National Transportation Safety Board

Washington, D.C. 20594
Office of Marine Safety

Interview Summary – DCA22FM005

Interview with: Cecil Frye – Engineer *Marquette Warrior*
Date/Time: December 13, 2021, at 0830 CST
Location: *Telephonic*
Interviewed by: [redacted] - USCG, Bart Barnum - NTSB
In attendance: Adam Davis – Council for Marquette Transportation Company
Case: *Marquette Warrior* – DCA22FM005

Mr. Frye was interviewed in conjunction with the investigation into the loss of steering and subsequent grounding of the towing vessel *Marquette Warrior* at mile marker 538 on the lower Mississippi River near Greensville, MS on November 21, 2021, at 1215 in the afternoon. The interview was not recorded. Below is a summary of notes taken by investigators during the interview. Quotes by the interviewee during the interview were captured by investigators and are identified using quotations in this summary.

- Started in the maritime industry in 2017. Received internal training from previous and current employer. Including electrical, diesel engine and hydraulic.
- Been with Marquette Transportation for about 2 years, most of the time in the engine room.
- Does not hold a USCG credential.
- Onboard engineer onboard the *Marquette Warrior* at time of accident. Works the day shift.
- He boarded the vessel and started his trip on 11/2/21.

Accident Events:

- The day of the accident, he described as being a "normal" morning with everything being "fine," but could not remember what he was working on that morning. Possibly mopping the decks after he had completed his morning rounds.
- Indicated that he went to the galley for lunch around 1100.
- After returning to the engine room from the galley and noticed the upper engine room lights "flickering."
- Reported to main switchboard located within the control room and noticed that the middle #2 phase had a ground fault.
- He notified wheelhouse that there was an issue, and he said the bridge said it would be "30 minutes" before they could pull over safely.
- Returned to switchboard and began securing 3-phase, 480V motors to isolate the ground fault. After securing what he could, there was no change in the ground fault.
- Returned to galley and asked cook if the lights were "flashing" in the galley. At that time, he indicated the lights onboard the "whole boat started flashing."
- He ran back to engine room and noticed he was "losing voltage."
- At this time, he said the Mate entered the engine room and notified him that the wheelhouse had said over the VHF radio that the vessel had lost steering.
- Moments later the general alarm sounded.

    - He then swapped from the port generator to the starboard generator, wanting to connect a “fresh energy source.”
    - He said once normal power was regained using the starboard generator, that it was too late, and the vessel already started to run aground.
    - He estimated that it was 5 minutes from when he first noticed the engine room lights flicker to when the general alarm sounded.
    - He indicated that the vessel did not totally lose power just steering functionality.
    - He believes that when he lost the 480V phase and the voltage dropped, there was not enough voltage to run the 480V, 3-phase steering motors.
    - The steering motors were connected to hydraulic pumps which supplied hydraulic power to the steering system.
    - There were two primary and one back up steering pumps, all manually controlled from the wheelhouse or locally.
    - He did not attempt to change over steering pumps nor was he aware if the wheelhouse attempted to change over pumps.
    - Vessel had 2 diesel electric generators, one starboard and one port.
    - During the accident, the port generator was online, and he switched over to the starboard.
    - Estimated that it was 5 minutes after he was notified that the vessel had lost steering, to the point the vessel ran aground.
    - He indicated that he notified the wheelhouse using the “call box” as soon as the vessel regained steering. He said that he knew steering was regained because he could hear the pump come on. Also, the mate called the wheelhouse using the VHF.
- Following the accident, he, port engineer Kevin Coyle and Marquette mechanic Radar changed out the port generator “hot end” also known as an alternator, suspecting its failure.
- The hot end of the port generator had 620 running hours at the time of the accident. He said that it had been changed out new (investigators later identified that the unit was not new but refurbished) in the months prior but he was not onboard at the time.
- The spare hot end that was installed following the accident was a different style with a different control wiring. Marine Service Incorporated (MSI) was called to assist with wiring. MSI did not inspect removed hot end.
- Following the accident, the port generator hot end changed out, tested satisfactory.
- Vessel onboard preventative maintenance system known as V365.
- 11/7/21 – He completed an inspection of the port generator hot end.
    - Know by him as a “hot end checklist”
    - Opened generator to inspect terminal block. No deficiencies observed or noted.
    - Said that he did not have to put a wrench on any connections.
    - 11/13/21 – He signed and entered this inspection into V365.
- Swaps online generators every 300 running hours.
- Indicated that the port generator was put online “a few days before the accident.”
- He said he also inspected switchboard on 11/7/21.
- He said there are written procedures for loss of steering and indicated that they drill on the scenario.

- Had starboard generator “up and running in a few minutes” after he heard from the mate there was a loss of steering.
- Main engines were not affected by the generator failure because they had DC control power.
- Wheelhouse was backing down the vessel when it ran aground.