



TREASURY DEPARTMENT
UNITED STATES COAST GUARD

Address reply to:
COMMANDANT (MVI-3)
U.S. COAST GUARD
WASHINGTON, D.C. 20226

5943/CEDARVILLE-
TOPDALSFJORD
A-9 Bd
6 Feb 1967

Commandant's Action

on

The Marine Board of Investigation convened to investigate the collision of the SS CEDARVILLE and Norwegian MV TOPDALSFJORD on 7 May 1965 in the Straits of Mackinac with loss of life

The record of the Marine Board of Investigation convened to investigate subject casualty has been reviewed and the record, including the Findings of Fact, Conclusions and Recommendations, is approved subject to the following comments.

REMARKS

1. Concurring with the Board, it is concluded that the cause of the casualty was the failure of the Master of the SS CEDARVILLE to navigate his vessel in a period of reduced visibility in compliance with the Statutory Rules of the Road. Despite the presence of radar, radio-telephone and recommended track lines, the primary anti-collision deterrent must continue to be compliance with the Rules of the Road. The prudent mariner must not allow habit, familiarity with route, frequency of passage or the presence of various navigational aids to lessen his duty to comply with the Rules of the Road.
2. Great Lakes bulk carriers are not generally capable of withstanding unrestricted flooding of any main cargo space. When the collision occurred and the flooding could not be controlled the vessel was in danger of eventual sinking.
3. In arriving at a determination as to the speed changes and maneuvers of the SS CEDARVILLE prior to the collision, the Board accepted the testimony of the Wheelsman in lieu of that of the Master. Although the Third Mate who was also in the wheelhouse and the engineer on watch did not survive the casualty, this conclusion is supported by the record of testimony. It is recognized that in periods of crises the witness' recollection of facts is often at variance with the situation as subsequently determined to have existed. Accordingly, no further action concerning this conclusion will be taken.



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4. During the final minutes prior to the casualty, Mr. Charles H. Cook, missing Third Mate of the SS CEDARVILLE was at the radar scope advising the Master. Records indicate that the license of Mr. Cook was endorsed as "radar observer."

5. Action concerning the evidence of violations of the Rules of the Road on the part of Captain Martin E. Joppich of the SS CEDARVILLE has been taken under the Suspension and Revocation Proceedings.

6. The Secretary of Commerce with the concurrence of the Secretary of the Treasury has approved the award of a Gallant Ship Citation and Plaque to the German SS WEISSENBURG with ribbon bars to each member of the crew for their part in the rescue of the survivors.



W. J. SMITH
Admiral, U. S. Coast Guard
Commandant

5943/SS CEDARVILLE
MV TOPDALSFJORD A-9
Bd 28 September 1965

From: Marine Board of Investigation
To: Commandant (MVI)

Subj: Collision between the SS CEDARVILLE, ON 226492, and the Norwegian MV TOPDALSFJORD, ON 36485, in the Straits of Mackinac, Michigan 7 May 1965 with the resultant sinking of the SS CEDARVILLE and loss of life

FINDINGS OF FACT

1. At approximately 0945R (EST) on 7 May 1965, the American SS CEDARVILLE and the Norwegian MV TOPDALSFJORD collided in fog in the Straits of Mackinac, Michigan. As a result the SS CEDARVILLE sank at approximately 1025R on the same day with the loss of seven lives thereon. In addition, there are three more crew members still missing. 16 other crew members of the SS CEDARVILLE were injured, while nine were rescued uninjured. The loss of the CEDARVILLE was estimated at \$3,500,000 with an additional estimated cargo loss of \$21,000. There were no injuries or loss of life on the MV TOPDALSFJORD and the damage, confined to the bow section, was estimated at \$30,000.

2. The following are vessel particulars:

Name:	CEDARVILLE	TOPDALSFJORD
Official Number:	226492	36485
Service:	Freight (Self-unloader)	Freight
Gross Tons:	8,575	5,839.81
Net Tons:	6,229	3,343.28
LOA:	603.9	423.6
Breadth:	60.2	54.0
Depth:	32.0	-
Propulsion:	Steam Reciprocating	Diesel
Horsepower:	2,200	6,200
Home Port:	New York, NY	Oslo, Norway
Built:	River Rouge, Michigan	Göteborg, Sweden
Year:	1927	1959
Owners:	US Steel Corporation New York, NY	Norwegian-American Lines Oslo, Norway
Operators:	Lake Shipping-Bradley Fleet Rogers City, Michigan	Same as Owner

Certificate of Inspection:	US Coast Guard 28 March 1965	
Great Lakes Radio Certificate:	FCC, 23 March 1965	QI-193
Master:	Martin E. Joppich 146 South First Street Rogers City, Michigan No. 246189	Canadian Govt 26 April 1965 Rasmus Haaland Christopheil Vei, #8 Oslo, Norway A-1461 #2307 (All Great Lakes)
License:		
Canadian Certificate of Qualification:	-	
Licensed Experience:	19 Years	29 Years
Great Lakes Licensed Experience:	19 Years	19 Round Trips

3. Deceased crew members of the CEDARVILLE are as follows:

Frank Donald Lamp, 578 W. Friedrich Street, Rogers City, Michigan.
License No. 246197, HK-#209235, Chief Engineer. Next-of-kin, Mrs. Alice Marie Lamp, Wife, same address.

