expected to enter the program each semester with capacity up to 22 persons in each cohort. Students that complete the program would be accredited qualified candidates for OSW-related positions.

The Tisbury Marine Terminal anticipates that any future Tenant will have access to on-island competencies and supported through the ACE MV’s workforce development programs described above.

References:

- <http://www.bristolcc.edu/about/pressandmedia/nationaloffshorewindinstitute/>
- <https://www.acemv.org/wind/>

**List of proposed job titles and descriptions, including typical qualifications**

The [2018 Massachusetts Offshore Wind Workforce Assessment](#) provides a comprehensive analysis of the workforce needs and economic development impacts associated with the deployment of offshore wind in Massachusetts. The report describes the jobs associated with planning, constructing, and servicing offshore wind projects and provides information on the education, skills and health and safety credentials required for each job. The table below summarizes the potential Operation and Maintenance (O&M) job titles, descriptions, typical qualifications, and salaries. Please note that all salaries are indicative and shown are in 2016 wages and thus are expected to be higher at the time a tenant commences its hiring and employment plan. The specific hiring needs, credentials, and salaries will be determined by the Tenant, but TMT expects will be similar to those in Table 1.

**Table 1: Expected Job Titles, Education Credentials, Average Wages and Descriptions**

Potential Job Titles <sup>1</sup>	Common Education Credentials	Average Annual Wage	Description <sup>1</sup>
<b>Onshore</b>			
<b>OSW Plan Operator(s)</b>	Bachelor’s	\$75,820 <sup>2</sup>	Direct all O&M activities and daily activities of power generation, coordinate teams of technicians, contractors, and equipment suppliers, and manage the supply of components that operations must maintain to service turbine.
<b>Warehouse</b>	Associate’s	\$105,810 <sup>2</sup>	Completes various management, organization and planning tasks to maintain high

<b>Manager / Storage &amp; Distribution Manager</b>			performance of the warehouse's storage and shipment processes. Is aware of the safety regulations and have experience managing the logistics of an industrial supply chain.
<b>Electrical Engineer</b>	Bachelor's	\$108,990 <sup>2</sup>	Primarily responsible for remotely monitoring the OSW plant's electrical systems and power production levels during the O&M phase to ensure that the turbines are functioning properly and efficiently. This position requires a bachelor's or master's degree in electrical engineering, experience working in the electrical transmission or generation industry, experience with Supervisory Control and Data Acquisition (SCADA) or other supervisory control systems, and training from turbine equipment manufacturers on proprietary software and hardware.
<b>Mechanical Engineer</b>	Bachelor's	\$94,500 <sup>2</sup>	Support the maintenance team by developing and executing a service and maintenance plan, and supervising a team of technicians, occasionally offshore.
<b>Quality Engineer / Manager</b>	Bachelor's	\$91,930 <sup>2</sup>	Assist the O&M team with developing and maintaining quality control standards for turbine operation and maintenance. This position requires a bachelor's or master's degree in engineering with a concentration in civil, electrical, or mechanical engineering, and an understanding of how the different systems of a turbine interact to produce energy efficiently, and what interventions improve energy production.
<b>Health and Safety Engineer / Manger</b>	Bachelor's	\$98,310 <sup>2</sup>	Develop and maintain compliance for safely performing maintenance on the turbines, crew transfer, and warehouse duties. This position requires a knowledge of turbine systems and the duties of O&M workers to understand the limitations of components and potential hazards, and a bachelor's degree in engineering with experience in industrial health and safety monitoring.
<b>Maritime</b>			
<b>Water Transportation Workers</b>	Postsecondary Training or Associate's	\$60,480 <sup>2</sup>	Include all vessel crews, such as captains, mates, and ship engineers, responsible for transporting turbine components to the wind farm site and piloting vessels. Workers would need to be trained in general sea safety techniques and have experience in piloting ships in a working industrial harbor and specific training on how to operate in a marine construction environment.
<b>Offshore</b>			
<b>O&amp;M Technicians</b>	Postsecondary Training or Associate's	\$67,000 <sup>2</sup>	Account for the bulk of the O&M workforce. They conduct both routine and emergency maintenance on all equipment inside the nacelle after receiving training from the manufacturer. Becoming an O&M technician requires a high school diploma and knowledge of turbine mechanical, hydraulic, and electrical systems. Willingness and physical stamina to work in hazardous conditions is critical. Trade workers/construction laborers who worked on the construction of the wind farm are considered well qualified to transition into this role.

