National Transportation Safety Board

Washington, D.C. 20594

January 31, 2020

Frank English
Manager of Fleet Operations
Ride The Ducks Branson
Branson, Missouri

Re: Tech review of the Nautical Operations Group Factual Report

Frank:

The NTSB investigative team has reviewed all factual comments submitted by the parties as part of the technical review and has decided on a disposition for each one, as reflected below. All editorial suggestions have been considered and will be incorporated as appropriate.

The deadline for providing party submissions pursuant to 49 CFR 831.14 is February 14, 2020.

Thank you and best regards,

Brian Young
Investigator in Charge
National Transportation Safety Board
490 L'Enfant Plaza, S.W.
Washington, DC 20594

NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF MARINE SAFETY
WASHINGTON, D.C. 20594

ERRATA

Group Chairman's Factual Report

Operations

Stretch Duck 7
DCA18MM028

Page/Line	Original	Correction	NTSB Disposition of Party Comments
4/1-3	Due to the approaching weather, before departing the shoreside boarding facility the crew of two was instructed to bypass the land-based portion of the tour and head directly to the lake.	This language leaves out certain facts, is ambiguous, and needs clarification. The use of the word "bypass" incorrectly suggests that a decision was made not to perform part of the land-based portion of the tour. The record reflects that the captain and driver intended to take the entire tour, but a decision was made to take the water portion of the tour first. The language "the crew of two" is ambiguous, but instead the terms "captain and driver" are more accurate. Finally, the transcript of Captain McKee also makes clear that the captain had reviewed the weather just prior to the tour, and just prior to the issuance of the severe thunderstorm	Update paragraph to read: "Prior to the accident, the National Weather Service had issued a severe thunderstorm warning for the area advising of wind gusts of 60 mph. The manager-on-duty advised the captain and driver before departing the shoreside boarding facility to complete the lake portion of the tour before the land tour (which normally occurred first) due to the approaching weather. Additional details about the sequence of events to be included in the accident narrative.

		warning. The description of these events, as written, omits that fact, suggesting that Captain McKee was simply following the suggestions of the MOD. To be more accurate and complete, we request this language be revised to read as follows: "Just prior to the issuance of the severe thunderstorm warning issued at 6:32 PM, the Captain of the Stretch Duck 7 reviewed the weather on a weather monitor at the company's Branson headquarters. Due to the approaching weather, before departing the shoreside boarding facility, the captain and driver were advised to complete the lake portion of the tour first before the land- based portion of the tour."	

4/3-5	About 5 minutes after the vessel entered the water from the south ramp, a "derecho" passed through the area generating 2- to 4-foot waves, with the highest wind gust recorded at 73 mph.	A senior deckhand on the Showboat Branson Belle as well as the driver of the *Stretch Duck 17* testified in their NTSB interview that they observed up to 5 foot waves. *See* Transcript Womack at page 6; Marotti at page 21. In his September 9, 2019 deposition, the senior deckhand on the Showboat Branson Belle testified that sustained waves were up to 6 feet, characterizing the waves as "huge" and "continuous." We have attached to this errata sheet an excerpt of the deposition of the senior deckhand of the Showboat Branson Belle from the civil proceedings. *See* Attachment A, Deposition Transcript Womack at pages 73-74. To be more complete and factual, we request that this language be modified to more precisely reflect the record in regard wave height as follows: "About 5 minutes after the vessel entered the water from the south ramp, a "derecho" passed through the area generating waves estimated by witnesses to be 2- to 6- feet, with the highest wind gust recorded at 73 mph."	Based on interviews NTSB conducted, waves were estimated to be 3-5 feet. NTSB did not participate in civil proceedings and does not have access to these transcripts. *Showboat Branson Belle* relief captain interview 7/21/18 pg. 13, line 24 – "guesstimate it about 3 feet" *Showboat Branson Belle* senior deckhand interview 7/21/19 pg. 6 "about a 5-foot wave went over the top of the rescue boat" Update sentence to read: "About five minutes after the vessel entered the water from the south ramp, a "derecho" passed through the area generating waves estimated by witnesses to be 3- to 5- feet, with the highest wind gust recorded at 73 mph."
4/FN 1	RTDI in this report refers Ride the Ducks International LLC. RTD refers to the owner/operator of *Stretch Duck 7*, Ripley Entertainment, dba Ride the Ducks, formerly a franchise of RTDI.	The stated owner and operator of the *SD7* is not accurate. Also, neither the operator of the *SD7*, Ripley Entertainment, Inc. (dba Ride the Ducks Branson), nor the owner, Branson Duck Vehicles, LLC, were ever a franchisee of RTDI. We request this language at footnote 1 be revised as follows:	Concur in part and will make the requested changes, noting that "Ripley Entertainment Inc. Dba Ride the Ducks" is listed as both owner and operator on the COI and that the vehicle was registered to Ride the Ducks International.