Reinhold Frederick Radtke, 416 Brege Drive, Rogers City, Michigan.
License No. 261980, Z-955172 D-1, Third Assistant Engineer. Next-of-kin, Mrs. Rits Radtke, Wife, same address.

Wilbert W. Bredow, 636 S. Second Street, Rogers City, Michigan.
HK-#140362, Steward. Next-of-kin, Mrs. Cecelia Bredow, Wife, same address.

Edward H. Jungman, Frederic, Michigan. Z-835668, Deckwatchman. Next-of-kin, Mrs. Jennie Lee Jungman, Wife, same address.

Arthur J. Fuhrman, 764 N. Charles Street, Rogers City, Michigan.
Z-1073496, Deckwatchman. Next-of-kin, Mrs. Barbara Fuhrman, Wife, same address.

Stanley Haske, 425 S. First Street, Rogers City, Michigan. Z-809024 D-1, Wheelsman. Next-of-kin, Mrs. Elizabeth Haske, Wife, same address.

William B. Asam, 324 N. Sixth Street, Rogers City, Michigan.
Z-857730 D-1, Wheelsman. Next-of-kin, Mrs. Patricia Asam, Wife, same address..

4. The crew members of the CEDARVILLE who are missing as a result of this casualty are as follows:

Charles H. Cook, Route No. 1, Bradley Highway, Rogers City, Michigan.
License No. 246175, EK-#140598, Third Mate. Next-of-kin, Mrs. Jean Cook,
Wife, same address.

Eugene F. Jones, 451 S. Second Street, Rogers City, Michigan. EK-#072622,
Stokerman. Next-of-kin, Mrs. Marion Jones, Wife, same address.

Hugh Wingo, 439 N. State Street, Rogers City, Michigan. EK-#130807,
Oiler. Next-of-kin, Mrs. Ila Wingo, Wife, same address.

5. The crew members of the CEDARVILLE who were reported injured as a result of the casualty and the subsequent exposure and immersion are as follows:

Martin E. Joppich, 146 S. First Street, Rogers City, Michigan, Master -
EK-#140534.

Leonard T. Gabrysiak, 336 E. Huron Street, Rogers City, Michigan,
Wheelsman - Z-955875.

Angus Donke, RFD #1, Box 72, Rogers City, Michigan, Watchman - EK-#252165.

Ivan Trafelet, Millersburg, Michigan, Watchman - Z-1073664 D-1.

Edward Brewster, 441 W. Brege Drive, Rogers City, Michigan, Watchman -
Z-955690.

Robert G. Bingle, 305 S. Fourth Street, Rogers City, Michigan, Deckwatch-
man - Z-1140620.

Larry D. Richard, 183 S. Second Street, Rogers City, Michigan, Deck Hand -
Z-1185766.

Elmer H. Emke, Posen, Michigan, Deck Hand - Z-1149624.

Harry H. Bey, White Birch Lane, Rogers City, Michigan, Second Assistant
Engineer - EK-#129864.

Michael J. Idalski, 778 Charles Street, Rogers City, Michigan, Third
Assistant Engineer - EK-#094839.

William J. Friedhoff, 1396 Spruce Street, Rogers City, Michigan, Oiler - Z-1097490.

Billy R. Holley, 1175 D'Vincent Street, Rogers City, Michigan, Stokerman - Z-995143.

Anthony Rosmys, Posen, Michigan, Stokerman - HK-#314709.

James G. Lietzow, 1265 Birchwood Drive, Rogers City, Michigan, Repairman Helper - Z-1200594.

Arthur Martin, 439 St. Clair Street, Rogers City, Michigan, Second Cook - Z-107345.

David M. Erickson, 1039 Birth Street, Rogers City, Michigan, Porter - Z-1133065 D-1.

6. The weather condition at the time and place of the casualty was dense fog with visibility estimated to be 300 - 600 feet. The winds were light from the southwest, the barometer 30.24 and the air temperature 41° Fahrenheit. There were indications of electrical weather disturbances in the Straits of Mackinac area. The water temperature was estimated at 36° F.

7. The CEDARVILLE departed Calcite, Michigan at 0501R on 7 May 1965 en route to Gary, Indiana with 14,411 tons of open hearth limestone and a crew including the master of 35. The draft of the CEDARVILLE was 22' 01" forward and 22' 05" aft.

8. The CEDARVILLE proceeded to the Straits of Mackinac under the supervision and navigation of the master. The master, in conjunction with the officers on watch, Chief Officer H. Piechan to 0800R and Third Officer C. Cook, thereafter, was utilizing the RCA (3 centimeter) radar and the radio direction finder to establish their position. The radar gave readings relative to the vessel's head and had five scales - 1½, 4, 8, 20 and 40 statute miles. The vessel was equipped with a gyro compass that was also being used. The gyro had been checked on the range leaving Calcite, Michigan and had indicated no error. The vessel was also equipped with the usual Great Lakes AM and FM radiotelephones, which were manned by the master. All navigation, communication and operating equipment or machinery was in satisfactory working condition prior to the casualty.

9. On the morning of the casualty, the deck watch officers were noting some of the pertinent operating data in the Bridge Log Book, and were using Lake Survey Chart No. 6 (Straits of Mackinac) or No. 60 (Lake Huron - Straits of Mackinac). The vessel's engine room policy was to record engine speed orders in the Engine Bell Book and pertinent operating data in the Engine Log Book. Of the vessel's records only the Bridge Log Book has been recovered to date. At the time of the collision Third Assistant Engineer R. Radtke was on watch in the engine room, L. Gabrysiak was helmsman and I. Trafelet was on the port wing of the bridge as lookout. Communication between the lookout and bridge personnel was by direct word of mouth. The bridge wing was 25 feet aft of the stem of the vessel.

