

## 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.

Description of leading practice	What its effective implementation looks like	Is this practice used effectively at WSF?		
		Used effectively	Could be strengthened	Not used
<b>Leading practices WSF uses that add value to the construction process</b>				
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.	√		
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.	√		
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.	√		
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.	√		
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.	√		
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.	√		
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.	√		
8 Use a steering committee to review and approve changes.	Ensures appropriate stakeholders are involved in reviewing and approving changes.	√		
<b>Leading practices that WSF uses but could strengthen</b>				
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 should establish and use performance metrics to monitor progress based on independent collection of data from all stakeholders.</i>		√	
10 Develop project budgets based on appropriately estimated project costs; do not depend on large contingency amounts.	<i>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.</i>		√	
11 Use chosen contracting method effectively.	<i>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.</i>		√	
<b>Four key leading practices that, if implemented together, offer the best opportunities to reduce costs</b>				
12 Use a fixed price contract.	Fixed-price contracts require the contractor to deliver the project for a set price.		√	
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.			√
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.			√
15 Owner places all responsibility on contractor to deliver project quality.	Allows the owner to hold the shipyard accountable for errors and omissions.		√	

Exhibit 3. Chronological history of new ferry construction by WSF