		"RTDI in this report refers to Ride the Ducks International LLC. RTD refers to the owner/operator of *Stretch Duck 7*, Branson Duck Vehicles, LLC and Ripley Entertainment, Inc. (dba Ride the Ducks)."	
6/20	56 Fleet Ducks were updated to Stretch Ducks in the time period from 1996 to 2005 by 20 Amphibious Vessel Manufacturers (AVM).	For clarity, it should be noted that "Master Jigs" were also constructed during this time frame and are included in the 56 number that is quoted. We request this language be revise as follows: "A total of 56 Fleet Ducks were updated and converted to Stretch Ducks or Master Jig Ducks, in the time period from 1996 to 2005, by 20 Amphibious Vessel Manufacturers (AVM)."	Concur and will make the requested changes.
7/2	With a capacity of about 250 gallons (gpm),….	Reference to the Higgins Pump capacity of 250 gpm, without further qualification, is misleading. The report should note that maximum pump capacity is only achieved at full throttle. We request that this language be changed to: "With a capacity of about 250 gallons per minute (gpm) when the engine and propeller are engaged at full throttle, the pumps…."	Concur and will make the requested changes.

8/4-5	Each of these four spaces as well as the sea chest were equipped with bilge alarms that provided audio and visual signals by the captain's station.	The use of the phrase "by the captain's station" is imprecise and could be misinterpreted. We request this be changed to "in the captain's station" or "at the captain's station".	Concur and will make the requested changes.
7/13 and 8/5-7	"…three separate electric bilge pumps were installed in the bilges with a combined capacity of 60 gpm." and "…each rated for 20-gpm were located…"	We believe the stated bilge pump capacity rating is not accurate. The *SD7* was equipped with three electric bilge pumps (Rule 2000 Electric Submersible Pump), rated at 2000 gallons per hour (33.3 gpm), for a total rated capacity of 6000 gallons per hour (100 gpm). *See* Attachment B to this Errata sheet. Thus, collectively, the three bilge pumps were rated at 100 gpm. We request that the stated bilge pump capacity ratings be corrected accordingly to 33.3 gpm for each pump, with a combined capacity of 100 gpm.	Concur and will make the requested changes.

8/7-8	Title 46 Code of Federal Regulations (CFR) 182.520 allowed for several different options of pump capacities for vessels of this size.	This language is vague and incomplete. The regulatory requirement should be more accurately and completely stated, and the report should acknowledge that *SD7*'s equipment exceeded those USCG regulatory requirements. Similarly, the draft report implies that had the bilge pumping capacity been higher, somehow the vessel would have survived. The factual report should note that the Coast Guard, in implementing requirements for bilge pumps, does not intend that bilge pumps installed on small passenger vessels be designed with the intent to, and have the capacity to, prevent the effects on catastrophic flooding of a vessel, as occurred here. See NVIC 1-01, Enc. 1 at p. 31-32. Instead, as noted in USCG NVIC 1-01, the "Coast Guard's approach to a bilge system for small passenger vessels is for it not to serve as the primary deterrent against the ingress of seawater due to flooding." *Id.* Instead, "[t]he bilge system serves to evacuate accumulation that results from normal vehicle operations." *Id.* In other words, the bilge system on the *Stretch Duck 7* worked as designed, and as approved by regulations. These systems are not designed or regulated with the intention to address large amounts of water entering over the gunwale through wave action, or any other form of catastrophic flooding, as occurred	Concur and will make the requested change, noting also that the addition of the sea chest would meet the recommendation in the *Miss Majestic* Marine Accident Report regarding the capability "to dewater the craft at the volume of the largest remaining penetration."