10. After clearing the harbor at Calcite the CEDARVILLE proceeded toward the Straits of Mackinac in light fog at full speed (88 RPMs - approximately 12.3 mph). Great Lakes fog signals were being sounded utilizing the automatic fog signal device. With Forty Mile Point abeam at 0558R, two statute miles off, a new course of 305° gyro was set. Visibility was approximately one mile. The 305° course, which generally follows the indicated track line on the Lake Survey Chart No. 60 was continued to 0748R when the course was altered to 261° gyro using Poe Reef Light radio beacon (LL No. 1513 - 1965) and a radar range as a position fix. At 0812R with Poe Reef Light visible and abeam to starboard, approximately one-half mile off, the course was changed to 285° gyro. At 0842R the Cheboygan Traffic Lighted Bell Buoy (LL No. 1524 - 1965) was abeam close aboard to port. Visibility, at this time, had decreased to about one-half mile. No alterations of the engine speed orders had been given; however, the engine RPMs at 0759R and thereafter were noted in the Bridge Log Book as having decreased to 84 RPMs, caused by less deep water and not by personnel action. The average speed of the CEDARVILLE from Forty Mile Point to Cheboygan Traffic Buoy was 11.7 statute miles per hour.

11. At Cheboygan Traffic Buoy, a course of 302°T (302° gyro) was set for the Mackinac Bridge Lighted Bell Buoy No. 1 (LL No. 1562 - 1965). As on previous changes of course, the master of the CEDARVILLE transmitted a security call on Channel 16 (156.8 MC/S) and Channel 51 (2182 KC/S) announcing the new course and position of his vessel.

12. Approximately five minutes after assuming the new 302° gyro course, radio-telephone communications were established with the SS HENSON FORD downbound from Mackinac Bridge to Cheboygan Traffic Buoy. A passing arrangement was agreed upon verbally by both vessels and one-blast sound passing signals were initially exchanged for a port-to-port passing, while the vessels were still two miles apart. The CEDARVILLE's course was modified to 305° gyro to facili-

tate the meeting situation. The vessels passed each other without incident at a distance of one-half mile apart. The CEDARVILLE did not see the BENSON FORD visually. Although the master of the CEDARVILLE stated he had reduced his speed to half ahead (50 RPMs) at this time there are no other records, testimony, or indications of any change in the engine speed orders to this point.

13. The CEDARVILLE continued its 305° gyro course to keep clear of expected downbound vessels. Approximately three or four miles from the Mackinac Bridge, the CEDARVILLE established radiotelephone communications on Channel 51 with the German Vessel WEISSENBURG, which was approaching east in the Mackinac Bridge channel. When the WEISSENBURG indicated an intention to go down the South Channel, a port-to-port passing arrangement was agreed upon verbally by both vessels. The course of the CEDARVILLE was altered to 310° gyro to facilitate the meeting. Confirming sound signals were not exchanged between the two vessels. Visibility was estimated to be 1200 feet at this time. The CEDARVILLE continued to sound fog signals. The lookout then reported underway fog signals from the relative direction of Mackinac Bridge. They were also heard by the master from his position in the front window in the pilothouse. Although the master of the CEDARVILLE stated he had reduced speed to slow ahead (25-30 RPM) upon communicating with the WEISSENBURG, there are no other records, testimony or indications of any engine speed order changes from full ahead to this point.

14. The WEISSENBURG passed under the Mackinac Bridge at 0938R and about that time the German master told the CEDARVILLE that there was a Norwegian vessel ahead of the WEISSENBURG. The master of the CEDARVILLE attempted to communicate with the "Norwegian vessel" and arrange for a passing agreement; however, no contact was made.

15. The master of the CEDARVILLE continued to get radar reports of a target - later identified as the TOPDALSFJORD - from Third Officer Cook on the radar. Under the master's instructions, the range scale settings were alternately changed between the 1½, 4 and 8 mile scales. As the range between the vessels decreased two different versions of the events were related.

- a. According to the Wheelsman, I, Gabrysiak, the course was changed to the right and steadied on 325° gyro and the speed of the vessel was then reduced to half-speed ahead (50 RPMs). The third mate then reported to the master that the other vessel was closing in on the CEDARVILLE and the bearing was not changing. One-blast passing

signals in accordance with the Great Lakes Rules were then sounded on the CEDARVILLE in between the fog signals using the manual whistle controls. The last one-blast signal was a very long blast. Shortly thereafter the TOPDALSFJORD was observed coming out of the fog at an estimated 100 feet. The engines were then placed on slow ahead (25-30 RPMs). As the vessels converged, the master placed the engines on full ahead and ordered hard left.

- b. According to the Master, M. Joppich, the CEDARVILLE was proceeding at slow ahead (25-30 RPMs) on course 310 gyro with the third mate keeping him informed of the other vessel's bearing and range on the radar. Within the two-mile range no precise ranges or bearings were reported; however, the tendency of the other vessel to be "widening out to port" was reported. One-blast passing signals in accordance with the Great Lakes Rules were then sounded on the CEDARVILLE in between the fog signals using the manual controls. After several unsuccessful attempts to make radio contact with the "Norwegian vessel" and with the range decreasing, the vessels course was changed to the right gradually as recommended by the third mate. The TOPDALSFJORD was then noted looming out of the fog at an estimated 900 feet. The helm was ordered immediately to hard right and full ahead was rung up on the engines. When the CEDARVILLE's bow passed ahead of the TOPDALSFJORD's bow, the helm was ordered hard left in an effort to swing the stern clear.

