
**Boston Duck Tours RFI Questions**

1. **Question: Is 900-lbs the total weight allowed for the 240kWh requirement?**
    a. Answer: The 900-pound weight requirement is per battery needed to meet the 240-kWh requirement. It is expected that 2-4 batteries will be required. It is desirable that all batteries needed to meet the 240-kWh requirement do not exceed 3,600 pounds total.

2. **Question: Are the dimensions provided the space for all of the batteries?**
    a. Answer: Yes.

3. **Question: Do you have a single line diagram of the vessel?**
    a. Answer: No answer at this time.

4. **Question: Do you have operational and load flow details of the vessel?**
    a. Answer: Can you clarify if you're asking for a wiring schematic and electrical load details of all systems on board or something else?

5. **Question: What are the expected delivery dates for the battery systems?**
    a. Answer: No definitive dates are planned; broadly, sometime in 2026.

6. **Question: Please confirm if IP65 DNV Marine Classed battery would be acceptable**
    a. Answer: This appears to be a dust and water jet resistance rating. While it would be good to have the IP65 rating alongside UL1642 or IEC 62619, the IP65 alone would not be sufficient.

7. **Question: Please clarify if 240kWh is total energy consumed or gross capacity of battery**
    a. Answer: 240 KWH should be enough energy of all the batteries in the system combined to power our vehicle for a day of use. Extra if necessary is desired.

8. **Question: What is the expected life of the battery system prior to replacement?**
    a. Answer: At least 10 years.

9. **Question: What level of vibration and shock resistance should we consider?**

a. Answer: Nothing out of the ordinary. The battery has to be encased in a steel housing which they would solidly mount it to the vessel hull.

10. **Question: Is 3.600 lbs total battery system weight? Are higher weight allowed?**
    a. Answer: Yes, the total battery system weight. A total weight above this is not ideal.

11. **Question: What is the maximum discharge power?**
    a. Answer: They expect to use 200 kWh per day.

12. **Question: What is the kW charging power available?**
    a. Answer: Chargers have not been purchased yet. They will buy chargers that can fully charge the battery overnight.

13. **Question: How long is the charging duration?**
    a. Answer: 6-8 hours of charge time will be available.

14. **Question: How many charging events per day?**
    a. Answer: None during the day. The batteries should be able to fully charge in 6-8 hours.

15. **Question: How many charging events per year? (if not every day)**
    a. Answer: Every day during their 8-month operation season and much less during the offseason.

16. **Question: Could you communicate expected:**
    - The quote date?
    - Order date?
    - You may answer the above as indicative timelines – it is for internal planning on our side

    a. **Answer:** There is no set date for the quote or order yet. Responses to this RFI are due on July 14, 2025. Boston Duck Tours will then review responses and determine if they'd like to move forward with any vendors.

17. **Question: With regards to maximum discharge power: We appreciate the indication of 200kWh per day energy usage. We kindly ask you to indicate the maximum kW as well (not kWh).**
    a. **Answer:** There is no maximum kW to use for charging, but it is desired not to have it exceed 150 kW due to infrastructure costs.

18. **Question: Have you selected a motor? If so, which? If not, what are the power requirements for both land and sea, or what is the existing power plant? It is important for us to know so that we can match batteries with the chosen motor.**
    a. **Answer:** Boston Duck Tours is considering using the Cascadia im425 motor, but have not purchased it yet.

19. **Question: What is the plan for the driveline? Retain existing? Plan to connect the electric motor to an existing transmission?**
    a. **Answer:** Boston Duck Tours will be removing the existing engine and transmission on their ducks and replacing them with the IM 425 motor and a Sigma Powertrain Emax 3 speed electronic gearbox. The Emax transmission should bolt up to the existing driveshaft behind the current transmission.

20. **Question: What is your expected charge rate/time?**
    a. **Answer:** The vehicles will have 6-8 hours to charge per day. It is preferred to keep the charge rate 150 kW or less, but chargers have not been purchased yet.

21. **Question: What low-voltage auxiliary systems are required? Fans? PA? Entertainment?**
    a. **Answer:** Boston Duck Tours plans to keep their existing 12-volt batteries (they have two) to power their stereo system/PA system, all the vehicle lighting, interior cooling fans, radios, etc. They will need a charging source to keep the 12-volt batteries charged while the vehicle is in operation (similar to their current alternator). They will also need a heater for the fall months. They planned on using 12-volt electric heaters unless the battery cooling system could provide cabin heat.

22. **Question: What are the auxiliary hydraulic or pneumatic systems and requirements?**
    a. **Answer:** They will need a hydraulic pump to operate their power steering and power brake booster properly. It will need to provide 1800-2000 psi hydraulic pressure.