		here. We believe the factual report should make that clear. To illustrate this, the minimum required bilge pumping capacity for a USCG inspected small passenger vessel the same size as the *Stretch Duck 7* is 10 gpm. *See* 46 CFR Table 182.520(A). Due to the fact that the duck boats have many through-hull penetrations that typical vessels do not have, this minimum amount is modified for duck boats. See NVIC 1-01, enc. 1, pages 31- 33. The *Stretch Duck 7* was required to have a minimum bilge pumping capacity of 3144 gallons per hour (52.4 gpm). *See* J.D. Ray Bilge Pump Flooding Analysis To Support Removal of the Higgins Pump, dated April 30, 2005; *see also* USCG Approval letter dated June 14, 2005. Based	

		on this documentation, the *Stretch Duck 7* had almost double the required bilge pumping capacity. Based on the above, we respectfully request that this language be clarified with the following language: "As set forth in 46 CFR Table 182.520(A), the minimum required bilge pumping capacity for a Coast Guard inspected small passenger vessel the same size as the *Stretch Duck 7* is 10 gpm. In general, because amphibious vehicles such as the *Stretch Duck 7* typically have more hull penetrations through which water can possibly ingress, the minimum requirement has been modified by the Coast Guard. Specifically, NVIC 1-01 states that sufficient bilge pumping capacity should be provided "which can offset uncontrolled flooding of the largest penetration in the hull…" NVIC 1-01 at page 32. As a general matter, for vessels like the *Stretch Duck 7,* for which the Coast Guard approved removal of the Higgins Pump and the installation of the watertight sea chest, the risk of progressive flooding through the hull penetrations was significantly reduced. Under the additional guidelines in NVIC 1-01, the minimum required total bilge pumping capacity for the *Stretch Duck 7* is approximately 52 gpm. With a combined rated pumping capacity of 100 gpm, the pumps on *Stretch Duck 7* exceeded the requirements by nearly a factor of 2. The Coast Guard approved this arrangement for the *Stretch Duck*	

		7 by letter dated June 14, 2005."	
8/12-13	The port curtain could be released from a handle above the driver's seat and the starboard curtain could be released from a handle on the starboard side above the windshield.	We believe use of the phrase "above the windshield" to describe the location of the starboard curtain release is vague and could be made more precise. We ask that the following clarifying language be inserted in its place: "The port curtain could be released from a handle directly above the driver's seat near the top of the port side curtain, and the starboard curtain could be released from the corresponding location on the starboard side."	Concur and will make the requested changes.
9/11	…RTD operated separate from RDTI…	"RDTI" should read "RTDI".	Concur and will make the requested changes.
9/12-13	No major changes in RTD management were made with the purchase by Ripley.	We believe the term "management" could be misinterpreted to be limited to personnel changes. To make clear that no major personnel or policy changes were made when Ripley acquired the assets in December 2017, we request this language be revised to state: "Ripley did not make any major changes in RTD's management, personnel, policies or procedures after the purchase."	Concur and will make the requested changes.

10/1-9	"The stability letter permitted operation on Protected Waters with….a maximum sea of 2.5 feet…." "Stretch Duck 7's COI listed several restrictions including….vessel shall not be operated waterborne when…the wave height exceeds two (2) feet."	We believe the factual report omits certain facts relevant to the investigation that deserve clarification. As written, the report does not explain the difference between the restriction in wave heights in the Stability Letter and the COI. For clarity, first, it should be noted that wave height restriction in the vessel's stability letter -- "a maximum significant wave height of 2.5 feet" is "[d]ue to structural considerations." See USCG approval letter dated March 19, 2009, at par. 4. Second, we believe it should be noted that until February 2017, the USCG COI for the *Stretch Duck 7* did not have *any* specific wave height restriction. Instead, there was a general provision that indicated the vessel was prohibited from waterborne operations when a potential for downflooding existed due to waves. *See* COI of *SD7*, with an expiration date of February 7, 2017. The new COI, issued by the local USCG inspection office in February 2018, imposed the 2.0 foot wave restriction, though it is unclear how the USCG derived that limitation. Third, the group factual report does not mention that NVIC 1-01 (issued in 2000) recommends that local Coast Guard inspection offices impose various operational restrictions on the vessel's COI. This includes a recommended restriction to be placed on the COI for the vessel not to	Agree in part. We concur the sea state restriction on the stability letter can be further explained. However, we believe recommended the COI endorsements in NVIC 1-01 are only to provide sample verbiage for the OCMI to use and did not imply a one-foot sea state restriction.