16. The TOPDALSFJORD was on a steady heading and at right angles to the CEDARVILLE's general approach. The TOPDALSFJORD's bow collided with the CEDARVILLE at 0945R abreast of No. 7 hatch on the portside at a near perpendicular angle with only moderate impact felt. There was no danger signal sounded on the CEDARVILLE at or prior to the collision.

17. The TOPDALSFJORD departed Milwaukee, Wisconsin at 1830R on 6 May 1965 en route to Fort William, Ontario via the St. Marys Falls Canal at Sault Ste. Marie, Michigan with 1800 tons of general cargo. The draft of the TOPDALSFJORD was 14' 4" forward and 18' 6" aft. The bow on the vessel is ice strengthened and rakes forward.

18. The TOPDALSFJORD proceeded to the Straits of Mackinac from Milwaukee without incident. As the vessel approached the Mackinac Bridge, the master assumed the supervision of the navigation of the vessel. The master was assisted on the bridge after 0800 by the Chief Officer, K. Fagerli, the Second

Officer, J. Gronstol, on the radar and the Radio Officer, A. Mellberg, on the AM and FM radiotelephones. The watch also consisted of wheelsman K. Oskarsen, and due to the estimated one-half mile visibility, a lookout, A. Bergkvist, was stationed on the bow. Communications between the bridge and the bow was by an intercom loudspeaker located 20 feet aft of the extreme bow. The bridge was approximately 200 feet from the bow.

19. The TOPDALSFJORD's radar was being used for navigational purposes. The Decca radar gave readings relative to the vessel's head and had range scales of 0.75, $1\frac{1}{2}$, 3, 6, 12, 24 and 48 miles (nautical). The vessel was also equipped with a gyro compass, which had no error when last checked on the present Great Lakes trip. All navigation, communication and operating equipment was in satisfactory working condition on the day of the casualty.

20. After clearing Grays Reef Passage on 7 May 1965, the TOPDALSFJORD proceeded at full speed (average 118 RPMs) with stand-by on the engine telegraph due to the restricted visibility. Fog signals in accordance with the Great Lakes Rules were being sounded. At 0818R a radar position 094° from White Shoal Lt. 3.1 statute miles off was plotted. Inasmuch as the position was 0.7 miles north of the Lake Survey Chart 093° track line from White Shoals to the Mackinac Bridge, a new course to make 095° good was set for the Mackinac Bridge. At 0850R the western edge of St. Helena Island was abeam with the intended course made good. An average speed of 17.4 statute miles per hour was attained between 0818 and 0850.

21. At 0903R the TOPDALSFJORD's speed was reduced to various maneuvering speed engine orders including stop as the vessel was navigated in respect to an unidentified vessel westbound from the Mackinac Bridge. The TOPDALSFJORD informed the German Vessel WEISSENBURG following closely behind her of the various speed changes being made up until the time of collision. Although security information was sent by radiotelephone from both meeting vessels, no mutual passing agreements were arranged, nor were sound passing signals exchanged. The vessels passed each other port-to-port at approximately 0927R, two miles west of the Mackinac Bridge without incident. The TOPDALSFJORD continued at reduced maneuvering speeds with visibility steadily decreasing. In the vicinity of the Mackinac Bridge an additional bow lookout, Stale Gule, was posted.

22. At 0935R the TOPDALSFJORD passed under the Mackinac Bridge to the left of the center of the main span. The radar was operated then on the $1\frac{1}{2}$ mile scale. The course was altered to 108° gyro as the master then decided to take the South Channel route instead of Round Island Passage because of the

restricted visibility. Two security calls denoting the position and new course were sent by Radio Officer Mellberg on the radiotelephone on Channel 16 and 51 with no reply. Shortly thereafter a radar target 20° relative on the starboard bow was reported at a range of 1.5 miles (nautical). Fog signals of a vessel underway were also heard from the same general direction. The fog signal of a vessel at anchor, later identified as the J. E. UPSON, was also heard 60° relative on the starboard bow as well as that of the WEISSENBURG underway astern of the TOPDALSFJORD. In view of the relative position of the approaching vessel, the 108° gyro course was maintained on the TOPDALSFJORD and the engines placed on dead slow ahead (approximately 40 RPMs 3 - 4 knots) at 0940R. The radar bearings of the approaching vessel changed from 20° to 29° relative on the starboard bow as the range decreased to 0.5 mile as reported by the second mate. The engines were placed on slow ahead (50-55 RPMs, 6.5 knots) at 0942R. As the range continued to decrease the second mate reported to the master that the radar target was so large, accurate bearings or ranges could not be taken. The engines were then placed on stop at 0943R. The visibility at this time was estimated to be approximately 600 feet.

