



National Transportation Safety Board

Washington, D.C. 20594
Office of Marine Safety

Interview Summary – DCA21FM032

Interview of: Stipe Mrgudic – chief engineer of the bulk carrier *Jalma Topic*
Date/Time: July 13, 2021 – 1600 to 1642 CDT
Location: Masters conference room, aboard the MV *Jalma Topic* at anchor, New Orleans, LA
Interviewed by: CWO3 [REDACTED] – USCG and Adam Tucker – NTSB
Attendees: Michael Harowski – Wilson Elser Moskowitz Edelman & Dicker, LLP (representing *Jalma Topic* interests), Ivan Druzijanic (master of *Jalma Topic*), Gareth Fernandes, Newship, Inc. (P & I representative for *Jalma Topic*)
Accident: July 12, 2021, Contact of the Liberian flag bulk carrier *Jalma Topic* with the Crescent Towing office barge fleet at mile 93.5 lower Mississippi river, (NTSB No. DCA21FM032). New Orleans, Louisiana.

This interview summary has been compiled based on Coast Guard and NTSB investigator notes taken during the interview of Mr. Stipe Mrgudic, the chief engineer of the bulk carrier *Jalma Topic*. Mr. Mrgudic expressed that he was accepting of the master of the *Jalma Topic* being present during the interview.

- Mr. Mrgudic has been on board the *Jalma Topic* for four months and ten days. He normally works a contract of 4 months on and 4 months off. He has worked for the company about five to six years first from 2005 to 2010. And then from 2016 to present. He has been chief engineer for about 3 years. Between 2010 and 2016 he worked with another company in the offshore industry where he was chief engineer for two years there. He has been sailing since 2000.
- Mr. Mrgudic said he came on watch in the engine room of the *Jalma Topic* around midnight on July 12. He conducted a round through the engine room and steering gear room with the third engineer and oiler and noticed no discrepancies or problems with any of the vessel's machinery and systems.
- During his time on watch in the engine room, there were no alarms on the machinery automation system until about 0320 when he pushed the main engine emergency stop. They received no alarms in the engine control room in advance of the *Jalma Topic* striking the barge.
- After the impact with the barge, Mr. Mrgudic had all engine crew woken up to check for any leakages, grounding damage or any hull penetrations. He had the third engineer sound the fuel oil tanks and found there were no leakages of fuel oil.
- After the damage assessment, Mr. Mrgudic said he, the first engineer and the mechanic began to concentrate on the steering gear problem and what happened. They spent the day checking and troubleshooting the problem. Mr. Mrgudic thought it might be a coil on the starboard side solenoid but after replacing it with a spare they had on board, there was

no change. The spare solenoid had different markings so before replacing, he checked with the equipment manufacturer who confirmed they could use that part. The solenoid fit perfect, but there was no change.

- After deducing the problem was not with the solenoid, they then tried the emergency steering several times which worked as it should. From that point, it was clear to Mr. Mrgudic that the problem was not with the hydraulic system, and he then began to think the problem may be electrical in nature. Through his dialogue with the equipment manufacturer, they suggested that a servo board might be defective or some other part on the servo like a potentiometer, limit switch, transmitter, or the servo loop. Since they are at anchor, they will wait until they are at a dock before doing any more testing recommended by the equipment manufacturer. Mr. Mrgudic said he is not an electrician so he will need an arrangement to have an electrical analysis done of the systems.
- When asked why the main engine was requested stop from full ahead instead of pushing the full astern button, Mr. Mrgudic explained that time is needed for the propulsion to go from full ahead to full astern. Delivery of fuel to the cylinders needs to be stopped so the engine can be reversed before reintroducing fuel to the cylinders while in astern propulsion. Mr. Mrgudic said he is not sure of how many minutes this takes but it is certainly not one minute which is what they had.
- Mr. Mrgudic recalled that the engine was ordered astern but there was no time for it to reverse direction and come astern before the contact with the barge. Mr. Mrgudic pushed the manual stop after the master called him to request that. The manual stop button shuts down the main engine.
- When asked about excluding the hydraulics as a factor, Mr. Mrgudic said that when they tested the steering in emergency steering mode, the steering worked, and the rudder moved. If it were a hydraulic issue, that would not have worked. They tested this with each pump. For the emergency steering pump, each solenoid for each steering pump could be manually actuated at the pump and both worked when this was done.
- When asked what steering pump was on emergency power, Mr. Mrgudic said that steering pump no. 1 was on the emergency switchboard.
- When asked if any steering gear tests were done prior to arrival into port, Mr. Mrgudic said both pumps were tested prior to arrival into port.
- After testing the hydraulics postaccident, they tested the steering control from the bridge. When this was tested, steering pump no. 2 had no problems and worked as it should. When steering pump no. 1 was used, the same problem occurred both in follow up and non-follow up mode. Both steering systems are independent.
- When asked if the steering system can be run with two steering pumps simultaneously, Mr. Mrgudic said it cannot, only one pump can be on at a time which is the way the system is designed. If the pump that is online shuts down, the other one will start.
- When asked of the alarms they would receive from the steering system, Mr. Mrgudic said they would receive a no voltage and low oil level alarm. They will get an alarm if the pump fails. Mr. Mrgudic said they did not have any alarms from the time he came on at midnight.

- When asked if he had seen a problem like this before, Mr. Mrgudic said he heard of steering gear failures on sister vessels due to electrical issues but did not have any further detail.
- When asked if the engine room of the *Jalma Topic* is an unmanned machinery space, Mr. Mrgudic said it was during navigation at sea. There is always an engineer on duty and if there is any alarm, it would sound in their cabin. The alarm would also sound on the bridge.
- During navigation in the river, the engine room is manned. Two of the senior engineers (he and the first engineer) rotate on watch. Mr. Mrgudic said standby was at 1730 on Sunday (July 11) so the engine room was manned from that point onward. He came on watch at midnight and there were no problems passed on to him when he took the watch.
- When asked of planned maintenance, testing and inspections of the steering systems and associated components, Mr. Mrgudic said that there are checks done on a daily and weekly basis. Oil levels are checked, there are checks for leaks, linkages are checked, and components are greased. They check electrical terminals for any loose fittings due to vibration but there are no checks of the electrical parts. They also conduct checks every three months and report this in their planned maintenance system. Additionally, prior to arrival in every port and maneuvering, the steering gear is also checked as required by the pre arrival checklist.
- When asked about running hours on the steering pumps, Mr. Mrgudic said there are no counters on the steering pumps. There are no overhaul requirements on the steering pumps. To his knowledge, there have been no major repairs or overhauls on any of the system components. If there were any problems or major repairs to the steering gear/systems, this would be documented in the company planned maintenance system and in handover notes.
- The ship superintendents are required to pass along any history of past accidents or troubleshooting related to systems/machinery. Mr. Mrgudic said that sometimes equipment manufacturers send troubleshooting information.
- When asked to explain his findings related to the problem with the steering system, Mr. Mrgudic said the failure occurred when pump no. 1 was in use in the follow up mode. There was no loss of power to the pump, and if there was, they would have gotten an alarm for that.
- When asked why there was a bag inside the control and power box, Mr. Mrgudic said that was silicon gel to keep moisture under control and as far as he knew, that was from the shipyard.
- When asked about the hydraulic system filtration, Mr. Mrgudic said they get a red indication when there is a difference in pressures. This is the indication for them to replace the filter cartridge and once done they get a green indication.

End of summary