		operate in the water when "THE SEA STATE EXCEEDS ONE FOOT" (capitalized letters in original). Although the NVIC indicates the local Coast Guard office has the discretion to modify these recommended operational restrictions, the basis upon which the local USCG inspection office allowed an increase in this wave height limit from 1.0 feet to 2.0 feet is unclear from the record. Finally, since this incident, the local Coast Guard office has informed us that Coast Guard Headquarters has now set mandatory, uniform 25 mph wind speed restriction and 1 foot wave height restriction for all duck boats operating nationwide. *See* Attachment C, email from USCG dated August 22, 2018. Accordingly, to address the facts above, we request that the following clarifying sentence be added at line 10: "The 2.5 foot wave height restriction in the vessel's 2009 stability letter was based on the Coast Guard's assessment of structural considerations, rather than stability and watertight integrity of the vessel. Until February 2017, the Stretch Duck 7's COI did not contain a wave height restriction, but instead included a general prohibition that the vessel should not be operated	

		waterborne "when a potential for downflooding exists due to waves." In February 2017, the local Coast Guard inspection office issued a new COI with the operational wave height restriction of2.0 feet noted above."	
10/18	The license was valid for three years.	For clarity that the license was not otherwise invalidated, we respectfully request that this language be revised to say: "The license was valid for three years and was valid at the time of the accident."	Concur and will make the requested changes.
10/21-22	His license was renewed in January 2018 and was valid for five years.	For clarity that the license was not otherwise invalidated, we respectfully request that this language be revised to say: "His license was renewed in January 2018, was valid for five years, and was valid at the time of the accident."	Concur and will make the requested changes.
10/22-23	He tested for and received his first license at the Coast Guard Regional Exam Center in St. Louis, Missouri prior to being employed by RTD.	For greater clarity on how long Captain McKee has held a license, we respectfully request the language be revised as follows: "He tested for and received his first license, Master 100 Gross Tons, at the Coast Guard Regional Exam Center in St. Louis, Missouri in 1993, prior to being employed by RTD as a captain in 2001."	Concur and will make the requested changes.

12/8-16	RTD personnel interviewed after the accident had varying familiarity with the company's policies and procedures. Senior captains that were also trainers all stated they taught to the 2012 Operations Manual in initial and annual training. Topics were randomly chosen additionally for discussion in monthly meetings. A driver stated he reviewed it annually and was quizzed on it and another driver who had just completed a captain's license examination told investigators she had studied the manual "a lot." Other captains interviewed however had only read it once or had not looked at it in years. One driver had not read it. An assistant manager, who had previously been a driver but not a captain, had not read the Operations Manual in three years and had not heard of the Authorized Operator program, or Duck Central	This description is not a fair or accurate statement of facts. Eight of the 11 RTD personnel interviewed by the NTSB on vessel operations were captains, drivers and shoreside personnel who testified they were familiar with the Operations Manual, and answered questions about various company policies. See e.g. Transcript King p. 49; Davidson, p. 21; Marotti at p. 24; Ferguson at p. 13; Covert at pp. 11-12; English at p. 10; Hoot at p. 15; Purma at p. 7. The one driver who testified he had not seen the Operations Manual was not a captain, and does not appear to have been shown the document, as many of the other witnesses were. Transcript Aldridge at p. 21. Although he commented that he had not seen the manual, he testified extensively about various aspects of operations that he received extensive training on, including the performance of pre-trip, and post trip inspections, emergency operations on the water, and navigation and driving a duck out of the water if the captain becomes incapacitated, among other topics. Transcript Aldridge pages 6-8, 13-14. The one captain who testified that he had not looked at the Operations Manual "in years" had been serving as a captain for RTD for 27 years, and also testified regarding numerous aspects of company procedures, training, and operations. *See* Transcript Young at pages 7-8 (pre-trip inspection); 10-11 (passenger count and safety brief);	Concur in part and will make the requested changes: "RTD personnel interviewed after the accident described their familiarity with the company's policies and procedures. Senior captains that were also trainers all stated they taught to the 2012 Operations Manual in initial and annual training. Topics were chosen additionally for discussion in monthly meetings. All RTD captains had read the manual and most stated they were familiar with it. A driver stated he reviewed it annually and was quizzed on it and another driver who had just completed a captain's license examination told investigators she had studied the manual "a lot." Other captains interviewed however had only read it once or had not looked at it in years. One driver, who was not a captain, stated he had not read it and another former driver had not reviewed it in three years since assuming a shoreside management position."

