NATIONAL TRANSPORTATION SAFETY BOARD
Office of Research and Engineering
Vehicle Recorder Division
Washington, D.C. 20594

SPECIALIST'S FACTUAL REPORT OF INVESTIGATION

DCA19FM053

By
Nick Swann

WARNING

The reader of this report is cautioned that the summary of a voyage data recorder audio recording is not a precise science but is the best product possible from a Safety Board investigative effort. The summary or parts thereof, if taken out of context, could be misleading. The summary should be viewed as an accident investigation tool to be used in conjunction with other evidence gathered during the investigation. Conclusions or interpretations should not be made using the summary as the sole source of information.

NATIONAL TRANSPORTATION SAFETY BOARD
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November 23, 2020

Voyage Data Recorder Audio Summary

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1. EVENT SUMMARY

Location:	Chesapeake, VA
Date:	September 23, 2019
IMO:	9604809
NTSB Number:	DCA19FM053

2. GROUP

A group was not convened.

3. DETAILS OF INVESTIGATION

The NTSB Vehicle Recorder Division received the following VDR:

Recorder Manufacturer/Model:	**JCY-1800**
Recorder Serial Number:	**N/A**

3.1 VDR Carriage Requirements

The vessel was constructed in 2012 and according to SOLAS Ch. V was required to have a VDR or Simplified VDR.

3.2 Recorder Description

The JCY-1800 is a VDR system capable of recording navigation, propulsion, control surface, alarm, and automatic identification system (AIS) data. Additionally, bridge audio and communications audio channels are recorded by the system. A minimum of 12 hours of data are recorded by the system.

3.3 Timing and Correlation

The recorded audio files on the JCY-1800 are saved with a filename that contains the time stamp at which it started recording. These time stamps were used to correlate elapsed recording time to UTC, which additionally corresponds to the parametric data recorded by the VDR. All times in this report are given in UTC.

3.4 Description of Audio Events

In agreement with the Investigator-In-Charge, a VDR group did not convene. A summary of events from the VDR follows. Of investigative interest in this summary was the docking pilot's commands to the tugs assisting the Ijssel Confidence. An effort was made to

capture every tug command that was audible, however due to the location of the VDR's microphones used for capturing voice on the bridge wings there was an incredibly low signal to noise ratio. Additionally, the audio channel of the bridge wing was inseparable from an audio channel in the wheelhouse. Constant conversation in a foreign language in the wheelhouse made it very difficult to distinguish the docking pilot's commands to the tugs. According to the attached audio quality scale, the quality of the VDR's recording is classified as poor.

At 06:14:48 the docking pilot was heard entering the bridge. Approximately a minute and a half later, the docking pilot was heard talking to the tug, GM McAllister. The docking pilot then instructed the tug pilot to be on the starboard side of the ship. The pilot of the GM McAllister acknowledged.

At 06:21:44 the state pilot was heard entering the bridge. At 06:22:17 the state pilot was heard greeting the captain and asking if everything was in working order. The captain replied affirmatively.

At 06:26:15 the docking pilot asked the GM McAllister if he was here. The tug captain responded, but what he said was unintelligible in the recording. The docking pilot was satisfied with the tug captain's response.

At 06:29:58 the docking pilot asked a mate on the bridge for a pilot card. The mate's response wasn't audible, but the pilot then responded saying, "thank you."

At 06:30:15 a call was heard saying that all last lines were in on deck.

At 06:34:16 the docking pilot announced himself on VHF to all concerned craft and stated that he is undocking at yard C.

At 06:39:50 the docking pilot gave his first engine order command of dead slow astern.

At 06:42:11 the docking pilot was heard saying, "go ahead easy on that starboard (side/sound)."

At 06:42:31 the docking pilot was heard telling the Nancy McAllister to go one bell. The Nancy McAllister confirmed.

At 06:42:46 the docking pilot was heard telling the Nancy McAllister to stop. The Nancy McAllister confirmed.

At 06:48:56 the docking pilot was heard telling the GM McAllister to go full ahead.

At 06:50:21 the docking pilot was heard again saying, "stop Nancy."

At 06:52:02 the docking pilot gave a stop engines command, the mate of the Ijssel Confidence confirmed.

At 06:53:19 the docking pilot gave the command dead slow ahead, the mate of the Ijssel Confidence confirmed.

At 06:53:49 the docking pilot gave the command slow ahead, the mate of the Ijssel Confidence confirmed.

