

ALASKA STATE LEGISLATURE
SENATE TRANSPORTATION STANDING COMMITTEE

April 15, 2014

1:33 p.m.

MEMBERS PRESENT

Senator Dennis Egan, Chair
Senator Anna Fairclough
Senator Click Bishop
Senator Hollis French

MEMBERS ABSENT

Senator Fred Dyson, Vice Chair

COMMITTEE CALENDAR

PRESENTATION: ALASKA MARINE HIGHWAY SYSTEM UPDATE ON NEW FERRIES

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

PAT KEMP, Commissioner
Department of Transportation and Public Facilities (DOTPF)
Juneau, Alaska
POSITION STATEMENT: Participated in the new ferry presentation.

REUBEN YOST, Deputy Commissioner
Marine Highway System
Department of Transportation and Public Facilities (DOTPF)
Juneau, Alaska
POSITION STATEMENT: Gave the presentation on the new ferries.

ACTION NARRATIVE

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CHAIR DENNIS EGAN called the Senate Transportation Standing Committee meeting to order at 1:33 p.m. Present at the call to order were Senators Fairclough, Bishop, and Chair Egan.

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Presentation: AMHS Update on New Ferries

CHAIR EGAN announced the business before the committee would be a presentation and update on the status of the new ferries for the Alaska Marine Highway System (AMHS).

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PAT KEMP, Commissioner, Department of Transportation and Public Facilities (DOTPF), Juneau, Alaska, introduced himself.

REUBEN YOST, Deputy Commissioner, Marine Highway System, Department of Transportation and Public Facilities (DOTPF), Juneau, Alaska, gave the presentation on the new ferries.

MR. YOST said the mission for the Alaska Class Ferry Day Boat had not changed from last year. They are looking for a vessel that will accommodate 53 vehicles and 300 passengers. They arrived at that number based on handling 95 percent of the summer demand days in Lynn Canal using a speed of 15.5 knots, which is required to be able to get to Haines, unload, reload, and get back within 12 hours, so they can operate with a single crew. The vessel will be single-ended, meaning it will have a bow and a stern but would unload through the bow.

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The proposed routes of the vessel have not changed; the highest priority is to be used in Lynn Canal; the second priority is some short existing AMHS routes that could also be serviced from Juneau, such as Gustavus, Hoonah, and Tenakee. A third priority is that the boats be able to accommodate the different Juneau access routes should one of them be constructed.

The vessel will be designed so that it can work at all terminals, but they anticipate modifying Haines to have an end berth for unloading from the bow. The boat would load through the stern in Juneau. Last year there was a lot of discussion and controversy over a closed aft deck versus an open deck and after looking at the cost savings and taking input from the public they determined it would be completely enclosed.

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Another major decision was with regard to how bow loading would be handled: a single door that swings up or side stowing opening doors. He showed a picture of a boat in conditions similar to Juneau's with the bow doors completely shut; they were completely smooth with the hull and no edges for ice to form on; because of the style of the door water pressure holds the door

shut. Once the outer doors are open (to the side), there is a completely water tight inner door that keeps water off of the car deck. The inner door folds down to become a ramp to connect the car deck to the terminal. There are three independently operated hydraulic hook and eyes latching the doors closed (in addition to the water pressure), another fail-safe system in addition to the big hydraulic arm that opens and closes the door.

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Another major consideration was sea-keeping considerations. They heard a lot about the LeConte being too small for Lynn Canal in terms of being able to handle the winter weather. So, they determined the boat needed to be longer and eliminated the forward guard sponsons, which were responsible for a lot of pounding and spray. They also wanted to shelter life-saving equipment from ice accumulation by having them inside the line of the vessel rather than hanging from davits exposed to freezing conditions.

The current design they intend to build is 280 ft., which is 45 ft. longer than the LeConte. They also did some analysis to determine whether or not the vessel could deal with the conditions in Lynn Canal, a two-step process. The first was to document and study the wind and wave conditions using historical information. Then they looked at a series of hull lengths from the LeConte (too small) to the Taku (which most people indicated wasn't a problem). Then they analyzed that data against a motion sickness index that says basically if 10 percent of the people get sick on two hours of the worst part of the voyage, people won't want to ride that boat.

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They wanted to confirm those calculations by actually testing them, so they took a 15.5 ft. model weighted to have the same motion characteristics as the new model to Norway and ran it against waves in a wave tank with a bare hull and with a bulbous bow. They looked at how well it maneuvered and how much motion it has in different parts of the vessel.

SENATOR BISHOP asked if that Norway facility is a benchmark for testing.

MR. YOST answered yes. The U.S. has a wave tank, but their schedule wasn't open.