	.	16-18 (security calls, weather assessment); 22-25,35-36 (emergency training on the water, weather monitoring and response); 38-39 (emergency curtain release procedures); 41-43(ordering passengers to don PFDs); and 44-45 (radio communications). His testimony reveals he is in fact very familiar with company policies and operations, even though he has not looked at the manual recently. We think that the report as written inaccurately downplays the familiarity of RTD personnel with the company policies on operations. To be more fair and accurate, we offer the following alternative description and request that it be substituted into the report: "RTD personnel interviewed after the accident were mostly familiar with the company's policies and procedures. Senior captains that were also trainers all stated they taught to the 2012 Operations Manual in initial and annual training. Topics were chosen additionally for discussion in monthly meetings. All RTD captains had read the manual and most stated they were familiar with it. A driver stated he reviewed it annually and was quizzed on it and another driver who had just completed a captain's license examination told investigators she had studied the manual "a lot." Other captains interviewed however had only read it once or had not looked at it in years, but appeared otherwise knowledgeable of company procedures and policies in the Operations Manual. One driver, who was not a captain, stated he had not read it and another former driver had not reviewed it in three years since assuming a shoreside management position."	

12/26	The course took about 200 to 250 hours to complete. The curriculum included performance and enabling objectives for responding to severe weather underway and on land, although not for recognizing or planning for severe weather.	The USCG approved Captain's course included 278 hours of instruction. *See* USCG Approved Course Curriculum at RTD_000382. We request that this be corrected, as set forth below. In addition, we believe the description of the course is not complete, and leaves the impression that the training is limited to classroom training. We believe it is fair and accurate to include additional details in the factual report regarding the nature of the training, as set forth below. Finally, this section of the report erroneously states that the course did not address "recognizing or planning for severe weather." The approved course curriculum includes training on the procedures for responding to severe weather while the vessel is on the water. In addition, captains were also trained on recognizing an approaching storm, observing waves, wind and current, reading weather symbols, cold fronts, warm fronts, and stationary fronts. See Captain Course Instructor Notes, RTD 000447. Additionally, each Captain trainee in the course was provided supplemental training materials to aid in the training that were used throughout the course. These supplemental training materials included materials on basic weather and meteorology formariners, and a bank of weather related questions which were used for training and testing purposes. See Attachment D, Supplemental Training Materials (weather and supplemental test questions). Accordingly, we ask that the language be modified as follows: "The approved course curriculum included approximately 278 hours of instruction, which included 124 hours of classroom training and 154 hours of practical and on-water training. The curriculum included performance and	Agree in part. We recognize the additional evidence provided includes extensive meteorology content. The content includes information on marine weather warnings (small craft advisories, gale warnings, etc.) but not others such as severe thunderstorm warnings more applicable to inland routes. Additionally 46 CFR 11.910 excludes "Weather charts and reports" as an examination subject for those on river routes. We also understand the captain of *Stretch Duck 7* did not complete RTD's in house course and already had a license when he joined the company. Therefore the NTSB will make the requested changes while adding the following: "46 CFR 11.910 specifies examination subjects for deck officer endorsements. Among these is "Weather charts and reports" which is required for all candidates except those on Rivers routes. Additionally, RTD's approved-course material includes traditional marine weather warnings such as small craft advisories

		enabling objectives for a variety of topics, with approximately 89 hours of the course dedicated to water emergency and other related on-water training. The entire course took place over a period of approximately 8 weeks. Included in this training was basic weather and meteorology for mariners, including specific training on recognizing approaching storms, and observing waves, wind and current.”	and gale warning.

