

**ADDENDUM No. 1**

**Skagit County Public Works**

**June 8, 2020**

**Request for Information (RFIs) for the**

**Skagit County  
Guemes Island Ferry Replacement Project #ESMVGUE-1**

**NOTICE TO VENDORS**

**We have received the following questions from vendors and our response is listed with each item: See attached Request for Information Questions Log**

**END OF ADDENDUM No. 1**

**RESPONSES ARE DUE BY: Tuesday, June 30, 2020, and must be emailed to Captain Rachel Rowe, Ferry Operations Division Manager, at [rrowe@co.skagit.wa.us](mailto:rrowe@co.skagit.wa.us)**



Captain Rachel Rowe,  
Ferry Ops Division Manager



Paul A. Randall-Grutter, P.E.  
County Engineer

Question No.	Description	Response
1	I do not see any mention of MCS/ABS requirements. Can you confirm that the vessel will NOT be machinery classed?	The vessel will be inspected as a small passenger vessel through the USCG and will not be classed
2	Are there any specific environmental/pollution requirements for the vessel? I do not see any mention of this but I assume VGP 2013 will be required?	We have no specific pollution requirements beyond what is required for the Vessel General Permit 2013 and as an inspected passenger vessel
3	Have controllable pitch propellers been discussed for this project? Would Glosten like to see this as an option?	If you feel that controllable pitch propellers would provide an efficiency improvement over fixed pitch then we would be happy to learn more. That said, we would recommend that you justify the extra maintenance and capital cost through energy savings to demonstrate that it makes sense.
4	Does this project require tests beyond what is already listed in ASTM F3353?	It is intended the installation comply with CG-ENG Policy Letter 02-19, which requires testing in accordance with ASTM F3353. ASTM F3353 provides applicable testing required from IEC 62619 and UL 1642.
5	"The load profiles listed in Table 4 reflect the battery power required for each propulsion battery bank." Does this mean the power for the vessel is double the power in the tables?	Paragraph 001.1.2 should read "The load profiles listed in Table 4 reflect the combined power required from the two propulsion battery banks."
6	Can you provide a complete understanding of the meaning of the probabilities in Table 4 of the Vessel Electrical System document?	Table 4 lists the cumulative probability load profiles for propulsion batteries based on weather and tidal predictions. The probabilities listed indicate the annual cumulative probability that the required load profile power will not be exceeded. For example, there is an 80% probability weather conditions will be such cruise power from Anacortes to Guemes will not exceed 776.4 kW. Above the 95% probability weather the generator is turned on to assist in propulsion, resulting in battery power reduction.
7	Are you open to looking at a 750 VDC-grid solution or would we need to provide justification to deviate from 1000 VDC?	Although the VES RFI was written with 1000 VDC configuration, we are open to other possible configurations. Please provide support to justify the deviation with special attention to how a change would impact major equipment such as propulsion motors, battery banks, ASCS, and SES.
8	Are demand charges assessed all day, or only certain times?	Demand charges are assessed at the highest demand established during the month.
9	Is the shoreside battery bank in place because the required power isn't available from the utility, or is it a cost optimization to limit the demand charges?	The utility expressed concern with meeting required peak power without shoreside batteries. The shoreside batteries are planned for two-fold benefit of allowing a smaller utility connection and optimizing demand charge.

