seastreak LLC

JACK BEVINS
VICE PRESIDENT OF OPERATIONS
[redacted] EXT. [redacted]

October 6, 2022

Luke Wisniewski
Office of Marine Safety
National Transportation Safety Board
490 L'Enfant Plaza, SW
Washington, DC 20595

SEASTREAK, LLC'S PARTY SUBMISSION TO THE NATIONAL TRANSPORTATION SAFETY BOARD CONCERNING THE INVESTIGATION OF THE JUNE 5, 2021 *M/V COMMODORE* GROUNDING EAST RIVER N.Y.

Dear Mr. Wisniewski,
Nation Transportation Safety Board,

We have reviewed the factual materials and reports of the National Safety Transportation Board ("NTSB") groups investigating the grounding of the M/V Commodore in the East River, New York occurring on June 5, 2021. At the outset, we would like to thank the NTSB for its professionalism during the lengthy investigation into this matter. It has been evident that the sole goal of the NTSB's investigation has been to enhance safety in our industry.

SeaStreak, LLC has attempted to assist and accommodate the NTSB throughout this process, and we hope that our efforts have not gone unnoticed. We share as our top priority the NTSB's focus on vessel safety, and for that reason have made every effort to facilitate the NTSB's investigatory efforts. SeaStreak has participated in the technical review of the factual reports and data gathered by the NTSB, and has provided significant input concerning those reports.

SeaStreak takes vessel safety very serious. SeaSteak realizes that safety is an all-encompassing, on-going process, and commits to continue its efforts to make its vessels as safe as possible.

Sincerely,

B[redacted]

Jack Bevins
Vice President of Operations

Seastreak Causality Analysis, Causes, Conclusion and Lessons Learned

Analysis

On the morning of June 5, 2021, prior to the vessel commencing daily service, the captain and crew followed all Safety Management System Procedures including "Start-up Checklist 01" which includes checking all of the critical systems including propulsion and steering controls before leaving the dock to commence service. All systems were found to be fully operational and functioning properly. While operating in "Hand Mode," the vessel's Main A Control Panel flashed and went into a rebooting sequence at about 1607:09. Audio and visual (flashing light) indicators that "control failure" had occurred in both the Port Jet Outer 1 and Port Jet Inner 2 water jet systems appeared on the vessel's main B Control Panel as well as both the port and starboard wing station displays, and on the water jet alarm panel.

The Main A Control Panel's SD card, containing both the software necessary to run the control system and the log files, failed. No usable information was retrieved from the card itself or the system which would indicate why the sd card failed. The sd card failure very likely resulted in the Main A Control Panel attempting to re-boot. In order to re-boot, the system would need to access boot files on the sd card, but here it was unable to do so. At no point after the incident was the Main A Control Panel ever successfully re-booted using the sd card in the Main A Control Panel. This failure presented an essentially black screen with some small white text as the unit continued unsuccessfully to attempt to re-boot.

The At 1607:21, the captain first attempted to regain control by pulling back the thrust levers to the zero position. The system was still in control of the starboard engines (3, 4), which responded to the command. The port propulsion (engines and water jets) was not controllable by the thrust levers once the Main A Control Panel failed to reboot. The port waterjets remained ahead at the last command (as per the approved system design), while the starboard water jets responded to the command. This caused the vessel to turn to starboard. The captain next attempted to re-connect the port water jets using the Main B Control Panel but since the reconnect icons were not green, the port waterjets were not available for reconnect.

At 1607:45 the captain moved the thrust levers from the zero position to full reverse. Only the starboard engines responded to this command, lowering the buckets on water jets 3 and 4 as well as increasing the engine RPM on starboard engine 3 and 4 serving water jets 3 ad 4 to 1400 RPM for full reverse. With the port water jets remaining in the last command of ahead propulsion and the starboard water jets now in astern propulsion, the vessel slowed to 16.9 knots and continued to turn to starboard. At 1608:08 the Captain attempted to place the propulsion controls in "Harbor Mode" (harbor auto) but the port propulsion system did not respond to this command. At the same time, the mate was instructed by the captain to make announcements to the passengers about the situation.