13/2	Completion of the course and exam qualified employees for a "USCG Limited captain's" license without further testing.	This is not entirely accurate. The mere completion of the approved course does not automatically qualify an individual as a licensed captain, which is what this language suggests. In addition to the approved 8 week course, the individual is required to take a separate boating safety course, obtain a first aid and CPR certification, pass a physical and drug test, among other steps, before the USCG will issue a license. See RTD 000383-000384. To make this sentence more accurate and clear, we request the language be revised as follows: "Completion of the approved course and exam qualified employees to apply for a "USCG Limited captain's" license from the Coast Guard, without taking any additional Coast Guard examination. In order to qualify for the license, the individual must also successfully complete a separate boating safety course, obtain a first aid and CPR certification, and pass a physical and drug tests, among other requirements. Once these requirements were satisfied and proper documentation submitted to the Coast Guard, the Coast Guard would issue the captain's license."	Concur and will make the requested changes.
13/20-22	A detailed syllabus was not available for investigators, as was the case for prospective masters, to compare with NVIC 1-91 criteria.	We believe a correction is needed here. It appears you have not received a copy of the curriculum for training conducted for drivers by RTD. We have attached this curriculum as Attachment E, Duck Operator Course for CDL Drivers. This training addresses various emergencies on water and land, including training for response to a severe weather emergency on the water. We request that this language be revised to the following: "RTD implemented a duck-specific training curriculum and program for its drivers. Though a deckhand was not required by the vessel's COI, the RTD driver curriculum included	Partially concur and will make the changes. as below: RTD implemented a duck-specific training curriculum and program for its drivers. The training curriculum included training of drivers to assist in most of the on-water emergencies contained in the guideline of NVIC 1-91, including emergencies involving severe weather and abandon ship

		topics to allow drivers to effectively assist captains as a deckhand while the duck was on the water. In this regard, the training curriculum included training of drivers to assist in most of the on-water emergencies contained in the guideline of NVIC 1-91, including emergencies involving severe weather and abandon ship."	

14/9	"…records for the Stretch Duck 7 for 2019…"	We believe this should read "2018" not "2019".	Concur and will make the requested change.
15/14	Respectfully request discussion of additional facts for completeness and clarity of the factual report's discussion	While the MOD and other shoreside managers play an important support role in the assessment of weather and the overall safety of RTD's operations generally, the discussion of weather monitoring in this section is incomplete, as there is no discussion of the captain's role and responsibility in monitoring the weather, pursuant to applicable law and the company's policies. Under RTD's Operations Manual, the captain of each duck has primary responsibility and authority for safety and navigation while on the water, including the decision to enter the water and get the vessel underway. Accordingly, the licensed captain is required to monitor the weather and all other hazards, and never has to enter the water if, in his/her judgment, the conditions are unsafe. The captain is also responsible for abiding by all Coast Guard regulations and conditions imposed by the vessel's Coast Guard issued stability letter and COI. *See* Operations Manual at page 41; *see also* 46 CFR 175.400 (The master of a Coast Guard inspected vessel is the person "in command of the vessel" who is duly licensed). Recognizing this need for accountability, the Operations Manual provides broad grants of authority to the captain. For example: "The Captain's experience, qualifications and preparedness are respected aspects of our operation. Nothing shall supersede the Captain's safe judgment." Operations Manual at page 39; and "Nothing in this manual or	Will add a paragraph noting policies from the Operations Manual.

		any other directive shall prevent the Captain from making decisions he/she judges are necessary for safety in the event of an emergency." Operations Manual at page 47. Thus, while the MOD may at any time cancel a tour due to weather, and advise or instruct the driver and captain to perform the water portion of the tour first, the licensed captain has the ultimate authority and responsibility to monitor and assess the weather (and other hazards), and decide to enter the water and complete the voyage, or not. The company's weather monitoring procedures, and procedures for operating in severe weather, comply with the Coast Guard's model Safety Management System Manual, published and intended for use by more highly regulated passenger vessels that are subject to the International Safety Management Code. *See* pages 59 and 87 of USCG Safety Management System Manual. These severe weather monitoring procedures are also consistent with the Passenger Vessel Association's model safety	