10	<p>Please advise if Skagit/Glosten has preference for proposed 208Y/120V switchboard to be supplied by:</p> <p>(a) 2x50% power from each side (20kW)</p> <p>(b) 2x100% with full power from each side (40kW)</p>	<p>The AC ship service distribution bus should have redundant feeds per RFI table 3. Please proceed with option (b).</p>
11	<p>What is the expected load for 480V switchboard (AC Supplemental Distribution Swb)? 50A? or 550kW (equal to Standby Generator rating)?</p>	<p>The AC supplemental distribution bus should be rated for the full standby generator rating (550 kW). This will allow the generator power to be used for propulsion when needed.</p>
12	<p>What is the geometric limitation of motor L-drive?</p>	<p>The L-drive has limited headroom for the motor below the car-deck structure. The available headroom for the L-drive and motor (combined) is shown in the Propulsor RFI. Until an L-drive unit is selected, it will not be possible to define the exact requirements of the motor. You may include a compact PM motor as a placeholder in the offer until such time as a propulsor unit is selected.</p>
13	<p>Please advise the rating kVA for Transformer 1; Transformer 2; Transformer 3?</p> <p>For AMS (Alarm &amp; Management System):</p> <p>(a) How many IO's are expected?</p> <p>(b) How many control station required? Should we assume same as per PMS screens (3x total: (1) at main switchboard + two (2) at each pilothouse control stations per RFI).</p>	<p>Electrical system design is still preliminary, please assume 0.8 PF. AC ship service distribution transformers should be ~50 KVA each and AC supplemental distribution should be ~700 KVA.</p>
14	<p>We have installed similar zero emission projects, and as such, have accrued intellectual property and the design methodologies that could be compromised if revealed to the public. Our team stands ready to provide basic equipment weight and size information required for Glosten to validate the vessel's General Arrangement and conceptual design, but much of the detail requested cannot be released without non-disclosure agreements in place. Will this type of high-level information be sufficient for the purposes of this submission?</p> <p>For the structure of the proposal submission, would you prefer 4 separate submissions or have a single document?</p>	<p>The vessel systems are not fully designed yet.</p> <p>(a) Please assume 100 direct /O with serial connections as necessary as described in the RFI.</p> <p>(b) Please assume three (3) total screens as you indicate.</p>
15	<p>Who is the specific contracting authority for this Project – Glosten or the County?</p>	<p>Skagit County is not able to sign a NDA and all information provided will be subject to Freedom of Information Act (FOIA) requests. Glosten is seeking equipment weights and sizes to validate the design, as well as ROM cost estimates to help with project budgets. Through a separate selection process (RFP), a vendor(s) will be awarded the contract for this equipment but even at that time, an NDA will not be possible. We encourage you to participate in this process but understand if this limitation prevents you from doing so.</p>
16	<p>Who is the specific contracting authority for this Project – Glosten or the County?</p>	<p>Either method is acceptable.</p>
17	<p>Who is the specific contracting authority for this Project – Glosten or the County?</p>	<p>Skagit County is the contracting authority, but for this specific Request for Information, no contract will be issued.</p>

You are correct, values in Table 4 of the Vessel Electrical System RFI should be the below for the 99.7% Probability Schedule Slip columns.

Operation	99.7% Probability	
	Time [minute]	Power [kW]
Maneuver	0.97	877.90
Ramp Up	0.78	669.61
Cruise	1.20	483.42
Ramp Down	0.78	204.12
Maneuver	1.32	877.90
Unhook/Load	10.57	169.82
Maneuver	0.97	877.90
Ramp Up	0.78	669.61
Cruise	1.20	483.42
Ramp Down	0.78	204.12
Maneuver	1.32	877.90
Unhook/Load	1.00	15.50
Unhook/Load (charging)	9.75	-901.28

The cumulative load profile data for the “Schedule Slip” condition appears to be a copy and paste of the “Average Run” condition. It is understood that the generator will be operational during the “Schedule Slip” condition, but we want to confirm that the values provided are indeed correct.

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Is the standard operating procedure for this ferry to yaw over and rest on the starboard dolphin using the aft thruster while loading/unloading? Are there any instances where the aft marine structures are not used during loading/unloading? And lastly, does the terminal experience severe weather and oceanographic conditions?

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You will find vessel yaw limits as well as other vessel motion limits discussed in the Automatic Shore Connection System RFI, section 001.2. The terminal does experience high tidal currents and is exposed to wind driven waves. Additional information can be found in the Concept Design Report, Section 4.3. <https://www.skagitcounty.net/Departments/PublicWorksFerryReplacement>

The RFI documents state that charging will not be performed while the ship is unmanned. This could have significant design implications and we would like to confirm that this is a hard requirement. Can you confirm the periods of the day when the ship will be unmanned, and thus charging will be unavailable?

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The vessel is not crewed when not in service, allowing for a 30-minute buffer for start-up and shutdown. If additional or overnight charging is required, protective measures will need to be provided to ensure this operation can be performed safely when unattended.

Would Skagit County be willing to entertain alternative solutions to what has been proposed that may save on overall infrastructure costs, or does the current package describe the desired configuration?

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Skagit County and Glosten are open to alternative solutions that provide cost advantages while meeting the intent outlined in the RFIs.

Are organizations permitted to discuss integration details with the Puget Sound utility. If so, is there a contact available for the project.

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Questions for the utility (Puget Sound Energy) should be submitted to Skagit County.

