SUMMARY OF THE MEETING OF THE
WOODS HOLE, MARTHA'S VINEYARD AND NANTUCKET STEAMSHIP AUTHORITY

May 26, 2022

The Members of the Woods Hole, Martha's Vineyard and Nantucket Steamship Authority Board held its monthly meeting on Thursday, April 26, 2022, at the Authority's Administrative Offices, 228 Palmer Avenue, Falmouth. All five Board Members were present and participated via Zoom videoconferencing: Chair Moira E. Tierney (New Bedford); Vice Chair Robert F. Ranney (Nantucket); Secretary Robert R. Jones (Barnstable); James M. Malkin (Dukes County); and Peter J. Jeffrey (Falmouth).

1. General Manager Robert B. Davis provided additional information on the Fleet Useful Life and Functional Obsolescence Survey that was initially presented at the April 19, 2022, Board Meeting, which showed that the "useful life" of the Authority's vessels has not corresponded to actual use, based on earlier surveys performed in 2012 and 2018, and in some cases the vessels have far surpassed those estimates thanks to the Authority's rigorous maintenance programs.

2. Communications Director Sean F. Driscoll provided the following updates on the website redesign and mobile app development project:

   - The ADK Group design team continued with user dashboard and profile management designs and began work on the fares and discounts site, as well as creating profile and logging in prototypes. User testing was run in parallel for these features to gain feedback to integrate into those designs.
   - The ADK tech team worked on API documentation, tested the ability to create a user and check the gift card balance through the API, and continued to develop the booking bar flow and list of reservations in a user's dashboard.
   - The Authority hosted an ADK Group on-site visit May 11-12, when nine members of the design and development team visited the Authority's facilities in Woods Hole, Vineyard Haven, Hyannis, Nantucket and Mashpee to get a ground-level view of the operations, meet with key personnel, and get a flavor of the Authority's operations, including parking, terminal functions, vessel loading, concessions, reservations, IT, and reservations.

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- The team described the experience as "invaluable" to continued development of the site and mobile app, and smaller on-site visits are likely to continue.
- Public engagement has been ongoing via the bi-weekly eNews and website updates at www.steamshipauthority.com/webproject.

3. Director of Marine Operations Mark H. Amundsen provided an update on the pier repairs at the Oak Bluffs Terminal, which include wrapping 236 piles and installing six (6) new piles. The project was completed April 29, 2022, at a cost of $1,419,524.

4. Health, Safety, Quality and Environmental Manager Angela M. Sampson presented an update on the Safety Quality Management System (SQMS), including an April 14, 2022, management review to discuss and review the status of the SQMS implementation, and the first monthly safety meeting held on April 21, 2022. Subsequent safety meetings will be held the third Thursday of the month. John Hess from SMS LLC also conducted Terminal and Facilities Operation Manual (TFOM) training with maintenance foremen and managers at the Administration Office on May 3, 2022.

5. The Board voted to approve the proposed winter and spring 2023 operating schedules for the Martha's Vineyard and Nantucket routes. The 2023 operating schedules from January 3, 2023, to March 27, 2023, would start two (2) days earlier and end two (2) days earlier than in 2022 for both routes. The 2023 operating schedules from March 28, 2023, to May 17, 2023, would start two (2) days earlier and end one (1) day later than in 2022 for both routes. Neither route would see any changes to trip times, quantity of trips or vessel crewing during these schedules.

6. The Board authorized me to execute a license agreement amendment with Cape & Islands Transport, Inc. (d/b/a Falmouth-Edgartown Ferry) by allowing Cape & Islands Transport to operate the *M/V Water Taxi* in addition to its previously approved vessels, the *M/V Pied Piper* and the *M/V Sandpiper*, in conducting its seasonal passenger transportation service between Falmouth Inner Harbor, Falmouth and Edgartown Memorial Wharf, Edgartown. Cape & Islands Transport provided that CIT will include all passengers carried aboard the *M/V Water Taxi* in the number of passengers for which it is required to pay a license fee.

7. Representatives from Elliott Bay Design Group (EBDG) presented the results of a feasibility study for alternative vessel propulsion as part of the Authority's vessel replacement program. EBDG has worked with a number of ferry operator on the feasibility of electric propulsion, including for new vessels that are under design or existing vessels due for repowering.

   Since EBDG designed the Authority's most recent vessel, the M/V Woods Hole, the study was conducted using that vessel characteristics as the baseline for the study.

   The scope of EBDG's objective under the project included:
   - Gather data on the daily energy profiles for both the Martha's Vineyard and Nantucket routes.
   - Energy profiles to include hotel loads for both summer and winter service.
   - Identifying propulsion loads for various weather conditions.