23. The master of the TOPDALSFJORD, standing outside the wheelhouse door on the starboard bridge wing, then heard one very long blast on a ship's steam whistle close at hand broad on his starboard bow. As the whistle continued sounding the CEDARVILLE was then sighted by personnel from the bridge and bow simultaneously looming out of the fog at a distance estimated to be 250 feet from the TOPDALSFJORD's bow. The TOPDALSFJORD's engines were placed on emergency full astern at 0945R by double rings on the engine room telegraph. 105-110 RPMs were attained on the engines in reverse prior to the collision. The helm was placed on hard right to augment stopping the vessel. The CEDARVILLE's course was nearly perpendicular to the TOPDALSFJORD's course. The CEDARVILLE's speed was estimated by the TOPDALSFJORD's bridge personnel at 6 - 8 mph as it passed in front of the bow. The master of the TOPDALSFJORD stated he noted his own prop wash advancing up the TOPDALSFJORD's side before impact. At 0945R plus the TOPDALSFJORD's bow struck the CEDARVILLE amidship at near right angles on the portside with only a moderate impact felt. The TOPDALSFJORD was embedded in the CEDARVILLE only briefly as the forward motion of the CEDARVILLE swept the TOPDALSFJORD's bow around to a heading of approximately 37° gyro. The CEDARVILLE continued on and disappeared in the fog. The engines on the TOPDALSFJORD were stopped at 0946R. There were no danger signals or passing signals sounded by the TOPDALSFJORD at or during the events leading to the collision. The master of the TOPDALSFJORD stated he was poised to sound a danger signal at the conclusion of the very long blast that was being heard, but since the CEDARVILLE loomed out of the fog still sounding the long blast, Captain Haaland then considered a collision inevitable.

24. Following the collision, the TOPDALSFJORD drifted in the dense fog in the immediate area of the collision. The vessel's two lifeboats (one motor equipped) were prepared for launching. The boats were dispatched to search for survivors when the sinking of the CEDARVILLE became known. The vessel drifted to 1115R and then proceeded to an anchorage near Mackinac City. The lifeboats returned to the TOPDALSFJORD at about 1600R without having located any personnel from the CEDARVILLE.
25. The approximate position of the collision was 078⁰T, 6,600 feet distant from the south tower of the Mackinac Bridge. The average speed of the TOPDALSFJORD from the Mackinac Bridge to the collision was approximately seven statute miles per hour. The full speed of the TOPDALSFJORD is about 17.5 statute miles per hour. The average speed of the CEDARVILLE from Cheboygan Traffic Buoy to the collision was approximately 12.4 statute miles per hour. The full speed of the CEDARVILLE fully loaded was approximately 12.4 statute miles per hour.
26. There were no reported injuries to personnel of either vessel as a direct result of the collision impact.
27. No radar plot or computations were made prior to the collision by either vessel so that their respective target speeds, courses, or closest points of approach could be determined. The CEDARVILLE's personnel did not record the engine speed changes or course alterations made prior to the collision in the Bridge Log Book.
28. The TOPDALSFJORD was damaged extensively at the bow section extending back 11 feet. Flooding was confined to the forepeak area inasmuch as the collision bulkhead was not breached. The vessel was able to proceed on her voyage via Sault Ste. Marie, Michigan to Port Arthur, Ontario for repairs, and left the area of the collision at 1730R on 7 May 1965. The starboard bow plating of the TOPDALSFJORD was folded across the damaged bow to the portside.
29. The effect of the collision to the CEDARVILLE was holing of the vessel at No. 7 hatch on the portside, above and below the water line. The damage was in the way of No. 4 portside and double bottom tank in the vicinity of frame No. 100. Progressive flooding commenced immediately into No. 2 cargo hold with only the stone cargo as a deterrent. The CEDARVILLE, after impact, took an immediate deep list to port.

30. The collision and engine room W.T. bulkheads are located at frames Nos. 19 and 171 respectively. The area between the bulkheads, in addition to the three cargo holds, consists of the tunnel space with the unloading conveyor system and seven side and double bottom ballast tanks on each side of the vessel. The ballast tanks were numbered from forward, No. 1 through No. 7, with the individual side and double bottom tank as a unit. Tanks Nos. 6 and 7 had trimming tanks that extended to the spar deck. In the collision contact area, the top of the side tank was approximately three feet below the deep load water line. The bulkheads to the adjacent cargo holds and the hopper gates from the holds to the conveyor system in the tunnel space were not watertight. The design of the CEDARVILLE is such that uncontrolled flooding in the cargo spaces will ultimately result in the vessel's sinking.

31. Immediately following the collision, the CEDARVILLE stopped her engines, sounded the general alarm, broadcast a MAYDAY message, and dropped the port anchor. Chief Officer Piechan went aft to assess the damages sustained in the collision. Captain Joppich radioed the WEISSENBURG asking for the name of the Norwegian vessel. The collision was reported to the Mackinac Island Coast Guard Station at 0950R by radiotelephone. No tank soundings were taken. The chief mate reported by telephone later to the master that the CEDARVILLE was taking a tremendous amount of water in No. 2 hold over the cargo and that an attempt to cover the hole with the emergency collision tarpaulin had been unsuccessful due to the size of the hole.

32. The CEDARVILLE's two lifeboats located port and starboard on the after house were swung out and lowered to the spar deck bulwark. The crew, excluding those on watch and those assisting in the engine room, mustered in their life preservers on the spar deck and stood by awaiting further orders. The CEDARVILLE was also equipped with a 15-person life raft forward and a 25-person life raft aft, both of which would float free. There was no panic, confusion or delay in preparing the lifeboats for use. The order to abandon ship was never given. Three life jackets were brought to the pilothouse, but only helmsman Gabrysiak had put his on before the capsizing.