<sup>1</sup>Massachusetts Clean Energy Center: "2018 Massachusetts Offshore Wind Workforce Assessment" [LINK](#)

<sup>2</sup>U.S. Bureau of Labor Statistics (2016, wages); O-Net; Renewable UK; U.S. Department of Energy

<sup>3</sup>U.S. Bureau of Labor Statistics (2019, wages)

### **Proposed salary range (or median salary) for the O&M employees**

Please see response above.

Utilizing Table 1 above, TMT anticipates that a typical offshore wind facility will employ up to 40 positions, which are broadly described above. The economic benefit of this employment will be \$3.0 million per year in direct wages and \$1.0 million per year in indirect wages for a total economic benefit of \$4.0 million per year in 2018 dollars over the expected 20- year operations.

### **Existing and future efforts through ACEMV and MVRHS related to offshore wind careers**

TMT through its partnership with Vineyard Power has enabled the funding of no less than \$240,000 to Adult Community Education of Martha's Vineyard to prepare a local workforce to become offshore wind technicians and mariners and consider in good faith additional funding requests or funding opportunities if more funding is required. This effort:

- a. Secured funding of approximately \$240,000 in support of the ACE MV programs
  - i. It is anticipated future funding opportunities will be provided as the offshore wind industry begins construction and operations from 2022 on.
- b. Martha's Vineyard residents enrolled in the workforce development programs offered on island currently receive tuition support.

- c. There are currently 16 [island resident] students enrolled, and we anticipate an additional 8 or more new [island resident] students each semester over the next two years.

#### **The UMass economic benefit study mentioned on Jan. 25**

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The **2018 Massachusetts Offshore Wind Workforce Assessment** can be accessed at the following link: [MassCEC OSW Workforce Assessment](#). Authors include UMass Dartmouth Public Policy Center, Bristol Community College, Massachusetts Maritime Academy, and Massachusetts Clean Energy Center.

#### **The number of current TMT employees, and how many live on the Island**

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All TMT employees are Island residents.

#### **Compliance with MVC Housing Policy**

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##### **PROPOSED OFFERING TO DEMONSTRATE COMPLIANCE WITH THE 2019 MVC HOUSING POLICY**

The Applicant shall mitigate impacts to the availability of affordable housing by demonstrating that Applicant or its Tenant(s):

- (1) Set a goal that 100% of year-round employees will be Martha's Vineyard residents within 5 years of any Tenant commencing operations at the Site.
  - a. Applicant will satisfy this requirement directly or include a requirement in future leases that Tenant will (a) prepare a **local hiring and housing study plan** by no later than 6 months prior to the Tenant occupying the facility and (b) explore all of the local opportunities on island to help tenant work toward the goal. If Tenant does not prepare a plan, then Applicant will prepare the plan directly.
- (2) Include in the **local hiring and housing study plan** referenced in condition (1), a housing study no later than 6 months prior to any Tenant commencing operations at the Site. Specifically, the plan will identify how the Applicant, or Tenant, intends to address housing for the Tenant's employees. Once completed, the Applicant or Tenant will present the local hiring plan and housing study to the Commission.
- (3) Consistent with the flexible application of the Martha's Vineyard Commission's Housing Policy, in lieu of (1) and (2), the Applicant may propose alternate approaches acceptable to the Martha's Vineyard Commission, consistent with sections 1.4 and 3 of the Housing Policy for intensity code 1 (warehouse, distribution, wholesale) for a non-residential DRI.

Reference -

2019 MVC Housing Policy: [MVC Housing Policy](#)

#### **TRAFFIC**

##### **2. Explain in more detail how increasing the capacity of the barge operation will affect SSA traffic, traffic on Beach Road, the number of modular home shipments, and congestion at Five Corners.**

The Tisbury Marine Terminal provides critical and essential services for the entire economy of Martha's Vineyard. The terminal currently receives and transports approximately 84,000+/- tons of cargo and 53 modular homes annually. This is the equivalent of 6,500+/- one-way truck trips, or 25,000 passenger vehicles, that are not transported by the Steamship Authority ferries. In addition, the terminal provides alternative off-peak transportation for island cargo that would otherwise be shipped through the SSA terminals at Vineyard Haven & Oak Bluffs. The enhancement of the terminal will not only improve island resiliency it will enable future opportunities to haul trash, wastewater, hazardous materials, and sand/aggregate with potential additional benefits of removing noxious cargo from ferries and parking lots.