With the Main A Control Panel still in a reboot sequence, the captain left the center helm controls and transferred to the port wing station via the port wing Control Panel and tapped on one of the red triangles, attempting to "reconnect the water jet controls" to regain control. The system was not available to reconnect because the port water jet reconnect icon was not green. At the port station, the captain placed both thrust levers in the full reverse position and pushed the steering tiller hard to port. Here again, the port side propulsion did not respond to the commands, but the starboard side did. The mate, at the captain's instruction, continued to make announcements to the passengers instructing them urgently to remain seated.

Approximately 1 minute and 52 seconds after the initial alarm sounded the vessel was striking bottom in Bushwick Inlet and came to rest. All of the control methods that the captain attempted to use which relied on the Main A Control Panel's communication with the control units for the port propulsion system were unsuccessful because the sd card's failure left no path for data to flow from any other display to the port propulsion system.

Each step of the procedure for regaining control of the vessel which the captain attempted was in conformance with the sequence of casualty control actions he had been trained to follow. By the time the vessel entered Bushwick Inlet, less than 2 minutes after the initial alarm, the available data does not indicate that the captain had reached the step in the emergency procedures where the propulsion controls were placed in the "back up" control mode.

Causes

- The initial cause of the casualty itself was the failure of the sd Card in the Main A Control Panel. The cause of the sd card failure has not been identified.
- The resulting loss of control of the port propulsion system contributed to the vessel going out of the channel, into Bushwick Inlet and grounding, resulting in substantial damage to the vessel.
- The actions by the captain in attempting to regain control of the port control system resulted in both slowing the vessel and its turn to starboard.
- The initial steps to regain control under a loss of control scenario involved multiple attempts to regain control by using alternative modes of control, but each of those modes relied on a functioning display to communicate with the port propulsion system. Only after following these procedures which are outlined in the manufacturer's operating manual, are attempts at methods of control such as "back up" which bypass the Primary Control System made. Completion of the casualty control steps in relation to the time available was insufficient before the loss of control resulting in grounding and damage.

Conclusions

- The loss of control resulted from the failure of the sd Card in the Main A Control Panel. No deficiencies in the maintenance of this system were found.
- The initial casualty control actions performed by the captain were in accordance with the manufacturer's operating manual, his training and the company's Safety Management System.

Lessons Learned

- Procedures for loss of water jet control resulting in loss of control over the vessel's speed and maneuvering should be capable of rapid completion in order to limit the time the vessel is out of control and reduce the associated dangers. If control cannot be immediately regained over the water jet using the Main Control Panel, subsequent attempts from other control panels or other modes that rely on the water jets connection to the Main Control Panel will not be able to regain control. Other methods of regaining control or reducing speed, specifically use of back up control, should be early steps in casualty control.
- The procedures have been changed from the lessons learned in this incident to streamline to a single attempt to reconnect the waterjets, followed immediately by shifting to back up control, failing which the engines are to be stopped using the emergency shutdown buttons.

seastreak LLC

JACK BEVINS
VICE PRESIDENT OF OPERATIONS
[redacted] EXT. [redacted]
[redacted] MOBILE
[redacted]

October 6, 2022

Luke Wisniewski
Office of Marine Safety
National Transportation Board
490 L'Enfant Plaza East. S.W.
Washington, DC 20594

1. What was the total damage / repair costs for the Commodore (IAW NVIC-01-15)? Approximately 2.5m.

2. Request Commodore's: CCTV footage from the cameras in the Port and STBD Jet Room that face the water jet actuators 30 minutes before-30 minutes after the accident. Will FedEx thumb drives (large files).

3. What month / year was Captain Brian Costello promoted to permanent / full time captain? In his interview, he stated he was a Captain for the last five years. February 2016.