33. As soon as the extent of the damage and its visible effects were realized, the master of the CEDARVILLE commenced operations to raise the anchor and to beach the vessel. At 1010R the Mackinac Island Coast Guard Station heard the CEDARVILLE radio she was attempting to beach the vessel at Mackinaw City. The vessel came hard left, full speed ahead taking the Mackinac Bridge Lighted Gong Buoy No. 2 (LL #1563 - 1965) close aboard to starboard. A course of 140° gyro was set, as furnished by Third Mate Cook, to clear the SS J. E. UPSON anchored off Old Mackinac Point. However, the

position of this anchored vessel was never accurately determined. The master transmitted several MAYDAY messages and also instructed the WEISSENBURG to keep out of his way. At approximately 1025R the CEDARVILLE with little freeboard remaining rolled over suddenly to starboard and sank 120°T, 17,000 feet from the south tower of the Mackinac Bridge. The distance traveled from the point of collision to where the vessel sank was approximately 2.3 miles. The distance remaining to the beach was approximately 2.0 miles. The CEDARVILLE sank in an approximate heading of 140°.

34. The distance from the point of collision to Graham Shoal was one mile and to Old Mackinac Point 2.2 miles. The course from the point of collision to the nearest land at Old Mackinac Point is 215°T.

35. The CEDARVILLE is presently lying deck down in 102 feet of water on her starboard rail in two sections broken at No. 7 hatch. The forward section is lying deck down about a 15° - 20° angle to the horizontal and the after section is lying with its deck down at a 45° angle to the horizontal. The vessel and cargo have been surveyed and determined as unsalvageable.

36. The Chief Engineer F. Lamp and First Assistant Engineer W. Tulgetske went to the engine room after the collision. Inasmuch as there was no pumping orders from the bridge at this time, the first assistant went on deck and made a visual check of the collision damage and returned to the engine room. Upon his return to the engine room and based on his observations pumping was commenced on No. 4 portside and bottom tank. The main ballast pump used was a recently installed 16" x 14" new electric pump rated at 5,250 gallons per minute. Each side and bottom ballast tank unit on the CEDARVILLE was provided with one 8" ballast line located six feet above the vessel's bottom. Approximately four minutes after the pumping was commenced, telephone orders from the bridge to the chief engineer ordered ballasting of the starboard side. The electric pump was stopped and the ballast manifold valves were adjusted to utilize the electric ballast pump to ballast one of the starboard tanks. The tank number is not known as the chief engineer, Lamp, and oiler, H. Wingo, involved in the operation did not survive the casualty. After the electric pump commenced pumping into a starboard tank, a centrifical steam pump rated at 3,600 gallons per minute resumed pumping out of No. 4 port tank. Two horizontal steam drag auxiliary ballast pumps each rated at 2,000 gallons per minute were then placed on the tunnel space sump well. The pumps being utilized all indicated they had suction and were operating properly. Second Assistant H. Bey assisted in lining up the two auxiliary ballast pumps. The Nos. 3, 4 and 5 side and double bottom tanks each have a capacity of 1,042 short tons of fresh water - port and starboard sides inclusive.

37. With the pumps all in operation, the first assistant and second assistant left the engine room. The first assistant stopped briefly on the fantail and further tightened some leaking dogs on the gangway side port. Upon departing the engine room he noted the inclinometer at 6" to port (1°). Shortly after arriving on the spar deck, the vessel heeled over to starboard suddenly and sank.

38. At some undetermined time but before capsizing, the master telephoned the engine room to cease the ballasting operations, as the CEDARVILLE had assumed an even keel.

39. As the CEDARVILLE turned over to starboard, the crew standing by the lifeboats made last minute attempts to launch them. The No. 1 lifeboat was never released and sank with the CEDARVILLE. The No. 2 lifeboat with several crew members aboard was released from the falls as the CEDARVILLE sank beneath it. Both life rafts floated free. The majority of the crew were thrown into the cold water.

40. Third Mate Charles Cook was last seen attempting to don a life preserver in the wheelhouse as the vessel heeled over. His body has not been recovered to date. Captain Joppich was rescued clinging to his life jacket. He had never put it on.

41. Eugene Jones, Stokerman, and Hugh Wingo, Oiler, were both on the 8-12 watch in the engine room and had been seen attending to their duties just prior to the vessel's sinking. Their bodies have not been recovered to date.

42. The WEISSENBURG, under the command of Captain Werner May, made both lifeboats ready for immediate launching and followed behind the CEDARVILLE as she proceeded on course 140°. At about 1030R the bow lookout of the WEISSENBURG reported hearing men crying out from the water ahead. At approximately 1033R the first man was seen swimming in the water. Shortly thereafter both lifeboats were launched from the WEISSENBURG. Six survivors were taken from the water. The CEDARVILLE's No. 2 lifeboat and after life raft with 21 survivors were found and towed back to the WEISSENBURG. On board the WEISSENBURG, the survivors were wrapped in blankets and given stimulants.

43. Paul Jungman, Deckwatchman, one of the survivors, was dead from asphyxiation by drowning and shock when taken aboard the WEISSENBURG.

44. Stanley Haske, Wheelsman, one of the survivors died on board the WEISSENBURG an hour later from shock and exposure.

45. At 0955R the CG-40527 departed Mackinac Island Coast Guard Station (five miles from the point of collision) in dense fog and arrived on scene at 1030R, joined later by the CG-36499. Immediate search operations were initiated; however, no survivors of the CEDARVILLE were rescued by CG craft as all survivors were picked up by the WEISSENBURG. At 1115R the CG-40527 found the forward life raft drifting and empty.