##### **3. Describe what types of vehicles arrive at the TMT site on a typical day, and how that will change.**

The enhancement and expansion of the terminal will not increase freight or traffic and that any expansion is tied to the overall growth of the island economy. If economic growth is assumed at 4% per annum, this would equate to an additional 260+/- one-way truck-trips per year from the terminal.

## TIMING AND LOGISTICS

**4. Provide an estimated timeline for construction, hiring, and operations, and show how it aligns with the timeline for the development and operations of offshore wind.**

TMT's anticipated construction timeline assumes the first OSW farm will enter commercial operation in 2023. Because O&M facilities must be constructed and on time well before OSW operations begin, TMT plans to commence construction immediately after (1) permitting is completed and (2) a tenant is selected. The construction is anticipated to take 18 - 24 months and must begin by fall 2021 for the facility to be complete in May/June 2023. TMT expects completion by that this time will be required to service the first OSW project. Even if the tenant is not associated with the first OSW project, TMT will work on the same schedule to ensure readiness when the facility is needed. TMT anticipates that its Tenant will begin hiring in advance of occupancy and therefore agrees to include a requirement in future leases that Tenant will prepare a local hiring and employment plan by no later than 6 months prior to the anticipated date of commencement of O&M operations for offshore wind as mentioned in PROPOSED OFFERING TO DEMONSTRATE COMPLIANCE WITH THE 2019 MVC HOUSING POLICY offering (1).

**5. Submit the minutes of the SSA Long-Range Vineyard Transportation Task Force meetings at which the TMT project has been discussed.**

Please find these at the following links: [SSA Meeting Minutes 10/22/2020](#), [SSA Meeting Minutes 11/19/2020](#)

**6. Explain how the Vineyard Wind lease will affect funding for the TMT project, including a timeline, and whether the terminal portion would move forward regardless of the wind farms.**

Without attracting an offshore wind tenant, the proposed upgrades would likely be significantly scaled back.

## GENERAL COMMENTS

**7. Show how the public platform is incorporated into town planning in terms of pedestrian use.**

TMT project team met with the Open-Space committee and resolved to assess their request to extend the Beach Platform along the seawall to the TMT crosswalk via an 8' to 10' wide timber boardwalk. Said construction of a boardwalk will require the reduction of the proposed TMT timber pier.

**8. Confirm that there will be three barge ramps, and which ones will be in the water vs. on land.**

TMT is proposing three (3) new barge ramps to replace the existing facility. TMT is proposing to permit all three (3) barge ramps for either land-based or seaward construction along the new bulkhead. At this time TMT is planning to construction only the easterly barge ramp over the water. The two (2) westerly barge ramps will be decided at a later stage.

**9. Consider moving the fence located to the east of the entrance to the other side of the landscaped area (away from the road).**

TMT has modified the plans & rendering to relocate the fence and add MassDOT approved landscaping within the Beach Road right-of-way (ROW).

**10. Show the location of lighting on both the O&M and terminal portions of the site.**

TMT is proposing to have lighting at each of the barge ramp towers in compliance to the International Dark Sky (IDS) regulations.

**11. Provide plans showing that the utilities will be underground.**

TMT submitted proposed site condition plans show all underground utilities with connections to Beach Road.

**12. What reviews and/or approvals are needed in regard to the underground fuel tanks?**

TMT is not proposing any underground fuel tanks.

**13. Identify a permitted beach nourishment site (or sites) on the Island, with compatible sand, for the dredge materials.**

TMT is proposing to provide suitable beach nourishment sand for the Beach Platform and other MV beaches if deemed suitable by the U.S. Army Corps of Engineers and the Department of Environmental Protection. Future TMT terminal maintenance dredging projects may provide a potential source of beach nourishment sand for the island.