4. When main A display screen crashed and failed to reboot, the port wing station controls (joystick, thrust lever, steering tiller) based on your review of the data collected onboard, you indicted the port wing station should not have been available to the crew to maneuver the vessel? Is this correct? What source are you basing that fact on ie; manual, drawings, FMEA? Request further explanation of your position. This is correct. To control propulsion and steering for the port engines from the port wing station, the Main A display screen must be functional. The Port Wing display continued to function as a display, but it could not control the port engines for the same reason that the Main B display and Starboard wing display could not. That is because Main A software was not functioning resulting in loss of CAN BUS communication to Port Outer and Inner water jet. See DWG DMN000240443 C sheet 27 of 40, CAN BUS identified at cable 301. Since Main A touch screen was not functional, CAN BUS data could not be passed from the display screen to the Control Units. As shown in the drawing, the only path for CAN BUS data

2 FIRST AVENUE
ATLANTIC HIGHLANDS, NJ 07716

from the other displays to the Port engines Control Units is through Main A. NOTE: The Back Up controls are separately connected to the Control Units, See DMN000240443 C Sheet 1 of 40, lines identified as 601 (Port Outer) and 621 (Port Inner). In addition please find attached FEMA Hull 491 pg. 14 section 2.0

5. Since the incident, has Seastreak's shore side staff implemented any changes to their policies, procedures, or training base on the lessons learned during the investigation that you would like included in the report? Implemented into the SMS - upon failure of Main A/B stations back up is to be engaged before investigation of failure. SMS startup CH-01 list has been updated to include failure logs checks not just for "active" alarm faults.

6. Please provide reference material on this control system fail-safe mode operation for the Commodore? See attached RR Operating Manual Project No: 16S000696 section 9.

    a. When would this fail-safe mode be applicable? See attached USCG MSC approved FEMA Section 2.0 Main Station display (port & starboard) issued 10/20/2017.

7. Parties were told during the July 19, 2021 verification testing of the back-up steering and propulsion controls that once a "control failure" occurred the steering nozzle, reversing bucket, and engine RPM remained in the same blocked position as the last command input. Please provide your understanding of what should have happened once a "control failure" occurred? If unable to reconnect switch to backup.

    a. Please provide any and all Kongsberg technical service report generated after the accident relating to repairs to the propulsion control system. Please see attached RR technician time sheets.

8. Has there been any changes made or request from Seastreak to Kongsberg to change / alter the propulsion control system onboard the *Commodore* since the accident? Kongsberg has provided Seastreak with new control cabinets to remove the system operating software from the SD card located in the touch display panels to a processor based CCN. Once all drawings have been approved by USCG MSC the new units will be installed.

continuously updated from dedicated waterjet bucket transmitter via a separate indication system. Hence, the bucket indicators will show correct values even in case of a control system failure.

The steering indicators show the actual steering of the waterjet in percentage of full starboard/port turn. The steering indicators are continuously updated from a dedicated steering indication transmitter via a separate indication system. Hence, the steering indicators will show correct values even in case of a control system failure.

6 Thrust control

The thrust can be controlled by one common control lever for the waterjet units or by one separate control lever for each waterjet unit.

The thrust can be controlled by a joystick lever/turning knob (optional).

The levers control the thrust, which means simultaneous control of both the reversing bucket and the engine RPM.

When the operator brings the thrust/steering control lever to a position, the signal is passed to the Control Panel – Port Touch Screen, main station or Control Panel – Stbd Touch Screen, main station. In the Control Panel - Touch Screen, the control system transforms the command signal to a bucket command, a steering command and an RPM command for each jet unit. The RPM command is sent to the engine RPM governor, and the bucket and steering commands are sent to the bucket and steering controllers. The controllers compare the command with the response signals and send "increase" or "decrease" commands to the hydraulic system when needed.

7 Steering control

Steering with lever(s): Each jet is controlled individually by separate levers or in parallel with a common lever.

Steering with steering wheel (optional): The jets are controlled in parallel.

Steering with tillers (optional): The jets are controlled in parallel.

Steering with autopilot (optional): The steering is automatically controlled by an autopilot.

The steering commands are sent to the steering controllers.

8 Touch panel illumination

The brightness of the display and external lamps can be set.