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Another test for motion sickness is a function of how long a vessel is but also where a person is located on it. It turns out that 10 percent of people will get seasick if they are experiencing a little less than half a "G." Then they plotted various sized vessels (between the LeConte and the Taku) and found the "belly" around amidships is the most comfortable place to be and the worst was on the bow.

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They monitored the motions for 95 percent of the worst conditions in the worst month of January for two hours that was not exceeded by this wave height occurring every 6.3 seconds. The stern tested out almost exactly as predicted; amidships and slightly ahead of amidships tested better than expected, whereas right close to the bow it was a little worse.

MR. YOST said the way this data they are addressing this data is by having two passenger decks and by trying to concentrate passenger facilities closer to the amidships. The LeConte has only one level for passenger facilities, so most people are forced to be in the observation lounge, which is the worst place you want to be during bad weather.

MR. YOST said that in addition to being 45 ft. longer than the LeConte, the new design has 10 ft. more beam. Its draft is less, because it has a hard chine rather than a rounded hull. It will be able to handle 19 more vehicles and has two 3,000 horse power (hp) engines as opposed to the one 4,300 hp on LeConte. By virtue of its greater length and horsepower the new design has greater speed. For comparison, the Tustumena, which travels in the open ocean out the Aleutian Chain is only 16 ft. longer than this vessel.

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The vessels' design has four observation lounges and two passenger decks. He noted there is no interior casing on the car deck; those are on the outside of the vessel, which means when you want to get to an elevator or stairs by walking you don't have to cross vehicle traffic. So, passengers and vehicles can be loaded at the same time. He said the lower deck would have a family area up forward, which has both tables to work at and a play area for children with an insulated sound wall between that area and the library area, which has both booths and some individual tables. The galley will be amidships and be horseshoe shaped similar to the fast ferry.

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CHAIR EGAN asked what kind of food service the vessels will have.

MR. YOST replied that it will be similar to the fast ferries with things like soup, noodles, hot dogs, hamburgers, and drinks. He said there will be seating for singles, couples, and foursomes as well as having some handicapped accessible. They are still looking into having Wi-Fi.

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In the forward lounge on the upper deck, seating is arranged so that people have good views forward and to the side. Tables are arranged along the center with a half-wall in between so that all the tables can have outlets. Amidships on the upper deck is a group lounge rather than a theatre.

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He said the design plans were completed in February and they are currently working on specifications for the contract. Also, he and the commissioner met with top executives of "Alaska Bigger" to work out some of the details of construction.

This is the first vessel ever constructed in the U.S. under a Construction Manager/General Contractor (CMGC) process. Next week design and contract teams will develop contract language so everyone understands exactly what is covered by each line item and reconciling the different estimates. Next month they begin negotiations line item by line item for the price of the vessel and hope to award a shipyard contract in June hoping it will be built in Ketchikan.

MR. YOST said the target delivery for both vessels is subject to negotiations as time is money and they want to avoid overtime.

CHAIR EGAN asked if \$125 million was enough.

MR. YOST answered they believe they can construct both vessels for that amount. The original appropriation was \$120 million and \$3 million was used to design the first 350 ft. vessel and they had spent an additional \$3 million converting and developing this design from that. So that leaves \$114 million or roughly \$57 million per vessel. The first vessel will cost more because of doing the original lofting that won't be required for the second one. This includes construction engineering as well as their indirect cost recovery program.

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The goal is to deal with one CMGC shipyard that has been contributing to the design as it has been developed and they to do that with they need the specifications.

CHAIR EGAN remarked that he had never heard of lifeboats and safety features being inside the vessel.

MR. YOST directed him to look at a lifeboat just after the stack in an opening that was not completely enclosed. The idea is to keep it inside the line of the hull so they are not exposed to spray.

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CHAIR EGAN asked if the car decks are still enclosed.

MR. YOST answered yes. Then he moved on to the Tustumena replacement saying that information came from the recently release Reconnaissance Report.

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CHAIR EGAN asked if these ships will be approved to cross the Dixon Entrance in case there is a mechanical problem on one of the mainliners and one of them had to take over.

MR. YOST answered no; they are not being designed to Solace requirements because that would increase the cost. However, they are in the process of investigating Solace waivers for the Malaspina and the Columbia, because they travel in the same waters, but don't go into Prince Rupert.

CHAIR EGAN said these new vessels could go at least as far as Ketchikan.

MR. YOST answered yes.