**14. Identify who will maintain the small beach on the eastern edge of the site.**

TMT shall construct the small beach along Beach Road if permitted. The responsibility to maintain will be discussed with the Town of Tisbury.

**15. Provide a landscape plan showing the use of shrubs and other vegetation in place of grass.**

TMT has provided a landscaping plan and adopted previously approved Beach Road plantings for the MassDOT project.

**16. When will the essential fish habitat study (either draft or final) be available?**

TMT is finalizing the EFHS with our sub-contractors and expects to submit same as part of the MVC process. We anticipate this to be completed mid-March.

**17. Please indicate whether the site entry area can accommodate an elevated Beach Rd. without significant disruption to the proposed infrastructure, if the road needs to be elevated in the future.**

The proposed TMT terminal will be constructed at elevation 6.0' NAVD88, the new Beach Road pavement following reconstruction by MassDOT will be approximately 4.1 NAVD88 requiring the proposed driveway apron to provide a grade transition between the said elevations. If Beach Road is elevated in the future, the TMT apron could be reconstructed to accommodate the raising of Beach Road anywhere between two (2') and four (4') feet within the presently accepted roadway transition slopes.

**Also note what measures could be taken up-front to mitigate disruption if the road is elevated, and whether those measures will be pursued.**

In addition to the above stated, the TMT bulkheads will be designed to accommodate up to a two (2') foot future height increase, if deemed necessary.

**18. Please indicate whether shoreside charging infrastructure for the vessel fleet will be pursued in the future, and any factors that might enhance or preclude those efforts.**

TMT is planning to provide standard water, sewer pump-out, electricity and other utilities for the terminal berths. In the event future development of supporting vessels require shoreside charging infrastructure, TMT future tenant may assess viability of said facilities.

**COMMENTS ON THE PRESENTATION**

**19. Start with the big picture, including location, goals, etc., then describe the benefits.**

TMT presentation will be streamlined to focus on critical elements of the proposed project and community benefits.

**20. Describe the purpose of the facility, and what activities will occur there.**

TMT will present both the proposed O&M Facility and the improved TMT Terminal operations.

**21. Keep the slides simple, remove any unnecessary text or symbols.**

TMT will streamline our presentation.

**22. Be sure to explain what elements are still to be determined, including the vehicle pier material and location of the barge ramps.**

TMT is proposing to construct the O&M Facility and improve its present TMT Terminal as proposed on our plans. Any flexibility provided in the permit and design plans for the project are intended to permit the future tenant to customize the site within the bounds of the permitted project.

**23. Describe how TMT affects Vineyard Haven Harbor as a whole, including how the project might benefit other uses including recreational boating.**

The TMT O&M Facility will serve as a hub for the offshore wind industry, strategically located near the wind farm lease sites in the only deep-water harbor on Martha's Vineyard. The upgrades to the TMT Terminal will provide enhanced terminal facilities for the transports of bulk, cargo and other products essential for life on the island of Martha's Vineyard. The project will be a gateway into the harbor and the new breakwater will provide protection for commercial and recreational boating in the harbor.

**Please describe TMT's Typical Operations Schedule**

Tisbury Marine Terminal's (TMT) Operation and Maintenance (O&M) facility is being designed and constructed to initially service one or more 800 MW to 1,600 MW wind farms in the Massachusetts/Rhode Island Wind Energy Area located in federal waters south of Martha's Vineyard. O&M activities are supported by a number of onshore and offshore supporting mechanisms to minimize potential downtimes and allow for the regular, effective, and uninterrupted flow of maintenance activities. The proposed O&M Facility includes office space, a warehouse, harbor area and quayside, and outdoor laydown area with car parking and shall be dimensioned to facilitate 25 to 40 personnel including office staff, and warehouse managers and technicians.

The building, including both warehouse and office space, will support the offshore wind operations. The office facilities for the staff will include reception, offices, meeting rooms, and welfare facilities. The office will have high speed internet capabilities for daily use. The warehouse will be designed to provide a safe and efficient operational flow and will include storage space for O&M consumables, access doors for deliveries, forklift and/or lifting facility for loading and receiving equipment, drying facilities for survival suits, lockers for personal protection equipment (PPE), hazardous product area in accordance with applicable Laws, and other required maintenance equipment.

