Guemes Island Ferry Replacement Project Preliminary Design Update

Tuesday, March 16, 2021



Skagit County Public Works www.skagitcounty.net

Agenda

- Design Update
- Electrical Operations
- Terminal Modifications
- Project Schedule
- Design Contract Amendment
- Integrator Selection
- Cost Estimates and Funding
- Questions

- 10 min
- 10 min
- 5 min
- 45 min (throughout)











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Sculary With Pride



PLAN 6-5C MACHINERY ARRANGEMENT

4ASHINGTON



Hull Optimization





Hull Optimization - Cost Savings

• \$50,000 subconsultant fee to perform optimization

• \$100,000 savings on vessel batteries alone

• \$14,000 annual savings on electrical energy



Nearly \$1M savings over 40 year lifetime

Electrical Systems

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ASHINGT







Normal Operation





Reliability

• Safely finish trip, always

• Continue operations for most single faults

• Maximize use of utility power vs. generator





Batteries





Shore Electrical and Terminal

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SHING



Terminal Improvements



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Terminal Improvements



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Overall Program Schedule





Design Contract Amendment

- New environmental consultant
- Expanded scope of terminal modification (PND)
- New scope for contracting support, integrator selection
- Total increase requested: \$470,000



Contracting Challenges

We must have a single electrical systems integrator

We want to select the ESI during contract design



Specifying VES: now vs later



Specifying VES: now vs later

USCG/Utility Engagement



Concept Design

✓ Prelim COTP Discussions
 ✓ Battery Safety

Contract Design

Electrical ConceptLoad AnalysisReliability

Power QualityConnection/metering

Construction

Detailed Approvals
 QFA/DVTP/PSTP
 Certificate of Inspection

Utility-side modificationsFinal connection/test



PUGET SOUND ☑ Grid capacity, pricing ENERGY

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A single integrator is essential





A single integrator is essential





Integrator Selection: Options

- Shipyards choose integrators when bidding
- Owner-furnish electrical systems
- Competitive ESI selection (without contract)



Funding

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Vessel Construction	\$ 13,557,000
Terminal Improvements	\$ 2,000,001
Shore Side Electrical System	<u>\$ 3,953,000</u>
Total	\$ 19,510,001
Funding secured/pending	
 Funding awarded ⁽¹⁾ 	\$ (9,989,521)
 County road fund 	\$ (989,521)
 Pending WA Capital Budget Ask 	\$ (473,958)
 Pending Transportation Package Ask 	<u>\$ (7,000,000)</u>
Remaining	\$ 1,057,001



⁽¹⁾ WA Capital Budget Appropriation (2019) - \$1.5M

County Ferry Capital Improvement Program (2019) - \$7.5 (payable over 20 years) Dept. of Commerce ETS grant (2020) - \$989,521 (requiring a 1:1 county match)