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He said the Reconnaissance Report is on their website and they are asking people to comment on it. The existing Tustumena is 296 ft. and because of the weather conditions it experiences with a full car deck and state rooms in the summer they are looking for a replacement vessel that is a little bit longer, but that is constrained to the length of the turning basin of the terminals and ports it accesses. So, they believe they can use a vessel that is 30 ft. longer with 9 additional feet of beam and more depth. This is an ocean going vessel that could handle a few more passengers and vehicles and more state rooms. They want more crew capacity, but the design to be such that it

doesn't need more crew. Vehicle capacity would go from 36 to 52 and twelve 40 ft. vans rather than 20 ft. vans. The length of the van would be determined by the size of the elevator and the turntable for it by having a slightly beamier ship. This would also speed up the loading time, because now larger vans have to be pulled onto the turntable; the cab uncouples; the van goes down and gets pulled off; you have to send a tractor down first - a pretty cumbersome process. The Kennecott was late leaving Kodiak because it took them seven hours to load.

CHAIR EGAN remarked that they wouldn't have to reconfigure terminals then either.

MR. YOST said they were looking at putting in a forward starboard door similar to the Kennecott so when the vessel comes to Auke Bay for instance, they wouldn't have to use the elevator, but also so as they develop some floating docks the high volume ports, like Homer and Kodiak, they would be able to unload quickly now by just driving off and not have to use the elevator. Since this vessel will be around for 50-60 years they want the capacity to upgrade terminals without having to change the vessels.

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SENATOR FRENCH joined the committee.

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MR. YOST pointed out that by having a little bit longer length they can get greater hull speed and that will help getting to every port on the Chain and making it back in a week. So, when the Kennecott is headed south they can actually provide nonstop service between Kodiak and Homer.

One of the things the Steering Committee recommended was not having a bar but rather a larger cafeteria with a horseshoe shaped galley that serves wine and beer. This would eliminate the need for a sole-purpose bartender. They also want to take advantage of the concept they developed for the last fast ferry and put the forward observation lounge one deck higher for a better view. They are looking at a forward starboard door so that it will work with floating ramp terminals. They also want to take advantage of the space created by the high deck for vans that just go in the center lane by creating a mezzanine deck to be used (most likely) for crew quarters.

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MR. YOST said they had been asked to look at using LNG for fuel, but the Coast Guard hasn't certified having LNG tanks below deck. Europe routinely has LNG tanks below decks, but not so in the U.S. Also, having the tanks above deck would create a massive destabilization weight problem for vessels running in the open ocean.

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CHAIR EGAN asked how much money is currently available for the replacement.

MR. YOST replied \$40 million as of last year and \$5 million is proposed in the current capital budget.

SENATOR FRENCH asked if that finishes the job.

MR. YOST answered no; the estimated cost in the report is \$225-245 million. This number does not include the \$10 million that has already been approved for design.

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He said they would have public meetings on the report in May and although they have funded the design completely with state money anticipating that it might be constructed in Ketchikan under the CMGC process, they are leaving open the possibility of using federal aid and therefore following all the federal aid rules, but for the procurement and the design. So, they will do a federal environmental document after taking public comment. After that they will do a design study report where the details of the design are laid out. The report estimates \$227 million - 241 million for constructing this size of a vessel.

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In one year they will have plan specifications and estimates complete enough to have cost proposals from a CMGC shipyard or they will put it out to bid. They have everything from the arrangement profile and structural plans to all the equipment they would like on the boat. The design team was selected in November and in December they visited all the terminals. The Reconnaissance Report was released in February and public participation will happen this month. In May, they will have public meetings in Dutch Harbor, Homer, and Kodiak that will involve their surrounding communities.

He said if they were to go with the CMGC, the Alaska class vessels would be completed sometime toward the end of 2017, so that would be the time to start this larger ocean-going vessel.

Although it was pretty early in the process he had a conceptual drawing of the vessel. Since this is an ocean going vessel, it has lifeboats rather than the Alaska class ferry that has rescue boats.

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CHAIR EGAN asked if the elevator and turntable were in the stern.

MR. YOST answered yes. The elevator has to match the height of the floating ramps that go up and down with the tide. He said there are only two in the world like it: on the Kennecott and the Tustumena. So, when the Tustumena was damaged last year the Kennecott was the only vessel that could take its place, because it has an elevator.

CHAIR EGAN asked how long the Tustumena was out of service.

MR. YOST answered from November to September.

SENATOR FRENCH asked if the new vessel will have a new name.

MR. YOST replied that it hasn't been decided, but it will probably have a different name because of overlap in the vessel uses.

CAPTAIN FALVE said he was on line and didn't have anything to add.

CHAIR EGAN thanked Mr. Yost for the presentation.

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CHAIR EGAN, finding no further business to come before the committee, adjourned the Senate Transportation Standing Committee meeting at 2:07 p.m.