At 06:54:14 the docking pilot gave the command half ahead, the mate of the Ijssel Confidence confirmed.

At 06:54:20 the docking pilot was heard saying “GM stop.” A response was not audible.

At 06:54:26 the docking pilot gave the command for rudder hard starboard, the mate of the Ijssel Confidence confirmed.

At 06:54:31 the docking pilot gave the command for full ahead, the mate of the Ijssel Confidence confirmed.

At 06:55:16 the docking pilot could be heard saying, “stop.”

At 06:56:18 the docking pilot gave the command for rudder midship, the mate of the Ijssel Confidence confirmed.

At 06:57:03 the docking pilot gave the command to stop the engines and the Engine Order Telegraph (EOT) bell was heard 6 times.

At 06:57:50 the docking pilot gave the command for slow astern, the mate of the Ijssel Confidence confirmed. The EOT bell was heard twice.

At 06:58:32 the docking pilot gave the command for half astern, the mate of the Ijssel Confidence confirmed.

At 06:59:26 the docking pilot gave the command to stop engines, the mate of the Ijssel Confidence confirmed.

At 07:01:36 the docking pilot gave the command for dead slow astern, the mate of the Ijssel Confidence confirmed.

At 07:02:29 the docking pilot gave the command for stop engines, the mate of the Ijssel Confidence confirmed.

At 07:02:59 the state pilot was heard saying “GM easy.” Five seconds later he was heard again saying, “Easy @[Captain of tug GM McAllister] easy.” Seven seconds after that, at 07:03:11, he was heard saying, “all stop GM.”

At 07:03:24, the pilot asked permission to call a new charter.

At 07:04:28 the docking pilot gave the command for dead slow ahead, the mate of the Ijssel Confidence confirmed.

The state pilot was heard on the phone with the Coast Guard Marine Safety Office (MSO) to report damage. A best effort was made to capture what was said:

“First off this is – I am the state pilot I’m on the motor vessel Ijssel Confidence while we were undocking from Elizabeth river terminals as we were in order to make a turn northbound the tugboat on our starboard quarter did some damage to [NGL] energy – the ship itself never touched the island or the dock – the tug GM McAllister was between the ship and the dock and they were maneuvering – we did some pretty substantial damage to a finger pier – we’ve got some debris in the water up here we actually have a piece of pier floating – we probably need to get that taken care of – the tug never grounded and we’re proceeding outbound on the southern branch.”

At 07:07:55 an unidentifiable voice on the bridge was heard saying:

“Yeah in our maneuver the tug was between the ship and the pier and – um – when he swung his stern around his stern took out – did some damage and dropped a finger pier.”

Attachment I

VDR Quality Rating Scale

The levels of recording quality are characterized by the following traits of the voyage data recorder information:

Excellent Quality — Virtually all of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate only one or two words that were not intelligible. Any loss in the transcript is usually attributed to simultaneous bridge/radio transmissions that obscure each other.

Good Quality — Most of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate several words or phrases that were not intelligible. Any loss in the transcript can be attributed to minor technical deficiencies or momentary dropouts in the recording system or to a large number of simultaneous bridge/radio transmissions that obscure each other.

Fair Quality — The majority of the crew conversations were intelligible. The transcript that was developed may indicate passages where conversations were unintelligible or fragmented. This type of recording is usually caused by bridge noise that obscures portions of the voice signals or by a minor electrical or mechanical failure of the VDR system that distorts or obscures the audio information.

Poor Quality — Extraordinary means had to be used to make some of the crew conversations intelligible. The transcript that was developed may indicate fragmented phrases and conversations and may indicate extensive passages where conversations were missing or unintelligible. This type of recording is usually caused by a combination of a high bridge noise level with a low voice signal (poor signal-to-noise ratio) or by a mechanical or electrical failure of the VDR system that severely distorts or obscures the audio information.

Unusable — Crew conversations may be discerned, but neither ordinary nor extraordinary means made it possible to develop a meaningful transcript of the conversations. This type of recording is usually caused by an almost total mechanical or electrical failure of the VDR system.

LEGEND

*	Unintelligible word
#	Expletive
@	Non-pertinent word
( )	Questionable insertion
[ ]	Editorial insertion

Note 1: A non-pertinent word, where noted, refers to a name or a word not directly related to the operation, control or condition of the vessel.