Extract from State Auditor's Office performance audit on Washington State Ferries Vessel Construction Program

15 Leading practices in ferry construction and their use at WSF

We developed these leading practices based on our review of industry literature, interviews with WSF, ferry purchasers, and shipyards visited during the audit; they were then reviewed by the Technical Panel. We assessed WSF's use of the leading practices and discussed our results with the Technical Panel, which provided the conclusions shown below.

,				Is this practice used effectively at WSF?		
D۵	scription of leading practice	What its effective implementation looks like	Used effectively	Could be strengthened	Not used	
Leading practices WSF uses that add value to the construction process						
1	Use a formal change order process that includes approval criteria.	Change orders reviewed and approved by appropriate level of staff, shared with management as needed, ensures only appropriate changes are approved to the contract.	\checkmark			
2	Require the shipyard to provide operational training, standard operating procedures, and spare parts.	Saves purchaser time and expense to develop materials and reduces maintenance costs.	\checkmark			
3	Secure the right to own the final as-built design for future reuse.	Owning the design avoids paying reuse or royalty fees if a follow-on vessel is ordered.	\checkmark			
4	Owner describes in detail specific needs and preferences.	Ensures clarity within contractor's and owner's organizations regarding the design, construction, and outfitting of the desired finished vessel.	\checkmark			
5	Project partners agree to a Project Charter outlining the purpose, goals, and expected outcomes of the project.	Ensures all parties are 'on the same page' and promotes better working relationships.	\checkmark			
6	Project Plan fully developed, outlining timelines, personnel/vendor roles and responsibilities, expected duration of the project. Plan is updated throughout project.	Ensures that purchaser and shipyard understand roles and tasks, project goals, and what expectations they must meet.	\checkmark			
7	Define responsibility and establish processes to resolve issues in timely manner.	Having a resolution process in place helps reduce the risk of disputes jeopardizing the production schedule.	\checkmark			
8	Use a steering committee to review and approve changes.	Ensures appropriate stakeholders are involved in reviewing and approving changes.	\checkmark			
Leading practices that WSF uses but could strengthen						
9	Use a formal process to ensure 'lessons learned' activities are completed in a timely way and effectively used on subsequent projects.	<i>To improve its use of this leading practice, WSF</i> should establish and use performance metrics to monitor progress based on independent collection of data from all stakeholders.		\checkmark		
10	Develop project budgets based on appropriately estimated project costs; do not depend on large contingency amounts.	To improve its use of this leading practice, WSF should limit its contingency budgets to no more than 5% of the total. Large contingency amounts undermine the integrity of fixed-price contracts.		V		
11	Use chosen contracting method effectively.	To improve its use of this leading practice, WSF should not employ multiple design firms and should consider using one contract to cover vessel design and construction.		V		
Four key leading practices that, if implemented together, offer the best opportunities to reduce costs						
12	Use a fixed price contract.	Fixed-price contracts require the contractor to deliver the project for a set price.		\checkmark		
13	Design is complete and reviewed before construction begins.	Helps prevent cost overruns on fixed-price contracts by purchaser not being responsible for changes to an approved design.			\checkmark	
14	Use an independent owner's representative.	This advocate for the purchaser performs quality oversight, manages the change order process, and ensures project does not depart from the contract.			\checkmark	
15	Owner places all responsibility on contractor to deliver project quality.	Allows the owner to hold the shipyard accountable for errors and omissions.		\checkmark		

Exhibit 3. Chronological history of new ferry construction by WSF

1994-1998 WSF builds	3 Jumbo Mark II ferries
WSF begins design & planning of new 130-car ferry. Buys propulsion systems for 4 ferries with federal funds.	
WSF issues RFP but does not2003-2005proceed to contract or construction.	
Vessel redesigned to 2006 144-car ferry.	
Legislature adopts ESBH 2378, allowing2007WSF to accept a single proposal submitted jointly by a shipyard consortium.2007	
	F retires 4 Steel- ries from service
WSF signs contract for 144-car ferries with a consortium of Washington shipyards led by one company.	WSF develops new 50-car design based on Dec 2007 Pierce County's Steilacoom II to replace Steel Electrics on Port Townsend-Keystone* route.
	Mar 2008Governor signs bill authorizing WSF to build 3 new ferries; WSF advertises in Feb 2008. RFP is amended to a 1-boat contract before bid-opening. Sole bid is rejected; it is \$9 million over engineer's estimate. WSF drops Steilacoom design from project.
	June 2008 WSF purchases license to use the design for a new 64-car ferry based on <i>M/V Island Home</i> . Engages vessel's original designer to make necessary modifications to operate in WSF system under current federal regulations.
	WSF releases new RFP for 2 64-car vessels.Nov 2008Sole bid from one shipyard is about 30% over engineer's estimates for 2 ferries. WSF decides to proceed with construction of one ferry.
Legislature funds construction June 2009 of one 144-car ferry.	<i>Jan 2009</i> Using components from the propulsion systems acquired in 2001, construction of first Kwa-di Tabil-class vessel begins.
WSF negotiates vessel price and construction schedule with shipyard. Change order to 2007 contract signed and approved.	<i>Oct 2011</i> WSF completes a total of 3 Kwa-di Tabil class ferries.
Shipyard begins work on first 144-car vessel, with delivery scheduled for Feb 2014. Uses the final propulsion system purchased in 2001.	
Legislature funds construction of second 144- car ferry. WSF names new class Olympic.	* Keystone terminal renamed Coupeville in August 2010.