		management system, made available to vessel owners through the Association's Flagship Program. By implementing the use of the StreamerRT service for use by all its captains and shoreside personnel, RTD exceeded all applicable standards. In this regard, neither the regulations nor the aforementioned model safety management standards recommend or require the use of a commercial weather service. Thus, in order for there to be a complete presentation of the facts, we ask that the following language be added at line 14 on page 15: "Captains also typically monitored and checked the weather on the separate StreamerRT monitor in the Captain's Lounge, which was adjacent to the MOD's office. While the MOD monitored the weather and could cancel a tour at any time due to weather or other hazard, under the company's Operations Manual, the ultimate responsibility to assess the weather and ultimate authority to decide to enter the water, or not, rested with the captain. Captains testified that, in addition to reviewing the StreamerRT monitor in the Captain's Lounge, they would monitor the weather visually while on the tour, and if there was any concern as they were about to enter the water, they would call back to the duck dock to obtain more up to date weather information from the MOD or other shoreside personnel, if needed. Some captains testified they have made the decision not to enter the water due to weather, or otherwise modify or cancel the tour due to weather."	

15/16 through 16/1	*Stretch Duck 7* carried a single radio that could be used as a marine VHF, or a designated UHF frequency repeater channel system. The duck boats used the UHF repeater system while on the road portion of the tour.	The draft factual report states that the *SD7*'s radio could be used on "…marine VHF, or a designated UHF frequency repeater channel system." This is not correct. The radio communications system was VHF only. For clarity and accuracy, we request that the language be changed to the following: *"Stretch Duck 7* was equipped with a single radio that could be used to communicate on VHF marine channels (e.g. 13 and 16), or could be switched to VHF repeater channels. The duck boats used the VHF repeater channels while on the road portion of the tour. This system…"	Request further information about the repeater system: What MHz are they transmitting for the repeater system on the road portion of the tour?
16-9	During the water portion of the tour, the captain typically switched the radio to a marine band VHF channel. This enabled the captains to call and communicate with any concerned marine traffic prior to entering the water. It also enabled them to communicate with any vessel while conducting the water borne portion of the tour. While utilizing the marine channel, duck boats were not able to communicate with the duck dock by radio. Once out of the water the vessel crews had to manually switch the radio back to the designated frequency repeater channel to communicate with land-based personnel.	We do not believe this is a complete and accurate description of the radio protocols in place by RTD. The description incorrectly suggests that the captains kept the VHF marine channels on during the entire voyage on the lake, such that the "duck boats were not able to communicate with the duck dock by radio." As a matter of clarification, prior to entering the water portion of the tour the captains would dial into marine channel 13 to make security calls. Once in the water, captains would switch the radio	Concur and will make the requested change. We also understand the Coast Guard now requires "frequent communications" between the operator's representative ashore and the master.

		to scan mode, which would allow the captain to monitor channels 13, 16, 72, 6, and to receive incoming calls from the duck dock on the company repeater. Thus, any incoming communications from any of these sources could be received by the captain. Under this procedure, when on the water, if the captain picked up the radio to make an outgoing communication, the radio would automatically be dialed into the company repeater, and that communication would be automatically transmitted to the duck dock. To communicate with another vessel by marine channel while on the water, the captain would have to affirmatively take the radio out of scan mode, and dial in to the desired marine channel. *See e.g.* Transcripts of Fergusson at p. 41-42; Lanham at p. 17; and Young at 44-45. We request that draft language be replaced and clarified as follows: "Before entering the water, the captains typically switched the radio to a marine band VHF channel 13. This enabled the captains to conduct a security call and communicate with any concerned marine traffic and to alert other vessels in the area prior to entering the water. Just after entering the water, the captain would switch the radio to scan mode, which would allow the captain to monitor channels 13, 16, 72, 6, and to receive incoming calls from the duck dock on the repeater channel. The radio remained in scan mode during the entire voyage. While in the scan mode, the radio would receive any incoming communications from the duck dock, and other vessels communicating on the marine channels. Under this system, if the captain picked up the radio to transmit an outgoing communication, the radio would automatically be dialed into the	

		company repeater, and that outgoing communication would be transmitted to land based personnel at the duck dock. To communicate with another vessel by marine channel while on the water, the captain would have to affirmatively remove the radio from scan mode, and dial it into the desired marine channel. Once the duck is out of the water, the vessel crews manually switch the radio out of scan mode, and back to the designated repeater channel to communicate with land-based personnel only."	
16/16	"PFD's" and "added in in"	"PFDs" and "added in"	Concur and will make the requested change.
16/20-21	Regulations, company policy, nor training did not define nor help recognize a hazardous condition.	We believe this statement is not accurate. Company policy and training clearly defined which conditions were deemed hazardous enough to warrant the captain to order passengers to don PFDs. See Operations Manual pages 47-49 (abandon ship, sounding of bilge alarm, collision, grounding, fire, fume detector, heat sensor, loss of propulsion, loss of steering, and severe weather). The company's training program trainedcaptains to take action in response to these hazardous conditions, including training on when they were required to instruct passengers to don their PFDs. Further,	This sentence has been deleted.

