

**ADDENDUM No. 2**

**Skagit County Public Works**

**September 2, 2021**

**Request for Proposals for the  
Selection of the Electrical Systems Integrator For  
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. 2**

**RESPONSES ARE DUE BY: Thursday, September 16, 2021, and must be emailed to Jacob Gerlach, Marine Engineer Glosten, at [jmgerlach@glosten.com](mailto:jmgerlach@glosten.com)**



**Captain Rachel Rowe,  
Ferry Ops Division Manager**



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

No.	Question	Response
20	Do the selected L-drive propulsors require bidirectional motors?	L-drive selection is not final, but bidirectional motors are not required.
21	Is crash stop accomplished L-drive rotation(180°) or motor reversal?	Normal and emergency reverse thrust will be accomplished by L-drive rotation
22	Can Section 005.1 be amended to allow automatic start of the auxiliary generator? This would benefit periods of unusually high propulsion loads or scheduling issues.	<p>The battery max power requirement (lines 297-299) provides sufficient margin for all propulsion loads. Scheduling issues will occasionally warrant operation of the generator to reduce charging time, but assessing the usefulness of the generator requires knowledge of whether the limiting factor for dock time in Anacortes is vehicle loading/unloading or charging, so it is not clear how this could be automated.</p> <p>Notwithstanding, the purpose of the generator requirements given in lines 535-536 is to simplify the requirements for the PMS. If providing automatic start simplifies your solution or reduces cost, it is acceptable.</p>
23	Is alternate connection of the auxiliary generator via the 480VAC Supplemental Bus 3S allowed for consolidation of inverters and grouping of similar voltages?	<p>Our baseline design in the 2020 RFI had the generator on 3S. Several responses recommended relocating it to the DC switchboard to reduce the cost/weight of the associated transformer.</p> <p>We anticipate specifying an appropriate alternator voltage for the genset so that it can be connected to the DC busses via rectifier without need for a separate transformer, and that this type of arrangement will provide the lowest overall cost and weight. Alternate arrangements can be considered, but should be justified with clearly stated tradeoffs for cost, weight, and reliability.</p>
24	Is battery fresh water cooling supplied by shipyard or should it be included in VES supply? (Section 002.1.4)	<ul style="list-style-type: none"><li>•The shipyard will supply a central freshwater or chilled water system as required to reject battery and switchboard heat to sea.</li><li>•Cooling equipment integral to switchboards, including FW/FW heat exchangers and pumps, should be included in the VES scope if recommended by the integrator. Supply/return for these units will be by SY.</li></ul>
25	In the VES Specs (Table 3) and SES Specs (Table 5), the ASCS interface is listed as 1.85MW. In the ASCS Specs (Table 7), the ASCS rating is listed as 1.2MW. Please clarify the conflict.	<ul style="list-style-type: none"><li>•Table 7 incorrectly lists the peak SES battery discharge (1.2MW) instead of the peak ASCS power.</li><li>•Additionally, the ASCS rating was not revised to reflect the latest propulsion estimates. 1.7MW is the maximum expected power transfer from shore to ship and this rating is acceptable for the SES, ASCS, and VES components involved in power transfer to the ship.</li><li>•See Table 6, notes 1 and 2: ratings should be adjusted, if necessary, to account for the efficiency of the proposed equipment and speed of ASCS connection.</li></ul>
26	Why does peak ASCS interface power exceed the peak SES battery discharge power? (1.2MW per Table 5)	It is expected that the SES will deliver power from batteries and utility to the ASCS simultaneously.
27	Why does peak ASCS interface power exceed the peak VES battery charging power (1.2MW per Table 4)?  Will the vessel be on thrusters during Unload/Load phase?	See Table 4, Note 3: peak ASCS power includes VES battery charge, propulsion, and hotel loads. The ferry uses propulsion to push the dock during load/unload in Guemes and also during load/unload/charging in Anacortes. Energy expended to push the Guemes dock is included in the VES battery profiles.
28	Once the vessel is docked, how do you intend to hold the vessel in place? Is an automatic mooring system acceptable, to be installed on the ASCS platform to reduce vessel movement?	<p>The ferry will use main propulsion to push into the dock, but will be free to move as described in Section 004.3</p> <p>We reviewed automatic mooring systems during preliminary design and are not aware of an automatic mooring system that can meet the specified range of motion requirements. Note especially in Section 004.3.2 that we have firmly decided on a fixed platform.</p>
29	Understand that arrangements of Battery Rooms and Switchboard Room are preliminary. Are alternate arrangements of batteries and switchboards allowed, e.g. back to back cabinets & location of equipment?	<p>Alternate equipment arrangements are acceptable, including back-to-back switchboards.</p> <p>Alternate compartment arrangements (e.g. change to battery room sizes) could be considered, but would be a major weakness.</p>
30	Does the restriction on water-cooled equipment apply to SES Batteries or is closed loop chilled water cooling allowed?  Will a liquid-cooled shore battery system be considered if able to show increased safety features and advantages over air-cooled system designs?	<p>Liquid cooling on shore was restricted to limit the scope complexity and maintenance requirements for the SES. Skagit County does not normally have technical staff on shore during ferry operation. We expect that a simple rooftop AC unit would require less maintenance than a liquid cooling system.</p> <p>Proposals for liquid-cooled batteries can be accepted, provided that no connection to seawater or external utilities (other than electricity) is required. The SES shall be fully self-supporting for all cooling requirements. Such proposals shall include any heat exchangers, chillers, or interconnecting piping.</p> <p>If the cooling system is claimed to relieve regulatory requirements such as fire supression, provide specific reference to regulatory approval for such relaxations.</p>
31	Are there any requirements for paint color on equipment (RAL code) and number of coats/layers. This might affect the price and heat emission.	Manufacturer's standard painting practices are acceptable. Unpainted metal should be avoided as appropriate to the marine environment.