The Clean Screen button makes the display safe to clean by covering the interface with a black panel for 10 seconds. To prevent accidental blocking of the interface, this has to be accepted with the Accept button.

The Lamp Test button lights up all external lamps while pressed.

9 Waterjet control system failure and alarm handling

9.1 General

The waterjet control system is equipped with an internal failure supervision system that in case of errors can give the user information about where in the system the error has occurred.

Failures are indicated by a sounding buzzer and flashing status indications in the touch screens. There are also alarm outputs to be connected to the alarm monitoring system of the ship.

This chapter includes description of optional features, which may not be found in your application. All these options are marked in the text.

If an error is detected by the waterjet control system, an alarm is triggered and a text message describing the error will be displayed in the screens on the bridge stations.

The time the buzzer sounds and the indication lamps flash for different types of failures can be set via editable parameters in the software configuration. The time statements in the following descriptions are default values.

The buzzer sounds also in other situations which require the operator's attention, for instance, at transfer of manoeuvre responsibility.

9.2 System warning

There are a number of different system warnings. System warnings are displayed in the screens on each control station. When a system warning has occurred, the control system continues to operate without disruption. However, another fault, or, for instance, a change of station in command may activate a control failure. It is therefore important, at a system warning, to take measures to locate and repair the faulty devices as soon as possible.

9.3 Control failure alarm

9.3.1 Alarm indications

When the indication CONTROL FAILURE starts to flash while the buzzer sounds, a control failure has occurred in one of the waterjet units. The indication flashes and the buzzer sounds for 6 seconds (default). After that, the buzzer is silenced and the indication gets a steady indication.

When a control failure bucket/steering is detected, the bucket/steering is frozen in the position it had when the failure occurred (the hydraulic control valve(s) of the bucket/steering are disconnected). The bucket/steering of the jet can no longer be changed with the control lever, only with the back-up system.

9.3.2 Possible alarm causes

The cause for a control failure alarm may be:

- Bucket control loop failure. Bucket control failure occurs if there is a deviation between ordered and resulting bucket position and the bucket position is changing too slowly, or it is changing in the wrong direction. When a bucket control failure is detected, the hydraulic bucket control valves are disconnected (blocked). The bucket is frozen in its present position and is no longer controllable with the control system.
- Steering control loop failure. Steering control failure occurs if there is a deviation between ordered and resulting steering position and the steering position is changing too slowly, or it is changing in the wrong direction. When a steering control failure is detected, the hydraulic steering control valves are disconnected (blocked). The steering is frozen in its present position and is no longer controllable with the control system.
- Command error (failure status on the lever in command). Both the bucket and the steering are maintained as they were at the detection of the failure.

9.3.3 Actions to take at control failure alarm

Try to change the manoeuvre responsibility to another station and reconnect the system as described below. If this is not possible, for example on vessels having only one control station, or if the alarm remains, shift over to back-up operation of the waterjet.

9.3.4 Restoring the system

To reconnect the control system after recovery:

1 Set the control lever in a position roughly corresponding to the present steering and reversing position.

2 Press the RECONNECT button. The button is enabled (lit) as soon as the system has recovered. After system reconnect, the system will return to normal operation.

If the control failure alarm was caused by a bucket/steering control loop failure, the RECONNECT button will be enabled directly without corrective actions. If the failure remains, a new control failure alarm will be activated after a few seconds.

Rolls-Royce

110 Norfolk Street
Walpole, MA 02081 USA
Tel: [redacted]
Fax: [redacted]

Components	Items	Potential failure modes	Potential effects of failure	Sev	Potential cause of failure	Occ	Current Design Controls Prevention	Current Design Controls Detection	Det	RPN	Recommendation	Comment
2.0 Main station display (port or stbd)	Power supply	Short circuit	Loss of both WJ (Water Jets) on port or stbd side including one display on main station.	7	Design of display, water ingress, connector design	2			1	14		Separate BU (Back Up) system remain intact
2.1		Open circuit	Loss of both WJ (Water Jets) on port or stbd side including one display on main station.	7	Design of display, water ingress, connector design	3			1	21		Separate BU (Back Up) system remain intact
2.2	CAN connection	Loss of CAN1 (system bus) connection	Loss of JST (Joy Stick) functions, interfaces to external systems (port or stbd) and loss of display functions (port or stbd) on other displays.	6	Design of display, water ingress, connector design, SW design	3			1	18		Manouvering still possible on all stations, but no display functions on this wing. All modes will be made available on main bridge