46. At 1042R the USCGC MACKINAW (WAGEB-83) departed Cheboygan, Michigan some 18 miles from the point of collision. Upon arriving in the vicinity at 1204R, it assumed command of the search and rescue operation. At 1248R the MACKINAW moored alongside the WEISSENBURG and took on board the survivors for transfer ashore at Mackinaw City, Michigan. Search operations continued to 12 May 1965 with air craft from Coast Guard Air Station, Traverse City, Michigan, USCGC NAUGATUCK (WYTM-92), USCGC SUNDEW (WLB-404), and units from Coast Guard Group, Charlevoix also participating with negative results.

47. Commercial divers provided by the US Steel Corporation from 10 May to 12 May 1965 recovered five bodies found trapped on the CEDARVILLE. The bodies recovered were as follows:

Donald Lamp, Chief Engineer.
Reinhold Radtke, Third Assistant Engineer.
Wilbert Bredow, Chief Steward.
William Asam, Wheelsman.
Arthur Fuhrman, Deckwatchman.

CONCLUSIONS

1. The SS CEDARVILLE and the MV TOPDALSFJORD collided on nearly perpendicular headings in the Straits of Mackinac at approximately 0945 EST on 7 May 1965. The collision occurred with the TOPDALSFJORD on a course and heading of 108°T.
2. The collision occurred in approximate position 078°T, 6,600 feet from the south tower of the Mackinac Bridge in dense fog.
3. As a result of the damage sustained in the collision, the CEDARVILLE sank in 102 feet of water 120°T, 17,000 feet from the south tower of the Mackinac Bridge at about 1025 EST on the day of the collision. The vessel is resting on her starboard rail, deck down, in two sections, and is considered to be, with her cargo, a total loss.
4. The three men listed as missing, namely, Charles Cook, Third Mate; Eugene Jones, Stokerman; and, Hugh Wingo, Oiler, are presumed dead as a result of the casualty. There has been no trace of them since the sinking.
5. The testimony of Helmsman Gabrysiak and Captain Joppich differs in several vital respects as to speeds and maneuvers before collision. The version as related by Gabrysiak is considered correct and that as related by Captain Joppich is considered self-serving and false and is accordingly rejected. Hence it is concluded that the CEDARVILLE was operated at full speed almost up to the jaws of collision.
6. There is evidence that the master of the CEDARVILLE failed to navigate his vessel at a moderate speed in fog and restricted visibility as required by Rule 15 of the Great Lakes Rules (33 USC 272). The speed averaged under reduced visibility from Cheboygan Traffic Buoy to the point of collision coincided closely with the maximum speed potential of the CEDARVILLE loaded. The CEDARVILLE was allowed to proceed at full speed to the time of her evasive maneuvers taken in close proximity to the TOPDALSFJORD, ignoring the considerable momentum of the heavily laden and comparatively low-powered vessel. The CEDARVILLE had adequate advance notice of vessel traffic approaching from the Mackinac Bridge from information provided by the radar, radiotelephone communications and later the sound fog signals heard. A moderate speed under the circumstances would have provided more time to study the situation and react to the collision pattern that was developing. The operation of the CEDARVILLE just prior to the collision, relative to meeting and passing the BENSON FORD at full speed after radiotelephone passing agreements followed by sound passing signals, would seem to indicate the intent of the CEDARVILLE's master to do likewise with the vessel traffic approaching from under the Mackinac Bridge.

7. There is evidence that the master of the CEDARVILLE was timely informed and aware of the sound fog signals of a vessel not more than four points from right ahead and accordingly failed to reduce his vessel's speed to bare steerageway as required by Rule 15 of the Great Lakes Rules (33 USC 272) for vessels in fog or restricted visibility.
8. There is evidence that the master of the CEDARVILLE failed to sound the danger signal when there was no reply from the approaching TOPDALSFJORD to his one-blast passing signals, as required by Rule 26 of the Great Lakes Rules (33 USC 291). However, as the TOPDALSFJORD had already initiated action to stop his vessel, this failure is not considered to have materially contributed to the collision.
9. There is evidence that the master of the CEDARVILLE was in doubt as to the intentions of the approaching TOPDALSFJORD and failed to reduce speed to bare steerageway, or as was necessary in this case, to stop and reverse when within one-half mile radar range of the other vessel, in violation of Rule 26 of the Great Lakes Rules (33 USC 291).
10. The TOPDALSFJORD was being navigated with reasonable caution under the circumstances and commensurate with the speed and power potential of the vessel. There was adequate bridge and lookout personnel assigned on the TOPDALSFJORD for its operation in restricted visibility. At the time of the collision, the TOPDALSFJORD was practically stopped.
11. In view of the radar information available to the master of the TOPDALSFJORD, his decision to remain on course 108°T past the normal turning point for entry into the South Channel is considered reasonable and consistent with the established principles of prudent navigation.
12. It is further concluded that no fault can be attached to either vessel for failure to maintain a radar plot as the various speeds employed by the TOPDALSFJORD would have rendered a meaningful plot impossible.
13. The absence of a danger signal on the part of the TOPDALSFJORD prior to the collision is understandable under the circumstances of the case. The master of the TOPDALSFJORD first considered the approaching vessel to be passing him safely as determined by the changing radar bearings. When the radar later indicated otherwise, the master of the TOPDALSFJORD was precluded from blowing the danger signal although poised to do so by the very long one-blast sound signal from the CEDARVILLE. At the end of the long one-blast signal, the CEDARVILLE was in view and the collision was inevitable, hence a danger signal then would have been meaningless.