- Gather data on existing electric grid and utility rate structures.
- Establish evaluation criteria within three (3) defined categories (vessel emission reductions; operating costs; and capital costs).
- Examine five (5) different scenarios including the baseline:

    1. Geared diesel propulsion with diesel generators (current)
    2. Diesel-Electric plant with small battery bank to allow all-electric operation when in the berth (no shore charging)
    3. Diesel-Electric plant with battery bank sized for brief increases in power demand should a generator fail (no shore charging)
    4. Diesel-Electric with large battery bank sized to handle 50% of operational time as all-electric
    5. All-Electric operation with rapid charging on both sides of route (only applies to Martha's Vineyard route)

- Identify, for each scenario, the size of battery bank and associated electrical generation and calculate the associated operating costs, fuel savings and emission reductions.
- Estimate the capital costs for each scenario compared to baseline, including modifications to terminals and utility supply lines.

The report's conclusions were as follows:

> *Of the five options considered, Option 1 (diesel mechanical) produced the most emissions and was the cheapest propulsion configuration. Option 5 was the closest to zero emission (wake-side) configuration and was also the most expensive to procure. The diesel hybrid options (Options 2-4) produced emissions similar to, but less than the diesel mechanical option with CO2 emission reductions ranging from 7% - 8% depending on the load conditions of the propulsion generators.*
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> *Capital costs for the propulsion systems were higher the more emissions were reduced. The increase in cost amongst the hybrid and all electric options was largely related to the quantity of batteries needed in each powering scenario.*
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> *Future studies and analyses could be performed to better define a vessel optimized for an all-electric or hybrid option. There is likely a sweet-spot design that would work well on both routes. An all-electric configuration for the Hyannis – Nantucket route was not considered in this study, and the quantity of batteries for that application would likely be prohibitive. An evaluation of the existing M/V WOODS HOLE hold space for fit of a diesel hybrid propulsion configuration is recommended.*
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> *This study did not consider any alternate fuels such as methanol, hydrogen, or ammonia as potential vehicles for emissions reduction relative to diesel. To do so would require an in-depth analysis of the supply chain of such fuels.*

The full report is available online at www.steamshipauthorty.com/green.

8. The Board approved the 2023 budget policy statement, noting that the proposed 2023 operating schedules to date, along with the current version of the 2022-2027 vessel repair schedule, were used for the basis of estimating next year's cost of service. He said he expected to review the preliminary 2023 Operating Budget with the Port Council and Board at their September meetings.

9. Treasurer/Comptroller Mark K. Rozum reviewed the 2021 analysis of rates versus cost of service report.

   On the Martha's Vineyard route, the cost of vessel operations and of indirect non-vessel costs increased by $2,797,361 during 2021 versus 2020, a 4.5% increase. Direct vessel operating expenses increased by $2,536,983 or 8.4%, versus 2020 as this increase is attributed to the increase in the quantity of trips that operated in 2021 compared to 2020 due to the impacts of COVID-19 in 2020. Increases in fuel costs were offset by decreases in vessel dry-dock and repair expenses on this route during 2021. Indirect non-vessel operating costs increased by $260,378, or 0.8% during 2021 and reflects increased terminal costs associated with the increase operating schedule.

   On the Nantucket route, the cost of vessel operations and of indirect non-vessel costs, after the allocation of indirect expenses to the *M/V Iyanough*, increased by $1,532,344 during 2021 versus 2020, a 4.2% increase. Direct vessel operating expenses increased by $500,209 or 2.4%, primarily attributed to increases in the quantity of trips that operated in 2021 compared to the reduced operating schedule in 2020 due to the impacts of COVID-19. Increases in vessel fuel oil expense and increased operating costs associated with the operating schedule returning to normal on this route during 2021 were offset by decreases in vessel repairs and dry-dock costs. Indirect non-vessel operating costs increased by $1,032,135, or 6.3% during 2021, primarily because of the increased costs associated with operating the Nantucket and Hyannis Terminals due to the operating schedules returning to normal levels compared to the prior year due to COVID-19.

10. The Board authorized me to proceed with two procurement items:

    - Contract No. 11-2022, Electric Bus Charging Station – Hyannis and Falmouth, with Coveillo Electric & General Contracting Co. of North Reading, Massachusetts, for $366,000.
    - To purchase two (2) 21-foot shuttle buses the lowest responsive contractor, Creative Bus Sales of Hudson, New Hampshire, for a total price not to exceed $217,324.

The next monthly Board meeting is currently scheduled for 9:30 a.m. June 21, 2022. Please look for the formal notice for the meeting that will appear on this website. Thank you.