KONGSBERG

Timesheet

SEASTREAK COMMODORE (RR-42230)

Order Number NE1024145	Project Number	Responsible Site North America
Work Period 24.01.2022 - 10.02.2022	Service Type Field Service	Place Of Attendance United States, 1 Van Houten St, Nyack, NY 10960, USA

Timesheets

SEASTREAK COMMODORE, Order. No NE1024145

KONGSBERG

Week 4 - 2022

Day	Engineer	Time	Hours	Description
24.01.2022 (Mon)	J.Richardson	05:00 - 17:00	12,00	Working hours - Travel to Nyack New York.
25.01.2022 (Tue)	J.Richardson	08:00 - 17:00	9,00	Working hours - Remove shaft line components from Port Outboard jet.
26.01.2022 (Wed)	J.Richardson	08:30 - 16:30	8,00	Working hours - Remove port outboard jet, and move to workshop area.
27.01.2022 (Thu)	J.Richardson	08:30 - 16:30	8,00	Working hours - Remove bucket, steering nozzle, and hydraluic cylinders.
28.01.2022 (Fri)	J.Richardson	09:00 - 16:00	7,00	Working hours - Clean, and inspect damaged threaded fastener opening.
29.01.2022 (Sat)	J.Richardson	07:00 - 15:00	8,00	Waiting time - Waiting for parts arrival.
30.01.2022 (Sun)	J.Richardson	07:00 - 15:00	8,00	Waiting time - Waiting for parts arrival.
		Total hours:	**60,00**	

Field Service Engineer
Richardson, John

Signature
[redacted]

Client
Daniela Marquez

Signature
[redacted]

Timesheets

SEASTREAK COMMODORE, Order. No NE1024145

KONGSBERG

Week 5 - 2022

Day	Engineer	Time	Hours	Description
31.01.2022 (Mon)	J.Richardson	07:00 - 15:00	8,00	Waiting time - Wating for parts arrival.
01.02.2022 (Tue)	J.Richardson	07:00 - 15:00	8,00	Waiting time - Waiting for parts arrival.
02.02.2022 (Wed)	J.Richardson	08:00 - 16:00	8,00	Working hours - Mount Steering nozzle and Reversing bucket.
03.02.2022 (Thu)	J.Richardson	07:30 - 12:00	4,50	Working hours - Move port outboard waterjet to ship, and mount on transom.
04.02.2022 (Fri)	J.Richardson	07:30 - 16:30	9,00	Working hours - Apply sealant and molycote to bolts, and torrque.
05.02.2022 (Sat)	J.Richardson	07:00 - 13:00	6,00	Working hours - Check alignment. Build bearing and seal.
05.02.2022 (Sat)	J.Richardson	13:00 - 15:00	2,00	Waiting time - Waiting for parts delivery.
06.02.2022 (Sun)	J.Richardson	07:00 - 15:00	8,00	Waiting time - Waiting for parts delivery.
		Total hours:	**53,50**	

Field Service Engineer
Richardson, John

Signature
[redacted]

Client
Daniela Marquez

Signature
[redacted]