14. The CEDARVILLE sank as a direct result of the large ingress of water through the damaged portion of the hull sustained in the collision. Progressive flooding of the cargo holds and tunnel space could not be controlled due to the design of the vessel and the capability of bilge and ballast system. In view of the TOPDALSFJORD's forward draft and the rake of her bow it is considered that the collision damage did not involve the CEDARVILLE's ballast piping in No. 4 side and bottom tank, consequently there was no progressive flooding through the ballast system.

15. Since the vertical extent of the damage could not be determined, the action taken by the master to remove the port list by counter flooding is considered reasonable under the circumstances, as the ingress of water may possibly have been thereby lessened.

16. Since the master knew that, with the particular design of the vessel involved, any sizeable hole into the cargo holds at deep draft would denote a sinking situation, his action taken of attempting to beach his vessel is considered proper. The master, however, judged poorly the peril to his crew and vessel and the time remaining for him to beach his ship. He should have beached his vessel on the nearest shoal or deciding against that he should have steered the correct course for the nearest land. The beaching course furnished by the third mate was incorrect and the master should have immediately realized this. It is tragic that the CEDARVILLE steamed enough miles following her fatal wound to have made the beach at Mackinaw City.

17. There are no readily apparent or conclusive reasons why radiotelephone communications were not established between the CEDARVILLE and the TOPDALSFJORD. There are several factors, however, that may have contributed to this.

a. The electrical disturbances present may have adversely affected Channel 51 at critical times of call.

b. The radio contacts between the CEDARVILLE and the WEISSENBURG may have monopolized air time.

c. The late recognition on the part of the CEDARVILLE's master that a "Norwegian" vessel was ahead of the WEISSENBURG coupled with the late awareness by the TOPDALSFJORD of the approach of the CEDARVILLE as it appeared on the radar at only $1\frac{1}{2}$ mile range left little time for radio messages.

18. The Coast Guard units which were ordered to the scene of the collision responded in a timely manner; however, they were greatly hampered in their operations by the dense fog which covered the area.

19. The master and the crew of the German MV WEISSENBURG conducted rescue operations following the sinking of the CEDARVILLE with dispatch and efficiency in the best traditions of the sea. It is considered that more CEDARVILLE crew members would have perished in the frigid waters had not the WEISSENBURG's personnel performed so well.

20. There is evidence of considerable false optimism on the CEDARVILLE that the vessel would be successful in its beaching operation. Due to this a plan for minimizing personnel in the engine room or abandoning ship was never initiated. The unexpected and rapid heeling of the vessel to starboard precluded any final abandon ship order. The conduct of the crew members of the CEDARVILLE as they performed their assigned duties notably in the engine room and in preparing the lifeboats was commendable in that there was no confusion or panic.

RECOMMENDATIONS

1. It is recommended that further action under the Suspension and Revocation Proceedings of RS 4450, as amended, be initiated in the case of Captain Martin E. Joppich of the SS CEDARVILLE concerning conclusions 6, 7, 8 and 9.
2. It is recommended that the Commandant recognize the gallant rescue operations of the German MV WEISSENBURG following the collision between the CEDARVILLE and the TOPDALSFJORD.
3. It is further recommended that the case be closed.

W. A. Brusco
W. A. BRUSO, CAPT, USCG
Chairman

T. W. Powers
T. W. POWERS, CDR, USCG
Member

A. W. GOVE, LCDR, USCG
Member and Recorder

- Encl: (1) Transcript of Proceedings
(8 Vols, 30 Exhibits)(2 sets)
(Fwd under separate cover)
- (2) CG-2692 - SS CEDARVILLE
 - (3) CG-2692 - MV TOPDALSFJORD
 - (4) CG-924E - Frank D. Lamp
& Death Certificate
 - (5) CG-924E - Reinhold F. Radtke
& Death Certificate
 - (6) CG-924E - Wilbert Brédow
& Death Certificate
 - (7) CG-924E - Edward H. Jungman
& Death Certificate
 - (8) CG-924E - Arthur J. Fuhrman
& Death Certificate
 - (9) CG-924E - Stanley Haske
& Death Certificate
 - (10) CG-924E - William B. Asam
& Death Certificate
 - (11) CG-924E - Charles H. Cook
& Death Certificate
 - (12) CG-924E - Eugene F. Jones
& Death Certificate
 - (13) CG-924E - Hugh Wingo
& Death Certificate
 - (14) CG-924E - Martin E. Joppich
 - (15) CG-924E - Leonard T. Gabrysiak
 - (16) CG-924E - Angus Domke
 - (17) CG-924E - Ivan Travelet
 - (18) CG-924E - Edward Brewster
 - (19) CG-924E - Robert G. Bingle
 - (20) CG-924E - Larry D. Richard
 - (21) CG-924E - Elmer Enke
 - (22) CG-924E - Harry H. Bey
 - (23) CG-924E - Michael J. Idalski
 - (24) CG-924E - William Friedhoff
 - (25) CG-924E - Billy R. Holley
 - (26) CG-924E - Anthony Rosmys
 - (27) CG-924E - James G. Lietzow
 - (28) CG-924E - Arthur Martin
 - (29) CG-924E - David M. Erichson
 - (30) Statement - Angus Domke
 - (31) Statement - Robert Lucas
 - (32) Photographs (4)