A combination of accommodation vessels, crew transfer vessels and potentially helicopters are utilized during a wind farm's operation and maintenance phase. The TMT O&M facility will be the centralized location for O&M operations including material storage, day-to-day management of the wind farm, and dispatching of technicians. Due to the water depths in Vineyard Haven Channel and proximity to the Massachusetts/Rhode Island Wind Development area, crew transfer vessels (CTVs), service accommodation and transfer vessels (SATVs), and/or smaller monitoring vessels can be expected operate from TMT's O&M facility.

- Crew transfer vessels (CTV) are mainly used to transport offshore personnel and smaller cargo units and serve as 'point-to-point' shuttle vessels. CTVs can be used in water depths of 9 to 13 ft (3-4m) and have a typical draft of 6.5 to 9 ft (2-3m)
- Service accommodation and transfer vessels (SATV) are fully equipped, live-aboard vessel, that enables technicians to live comfortably on board without requiring daily port calls. This vessel is larger than a CTV and can remain out in the wind farm area for longer periods of time returning for spare parts, crew transfers, and refueling once to a few times a week. SATVs can be used in water depths of 9 to 16 ft (3-5m) and have a typical draft of 6.5 to 13 ft (2-4m)
- Other survey/monitoring vessels could be utilized for environmental mitigation or other miscellaneous/unscheduled maintenance work

Helicopter(s) may be used to support the vessel logistics. Note the supporting helicopter if required would not operate from TMT's proposed O&M facility.

The logistical approach will aim to have shared use, where possible, to maximize efficiency and minimize any potential environmental impact of the transport of personnel, materials, and tools. Depending on the logistics strategy selected and frequency of port calls, the daily workflow may vary at the O&M facility. Vessels, such as the SATV, may remain out in the wind farm area for a few days or a week at a time while others, like the CTV, will make daily trips to and from the wind farm area. Unexpected maintenance activities can reasonably be expected year-round. Due to higher accessibility, lower wind

speeds, and favorable working conditions (e.g., weather and wave height), more activities can occur during the summer months to complete anticipated and scheduled maintenance activities.

Office staff and warehouse managers are expected to arrive and depart the O&M Facility each day during typical working hours arriving in the morning and departing in the afternoon. As frequently as daily, technicians are expected to arrive to the site in the morning. An example of a typical daily workflow of technicians can be found in Figure 1 below. When technicians arrive, they will need to change into their protection equipment (PPE), gather maintenance equipment/tools, and be briefed on the activities of the day(s) including participation in safety trainings. When the vessel(s) are at the O&M Facility berthing area, they will be carefully loaded by crane from the quayside with any of the required maintenance equipment and spare parts for the particular activities of the day(s). The technicians are expected to then sail offshore, complete the maintenance activities, and return to the O&M facility at the end of the workday/week. Upon returning, the technicians will handle any waste, finish required reporting, utilize welfare facilities, and return home.

### Example of a typical daily workflow

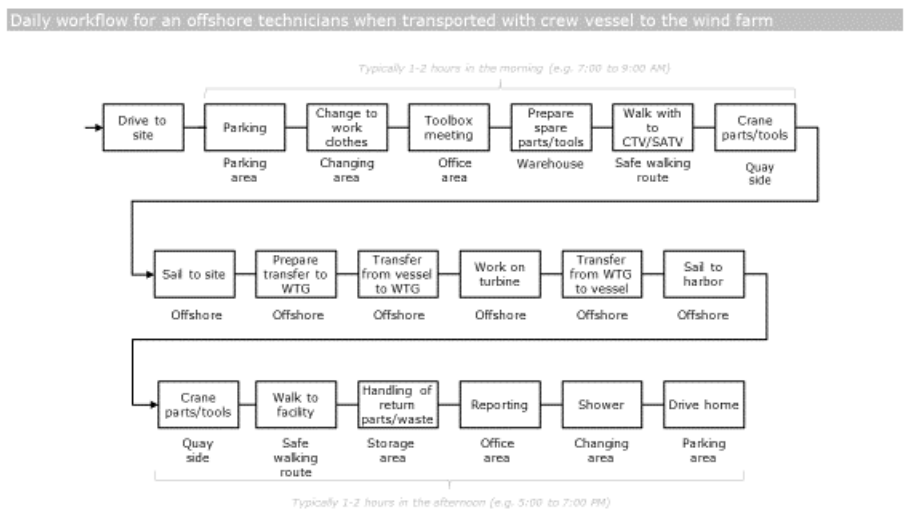


Figure 1 Example of a Typical Daily Workflow

#### MEMO

To: Alex Elvin

From: Carlos Pena and Richard Andre

Date: Pre-LUPC Review 11/24/2020

Re: Supplemental Information shared prior to the LUPC hearings on Tisbury Marine Terminal expansion (DRI 699)