No.	Question	Response
32	What is the expected temperature variation of the onshore equipment? Is there any experience data?	The SES shall be fully operable between 20-85°F ambient temperature
33	Are there any selectivity studies or similar information on the grid onshore that will feed the SES?	No information is available at this time. After selection, we will schedule meetings between the integrator and PSE to exchange design data.
34	Do you anticipate that the ASCS will need to provide an auxiliary connection using the vessel's power for back powering the ramp in case of a utility power outage?	The 480V switchboard on the vessel has circuits assigned for this capability. Interconnecting cables and sockets on the ferry deck will be part of the shipyard's scope. See also the one-line diagram and EPLA. This connects to existing shore electrical infrastructure that is independent of the ASCS.
35	Is the auxiliary generator and the shore charging to the vessel intended to operate together (at one point, or as necessary)?	Yes, use of both the genset and shore charging simultaneously might be required in some operational or fault scenarios.
36	For the case of AC/AC shore/vessel charge, do you intend to synchronize the Auxiliary standby generator to run together while the vessel is charging?	If AC shore charging and an AC generator were connected to a common AC bus, synchronization capability would be required. Note that this arrangement would require two separate rectifiers from the common AC bus to the DC propulsion busses in order to satisfy the reliability criteria given in 006.1.2.
37	Are there disadvantaged business enterprise (DBE) requirements and percentage expectations for this effort?	WSDOT will assign DBE goals to the overall contracts for the ship and shore construction projects. The selected shipyard and shore contractor will need to meet DBE goals, but there is no specific DBE requirement for the ESI. DBE status will not be considered during integrator selection.
38	Quotation proposals are valid for a limitation of 90 days. In your flowchart, we see that the vessel electrical system will be awarded the end of next year. We cannot guarantee that there will be no price increase overtime, definitely since the raw material prices are rocking up and down so much. This also counts for the shore system which is even further out from a PO as per the flowchart.	Please see the bullets on Attachment #1, proposal signature page. Inevitable material price changes are understood. Documentation should be maintained to justify such changes to the county.
39	Are Asian suppliers allowed for the SES batteries?	There are no country of origin restrictions for any project equipment.
40	Can we offer a solution and price for the propulsion control system even though it is out of scope?  Regarding lighting, nav-com etc, nothing is provided for this in the specifications in regards of the vessel. Will this be part of the scope?	Systems and components not included in the scope of this RFP will be selected by the shipyard, to specifications that are not yet finalized.  As described in the RFP and authorizing resolution, the selected integrator must provide the equipment and services specified in the present RFP to all shipyards and shore contractors participating in those future competitive bids, at the proposed price (plus any agreed modifications).  The selected integrator is free to offer additional equipment and services to shipyards that exceed the scope of this RFP, but such proposals and quotes are not desired at this time.
41	Will recommendations for future technology be welcomed?	<ul style="list-style-type: none"> <li>Recommendations that make major changes to the design are not desired.</li> <li>If the proposed equipment has particular features that make it cost-effective to incorporate future upgrades, this information would be welcome</li> </ul>
42	We request the submission deadline be extended by 19 days, to Oct. 5th	Unfortunately, we can not accommodate an extension. On-time integrator selection is critical to finishing the vessel design.
43	Can offers include equipment from multiple companies? e.g. Can the VES include a battery supplier and a controls company?	It is understood that offers will include multiple subsuppliers. The proposal response should be from the integrator taking responsibility for the overall scope. See also the answer to Question 1 in Addendum 1
44	Will the selected electrical integrator be allowed to bid on other components of this overall project scope (i.e., shore construction, shipyard, etc.)? Are there any conflicts of interest identified?	Since ESI's equipment will be required for the shipyards and shore contractors to develop a responsive bid, it would be a conflict for the selected ESI to itself bid as prime contractor for construction. This will not be permitted.
45	Can a vendor provide management of the the three electrical areas and still provide part of the design?	The scope of this RFP is inclusive of project management, design, and equipment.
46	Is there a specific product or vendor already identified for the battery bank component?	VES and SES batteries are part of the scope of supply. These should be selected, sized, and integrated as part of your proposal.
47	Has there been any preliminary engineering done on the VES, SES, or ASCS beyond the RFP?	The RFP and referenced documents (one line diagram, EPLA, arrangements) are the available preliminary engineering.
48	What do you mean by "commercial pricing"	Section 001.2 gives the submittal requirements for the commercial proposal, including pricing.

No.	Question	Response
49	What is the anticipated contract type for this effort? Can we be provided with a sample contract with terms and conditions for this effort?	The selected integrator will be required by name in bid specifications for this project. The selected integrator and prime contractors will negotiate contract terms. See the resolution authorizing the RFP and the signature page for additional details of the immediate agreement with Skagit County
50	Are there flowdown requirements from Glosten's contract?	The selected integrator will not be a subcontractor to Glosten. Collaboration with Glosten will be required to finish the vessel design, as described in the RFP.
51	Is Glosten the single provider for the entire electrical package ?	Glosten is not providing equipment for the ferry. Glosten, with a civil engineering subcontractor, is responsible for the overall vessel and terminal design, including preparation of bid specifications.