Timesheets

SEASTREAK COMMODORE, Order. No NE1024145

KONGSBERG

Week 6 - 2022

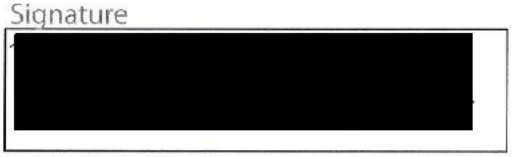
Day	Engineer	Time	Hours	Description
07.02.2022 (Mon)	J.Richardson	07:00 - 15:00	8,00	Waiting time - Waiting for parts arrival.
08.02.2022 (Tue)	J.Richardson	07:00 - 15:00	8,00	Waiting time - Waiting for parts delivery.
09.02.2022 (Wed)	J.Richardson	07:00 - 12:00	5,00	Waiting time - Waiting for parts delivery.
09.02.2022 (Wed)	J.Richardson	12:00 - 17:00	5,00	Working hours - O rings arrive. Install hydraulic cylinders.
10.02.2022 (Thu)	J.Richardson	08:00 - 10:00	2,00	Working hours - Connect rod ends to nozzle and bucket. Install anodes.
		Total hours:	**28,00**	

Field Service Engineer
Richardson, John

Signature

Client
Daniela Marquez

Signature



KONGSBERG

Timesheet

SEASTREAK COMMODORE (RR-42230)

Order Number KR1032046	Project Number	Responsible Site Kristinehamn
Work Period 18.06.2022 - 19.06.2022	Service Type Warranty	Place Of Attendance Sweden, Kristinehamn RR HQ

Timesheets

SEASTREAK COMMODORE, Order. No KR1032046

KONGSBERG

Week 24 - 2022

Day	Engineer	Time	Hours	Description
18.06.2022 (Sat)	C.Nelson	14:30 - 00:30	10,00	Working hours - Travel from Sturgeon bay to hotel in Red Bank, NJ
19.06.2022 (Sun)	C.Nelson	07:00 - 13:00	6,00	Working hours - DVTP with USCG
19.06.2022 (Sun)	C.Nelson	13:00 - 22:00	9,00	Working hours - Return travel to Green Bay, WI
		Total hours:	**25,00**	

Field Service Engineer
Nelson, Craig

Signature
[redacted]

Client
Brian Achille

Signature
[redacted]

From: Wisniewski Luke
To: [redacted]"
Cc: "FITZGERALD, DANIEL"; MATHESON, ERIC
Subject: DCA21FM029: Grounding of Passenger Ferry Commodore - Party Submission Letter
Date: Wednesday, September 14, 2022 12:24:00 PM
Attachments: Party Submission Letter Seastreak.pdf

Good afternoon, Mr. Jack Bevins,

Attached, please find a letter inviting you, as the party representative for Seastreak LLC, to submit a party submission for the investigation of the "Grounding of Passenger Ferry Commodore", DCA21FM029.

Please let me know if you have any questions.

Thank you for all your help throughout this investigation.

Best Regards,
Luke

Luke Wisniewski
Sr. Marine Investigator
Office of Marine Safety
National Transportation Safety Board
490 L'Enfant Plaza East, S.W.
Washington, DC 20594
Office: [redacted]
Cell: [redacted]
Fax: [redacted]

National Transportation Safety Board
Washington, D.C. 20594

September 14, 2022

Mr. Jack Bevins
Seastreak, LLC
2 First Avenue
Atlantic Highlands, NJ 07716
[redacted]

Dear Mr. Jack Bevins,

Party submission for "Grounding of Passenger Ferry *Commodore"*, DCA21FM029.

As a party representative, you are given the opportunity to make a party submission. You are encouraged to submit your proposed conclusions, recommendations, and probable cause under the provisions of 49 CFR 831.14. These submissions may be emailed or sent by express mail to my attention but addressed to the Chair of the National Transportation Safety Board.

You are reminded to abide by the provisions of 49 CFR 831.11 which governs participation on NTSB investigations. I ask that the party submissions be submitted no later than September 23, 2022.

Thank you for your support of marine safety and your assistance with the investigation. If you have any questions, please contact me at (202) 314-6112 or [redacted] For additional information, visit www.ntsb.gov.

Sincerely,

Luke Wisniewski

Luke Wisniewski
Investigator-in-Charge
Office of Marine Safety
National Transportation Safety Board
490 L'Enfant Plaza East, S.W.
Washington, DC 20594
Office: [redacted]
Fax: [redacted]