#### Describe Economic Development & Workforce Options

The Massachusetts Clean Energy Center *2018 Massachusetts Offshore Wind Workforce Assessment* provides a comprehensive analysis of the workforce needs and economic development impacts associated with the deployment of 1600 megawatts of offshore wind in Massachusetts. The report describes the jobs associated with planning, constructing, and servicing offshore wind projects and provides information on the education, skills and health and safety credentials required for each job. Importantly, the report highlights the opportunities for Massachusetts residents to work in this emerging industry and identifies recommendations and key strategies to better position the Commonwealth, offshore wind industry, educational institutions, non-profits, and labor to develop and serve a burgeoning offshore wind workforce.



During the Operations & Maintenance phase of a project, the turbines, foundations, cables, and other components are inspected regularly, and any necessary repairs or upkeep are performed. These functions are needed during the full life of a wind farm which is estimated in excess of 25 years creating a project's longest lasting jobs. Beyond direct job opportunities, the offshore wind industry according to the Massachusetts Offshore Wind Workforce Assessment, will bring induced impacts driven by the reinvestment and spending of earnings by direct and indirect beneficiaries associated with increased business at local restaurants, hotels, and retail establishments.

Operating and maintaining offshore wind projects will require workers drawn from a diverse range of occupations that represent a wide distribution of skill and educational levels, ranging from white collar jobs such as environmental scientists and engineers to blue collar jobs such as machine operators. The workforce needs of offshore wind projects are well aligned with the education and skill levels of Southeast Massachusetts (SEMA) residents; a region characterized by traditional blue-collar urban areas bordered by more affluent suburbs. In referencing the *2018 Massachusetts Offshore Wind Workforce Assessment*, it is anticipated that in order to initially service 800 MW to 1,600 MW projects, up to 40 personnel including office staff, and warehouse managers and technicians could be required. Unexpected maintenance activities can reasonably be expected year-round. More activities can occur during the summer months to complete anticipated and scheduled maintenance activities.

Further, the broad occupational needs of projects also provide opportunities for project staff to work their way up the occupational ladder within the emerging Offshore Wind (OSW) industry, whether through continuing education or on-the-job training and acquired experience during the project period. Notably, these steady and well-paying jobs will have a significant positive impact on Martha's Vineyard economy, which experiences severe seasonal fluctuations in employment due to its large tourism and building trades dependent economy. Adding long-term and high-quality year-round employment will significantly increase the number of opportunities for local workers to obtain presently unavailable stable sources of full-time year-round income.

Additionally, this proposed upgrade to the Tisbury Marine Terminal is consistent with the town's strategic objectives of maintaining a working waterfront and improving the Beach Road corridor for both business and recreational uses. The Vineyard Haven Harbor has been registered District of Critical Planning Concern (DCPC), by town residents in 2000, with the purpose to maintain and enhance the cultural heritage and economic vitality of the Vineyard Haven Harbor and waterfront, and to protect the health, safety and well-being of Town residents and visitors. Specifically, these regulations seek to maintain the Vineyard Haven Harbor as a year-round working waterfront with facilities for loading and unloading bulk cargo; to promote the Town's longstanding tradition of marine industries, services and maritime hospitality including ship design, building, and repair, traditional sail training and sailing yacht charters, and the provision of necessary services to visiting mariners; to enhance and protect views of the harbor and pedestrian access along the waterfront by discouraging waterfront development and by maintaining the beaches in their natural, unimpeded and unimproved condition; to protect fish, shellfish and wildlife habitats and improve water quality; to provide residents with opportunities for marine recreation; and to promote harbor safety, avoid harbor congestion and prudently manage the limited navigational resources of the harbor. The proposed upgrades will increase tax revenue and act as a local stimulus for the island economy.