		regulations required the donning of PFDs in some of these hazardous conditions. *See* 46 CFR §185.50. We request that this language be revise as follows: "Regulations, company policy, and the company's training program further defined for crews those hazardous conditions under which the captain was required to order passengers to don PFDs."	

16-23	The aisle seats in the last row were the only passenger seats equipped with seat belts to prevent passengers from being thrown forward in the aisle when entering the water.	This is not correct and needs clarification. The center rear seat is the only passenger seat with a seatbelt. We request that this language be revised as follows: "The center seat in the last row of passenger seating was the only seat equipped with a seat belt to…."	Concur and will make the requested change.
16/FN 24	PVA	We believe "PVA" should be defined.	Concur and will make the requested change.
17/8	When a duck boat departed the duck dock, a passenger headcount, including infants, was written on the Branson Jock Trip Sheet.	A passenger count was also kept on the vessel itself. We request this be language to be supplemented as follows: "When a duck boat departed the duck dock, a passenger headcount, including infants, was written on the Branson Jock Trip Sheet, and listed onboard the vessel on an erasable board in the captain's station."	Concur and will make the requested change.
17/9	"PFD's"	"PFDs"	Concur and will make the requested change.
18/16	"Stepped"	"stepped"	Concur and will make the requested change.
19/7	"PFD's"	"PFDs"	Concur and will make the requested change.
21/2-3	The alarm lights located on the dashboards, indicating which alarms were active, were not visible on the videos.	The bilge pumps automatically turn on when the bilge alarm is activated. We also believe it should be noted in this factual report that the bilge alarms and pumps on the *Stretch Duck 7* were tested after the vessel was recovered, and were found to be operating satisfactorily. Thus, we believe the language should be revised to be more accurate and complete, as follows: "The alarm lights located on the dashboards, indicating which alarms and bilge pumps were active, were not visible on the videos. After the Stretch Duck 7 was recovered, a test was performed on the bilge alarms and bilge pumps and were found to be operating satisfactorily."	Testing of the bilge pumps and alarms is discussed in the Engineering Group's factual report.

FN31	RTDI added cameras to their fleet after the 2015 *Duck 6* collision with a motor coach in Seattle.	It is not accurate to say that cameras were added "after the 2015 Duck 6 collision…" and this improperly suggests the cameras were added as a response to the Duck 6 collision. The cameras were installed in early September 2015, and the Duck 6 collision occurred September 26, 2015. We request that this language be changed to: "RTDI installed cameras on the vehicles at the Branson location in early September 2015."	Concur and will make the requested change.

22/2	Investigators later found the two side engine compartment exhaust vents open.	We believe the language as written leaves the implication that it would have been a realistic option to close the exhaust vents to prevent or mitigate flooding. We believe additional language should be added to clarify this point, as follows: "Investigators later found the two side engine compartment exhaust vents open. These exhaust vents function as fire dampers, and, if closed, would deprive the engine of air and would lead to eventual shutdown of the engine."	Do not concur: The 2 side vents allow hot air to exit the engine compartment.
25/7	As of the 2015 *Duck 6* highway collision, RTDI had yet to register as a manufacturer.	This language is unclear, and may leave the impression that RTDI (and by implication RTD) had not registered as a manufacturer with NHTSA. For clarification, by letter dated February 8, 2017, RTDI registered with NHTSA. This letter may be accessed here: https://vpic.nhtsa.dot.gov/MfrPortal/Manufacturers/displayfile/2007?AspxAutoDetectCookieSupport=1 For clarity, we request that this language be revised as follows: "On February 8, 2017, RTDI registered as a manufacturer."	Concur and will make the requested change.
end			