<p>23</p>	<p>Upon review of the current ferry schedule, it was noted that there are extended layovers throughout the day where the vessel could be given additional charging time. Should the current ferry schedule be used as the basis of calculation?</p> <p>The table 4 (cumulative probability load profiles for propulsion battery based...):</p> <p>a) Does it include the hotel load usage of the AC Ship Service Distribution - 40kW (or ~50kVA transformer)?</p> <p>b) Does it include the aux supply needed for the Bridge console and Propulsion L-drive Aux (pump, cooling fan, etc)?</p>	<p>The current ferry schedule does have layovers throughout the day however these pauses in service are likely to be filled in by additional runs as ridership grows or during peak season travel. The ferry shall be designed to run continuously throughout the operating period without breaks in the schedule.</p> <p>a) Yes, Table 4 includes 40kW for ship service distribution in the power numbers listed.</p> <p>b) Table 4 is intended to be a summary of loads measured at connection to the DC propulsion switchboard. It is assumed aux supplies needed are part of the 40kW ship service estimate or accounted for in the efficiency assumptions of the L-drives.</p>
<p>24</p>	<p>What are these redundant requirements, do we need to provide additional equipment in case of fail-ure?</p> <p>Do you require an additional main transformer and ac/dc converters installed in the shore side electrical house, or just spare parts?</p>	<p>Redundancy of vessel equipment to mitigate failure should be considered but there are no requirements to provide redundant equipment outside of what is stated in the RFI.</p> <p>Only a single AC/DC converter and rectifier transformer is required at the point of common coupling. The last sentence of Section 001.2 "Redundant AC/DC converter and rectifier transformers shall be provided" should be removed.</p> <p>The ASCS vendor can provide a recommendation based on the system interfaces outlined in Section 001.5 System Integration. This will be discussed in further detail as the design progresses.</p>
<p>25</p>	<p>Number of pilot pins needed?</p>	<p>The ASCS vendor to propose communication method and data transmission speed. Proposal shall meet the requirements outlined in Section 001.5 System Integration with wired communication anticipated over industrial ethernet and wireless communication provided for remote monitoring and fault indication.</p>
<p>26</p>	<p>Communication method between shore and vessel? Speed of data transmission?</p>	<p>RFI Section 001.1.4 Power Management System (PMS) describes VES scope related to alarm, monitoring, and control.</p> <p>Bridge consoles are not in the scope defined for VES, but two (2) pilothouse control stations should be provided for integration into the consoles.</p>
<p>27</p>	<p>Does the VES need to integrate with the Bridge Console or IAS/Integrated Automation System?</p> <p>Does the VES scope include Bridge Console and IAS?</p>	<p>RFI Section 001.1.4 Power Management System (PMS) describes VES scope related to alarm, monitoring, and control.</p> <p>Bridge consoles are not in the scope defined for VES, but two (2) pilothouse control stations should be provided for integration into the consoles.</p>
<p>28</p>	<p>Do you have Integrated Alarm and Monitoring System?</p> <p>Does the VES scope include Bridge Console and IAS?</p>	<p>RFI Section 001.1.4 Power Management System (PMS) describes VES scope related to alarm, monitoring, and control.</p> <p>Bridge consoles are not in the scope defined for VES, but two (2) pilothouse control stations should be provided for integration into the consoles.</p>
<p>29</p>	<p>Do you have Integrated Alarm and Monitoring System?</p> <p>Does the VES scope include Bridge Console and IAS?</p>	<p>RFI Section 001.1.4 Power Management System (PMS) describes VES scope related to alarm, monitoring, and control.</p> <p>Bridge consoles are not in the scope defined for VES, but two (2) pilothouse control stations should be provided for integration into the consoles.</p>

<p>Can you indicate roughly dimensions for the planned battery room(s). If not available yet, can you indicate usable height for equipment in the battery room?</p> <p>30</p>	<p>Tentatively each of the two battery rooms are approximately 16' x 10' x 9' (L x W x H). Height listed is clear height above grating and below overhead structure. Please note these dimensions are subject to change based on information provided in the RFI's.</p>
<p>What is the upstream over current protection provided by the utility??</p> <p>31</p>	<p>The utility connection will be upgraded as part of the ferry replacement work. Utility connection details have not yet been designed.</p>
<p>Who is the utility provider and is it possible to share single point of contact for further discussion on the regulations of authorities and state regulations?</p> <p>32</p>	<p>Utility provider is Puget Sound Energy, please read RFI Section 001.3 for further information. Opportunities to discuss details with the utility will be possible at a later time. Currently, regulatory requirements are addressed in RFI Section 00.5.5 and all other questions should be addressed to Glostsen.</p>
<p>Is there any specific requirement for E-House, ie, can the switchgear and transformers be pad mounted outdoors? Can batteries be located in a separate house?</p> <p>33</p>	<p>There is no specific requirement other than what is outlined in the RFI. A 20' x 40' space reservation has been allocated. Please propose the preferred configuration which balances cost, maintenance, and total space.</p>
<p>What is the absolute maximum area we have for the land side shore electrical system (SES) equipment/house(s)?</p> <p>34</p>	<p>A 20' x 40' space reservation has been allocated.</p>