Vineyard Power is assisting the local business, the Tisbury Marine Terminal, in promoting an opportunity for the development of their Vineyard Haven harbor facility as an offshore wind hub in order for the community to capitalize on the opportunity to provide key services to the burgeoning Massachusetts offshore wind industry. The Vineyard Power Cooperative, a member owned 501-c-12 non-profit, that is based on the island of Martha's Vineyard was formed in November 2009, with a Mission is to produce electricity from local, renewable resources while advocating for and keeping the benefits within our island community and its Vision is to make the island of Martha's Vineyard 100% renewable in electricity, transportation, and home heating by 2040.

TMT has signed an Option Lease agreement with Vineyard Wind, contingent upon the Tisbury Marine Terminal Offshore Wind Hub being permitted and constructed in alignment with Vineyard Wind's construction schedule. Assuming Vineyard Wind achieves its required federal permits and meets other milestones, Vineyard Wind would likely be the first lessee of TMT's Offshore Wind Hub.

In January 2015, Vineyard Wind and Vineyard Power signed the nation's first, federally recognized, offshore wind Community Benefit Agreement (CBA) in the United States for offshore wind development. Vineyard Power Coop and Vineyard Wind's CBA aims to bring specific value from offshore wind development to Martha's Vineyard including, but not limited to, locating an operations & maintenance facility in Vineyard Haven harbor, local funding for workforce education & training, funding the development of solar & storage projects that will enhance the island's resiliency.

In May 2018, in a major step forward for the only Island-based partnership in the race to develop offshore wind, Vineyard Wind won the right to negotiate a 20-year state contract to build an 800-megawatt wind farm south of Martha's Vineyard. At the time of the announcement Governor Charlie Baker said, "By positioning Massachusetts as a hub for the emerging offshore wind industry, this competitive procurement will ensure the Commonwealth continues to lead the nation in innovation and renewable energy generation." The administration stated that the Vineyard Wind project wound up being ranked number one in a complicated evaluation process, partly because of its stated commitment to community benefits, including workforce training.

Massachusetts Secretary of Energy and Environmental Affairs Matt Beaton said, "A lot of folks on the Vineyard are well aware of the Vineyard Wind team creating their new home on the Vineyard, their commitment to wanting to make sure this first, largest-in-the-nation offshore wind development not only delivers in a cost-effective way, but in a socially and environmentally responsible way". He concluded: "This puts Martha's Vineyard back in the spotlight for all the reasons we know — it is a place that is environmentally conscious . . . and now it has the potential to lead the way in creating clean energy for all of Massachusetts through offshore wind farms."

**In summary, the Tisbury Marine Terminal's Offshore Wind Hub could deliver the following:**

**Economic Benefits:**

- Will provide much needed year-round jobs for our island community.
- These jobs are anticipated to last for the entire project- which is expected to be for 25 years.
- This new sector will require technical skills and will diversify of our island economy.
- Brings economic development to our community by providing new economic opportunities in the offshore wind industry.

**Environmental Benefits**

- Will support the reduction in global greenhouse gas emissions by providing critical services required to support offshore wind farm.
- Support of critical offshore wind farm infrastructure projects will be the biggest single measure we can take that addresses our need to mitigate climate change and have a positive impact on sea level rise and reduce potential negative impacts to our coast shorelines and ocean acidification impacts.

**Aligns with the Town of Tisbury Goals**

- Project proposed upgrades to the Tisbury Harbor are consistent with the Town's strategic objectives of maintaining a working waterfront.
- Will improve the Beach Road corridor for both business and recreational usages.
- Enhance public access to the shoreline while maintaining the working waterfront
- Will support our efforts to become a 100% fossil fuel free economy.

**Other**

- Project will maintain and improve Tisbury Marine Terminal marine infrastructure for critical island services
- Will create a centralized control facility that has the unique ability to provide operational and maintenance services for offshore wind farms.

**References Documents**

Massachusetts Clean Energy Center: "2018 Massachusetts Offshore Wind Workforce Assessment"  
<https://files.masscec.com/2018%20MassCEC%20Workforce%20Study.pdf>