

UNITED STATES COAST GUARD

Address Reply to:  
COMMANDANT  
U. S. Coast Guard  
Headquarters  
Washington 25, D. C.

MVI  
23 March, 1951  
File: (JOHN GOODE a-12 Bd)

From: Chief, Merchant Vessel Inspection Division  
To: Commandant  
Via: Chief, Office of Merchant Marine Safety

Subj: Marine Board of Investigation; flash explosion in pumproom,  
T/V JOHN GOODE on 9 July, 1950, with loss of life.

1. Pursuant to the provisions of Title 46 CFR, Part 136, the record of the Marine Board convened to investigate subject casualty, together with its Findings of Fact, Conclusions, and Recommendations, has been reviewed and is forwarded herewith.

2. The SS JOHN GOODE, a liberty type tank vessel on 9 July 1950 was discharging a cargo of gasoline at Richmond, California. The centrifugal pump in the forward pump room used in the discharge operations broke down and was secured for purposes of repair. While the pump was in the process of repair with raw gasoline in the bilges, an explosion occurred in the forward pump room, causing the death of the chief engineer, first assistant engineer, and the pumpman. The master died of heart failure. Loss of life of the following persons resulted from this casualty:

Russell B. Gallery - Master  
Russell M. Smith - Chief Engineer  
John W. Hardman - First Assistant Engineer  
Clifford A. Rentz - Pumpman

3. The Board made the following Findings of Fact:

"1. The board is confronted with the problem of determining the specific cause of the flash explosion in the forward pumproom of the SS JOHN GOODE on July 9, 1950. The possible sources of vapor ignition considered by the board were as follows:

- (a) Heat generated by centrifugal pump bearing.
- (b) Defective electric wiring in pumproom.
- (c) Sparks from operating mechanical equipment.
- (d) Use of spark-producing tools.
- (e) Use of non-explosion proof electric motors, fixtures or hand flashlights.
- (f) Carelessness on the part of personnel.

2. In regard to (a), the board is of the opinion that the pump shafting was in alignment and the pump had been operating over a long period of time without evidence of hazardous overheating.

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3. In regard to (b), the electric wiring was carefully checked for grounds and damaged insulation which could cause a spark. All wiring proved to be in good condition.
4. In regard to (c), there was no reason for the board to believe that the mechanical equipment was, or had been, a source of vapor ignition.
5. In regard to (d), the board believes that the use of spark-producing tools could have produced a spark, thereby creating a source of vapor ignition. Although these tools are not permitted by tanker regulations, they had been used heretofore, in the pumproom and fortunately, without apparent disastrous results.
6. In regard to (e), the board believes that there was no likelihood of the explosion having been caused by electric motors, fixtures, or hand flashlights. The motor driving the blower was explosion-proof, as were the electric fixtures. These were checked and found in good condition. There were no hand flashlights being used as far as can be determined from the evidence obtained in this case.
7. In regard to (f), the board is of the opinion that there is evidence to support the belief that this was an important factor in this case. The chief engineer was more or less under the influence of alcohol at the time he descended into the pumproom. The inhalation of gasoline vapor no doubt added to his state of mental fogginess. The cigarettes and matches found on the pumproom floor were identified as those belonging to him. The fact that he was killed outright indicates that the focal point of the initial explosion was in his immediate vicinity. Although he was an experienced tanker engineer and normally was cognizant of the existing hazards, he unquestionably was not a person to have been permitted in the pumproom under the circumstances.
8. The operation of the CO<sub>2</sub> fire extinguishing system in the forward pumproom was neither understood by ship's personnel nor effective in its application. Releasing of CO<sub>2</sub> into the pumproom could have been detrimental, inasmuch as the personnel entrapped in the pumproom would have been asphyziated before removal of their unconscious bodies."

4. The Board made the following Conclusion:

"1. The board has reached the conclusion that the specific cause of the explosion is of undetermined origin. The personnel in the pumproom at the time of the explosion were removed in a semi-conscious or unconscious condition and died later in the U. S. Marine Hospital. Their deaths precluded the obtaining of necessary information in order to assist the board in accurately determining the source of vapor ignition in this case."

5. The Board made the following Recommendations:

1. The SS JOHN GOODE is a vessel of the Liberty Tanker type, many of which were used during the last war due to the tanker shortage. These vessels were not built originally as tank vessels and for this reason they differ in many respects to the standard tanker design generally used by the petroleum industry in the transportation of petroleum products.
2. The arrangement of the forward pumproom is considered poorly laid out and unhandy, especially in regard to the location of pumps, working spaces, and means of access and egress. Vessels of this type when pumping gasoline in the forward pumproom should have well-trained personnel on duty and prohibited from carrying cigarettes or matches on their persons when descending into a pumproom.
3. The proximity of the cargo tanks and the pumprooms to the crew's quarters on these vessels is a situation which requires extreme caution and safe operating conditions at all times.
4. The board recommends that the pumprooms on these vessels be provided with better ventilation and the number of ventilating ducts and blowers increased as was done in the case of this vessel since the flash explosion occurred."

#### REMARKS

6. The Board designated Mr. Robert C. Taylor, attorney at law, 233 Sansome Street, San Francisco, California, representing the Underwriters Fireman's Fund Insurance Company as a party in interest to the investigation. In general, a party in interest to an investigation of a marine casualty is any person who caused or contributed to the cause of the casualty, including owners, charterers, and agents involved in vessel operation. An Insurance Company concerned only with the economic results of a casualty has no direct interest in the investigation, and accordingly, does not meet the requirements for a party in interest.
7. Neither the record nor the report of the Board contained the full names and addresses of the persons who lost their lives in the subject casualty. The names and addresses of all persons who lost their lives in this casualty are to be forwarded to Headquarters and added as a supplement to the Findings of Fact of the Board's report.
8. Finding of Fact 2 states in effect that the pump shafting was in alignment over a long period of time prior to the subject casualty. The evidence in the record indicates that due to a faulty gland, packing, or shaft, the alignment of the shaft assembly was defective prior to the occurrence of subject casualty.

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9. Finding of Fact 5 in effect states that spark-producing tools in a pump room are not permitted by tanker regulations. Attention is referred to 46 CFR 35.5-4, which only prohibits the use of spark-producing tools for use in opening and closing cargo hatch covers.

10. Finding of Fact 7 states in effect that the chief engineer was more or less under the influence of alcohol at the time he descended into the pump room. The evidence in the record contains a statement by one witness to the effect that he saw the chief engineer drinking beer at 1030 in the morning. Since the explosion occurred at 1700, or 6 $\frac{1}{2}$  hours after the chief engineer was observed to be drinking beer, and as there is no other evidence with respect to his drinking, the finding as a fact that the chief engineer was under the influence of alcohol at the time he entered the pump room on or about 1700 cannot be reasonably considered as sustained by the evidence in the record.

11. Recommendations 1, 2, and 3 of the board state in effect that the construction, equipment, and arrangement of liberty type tankers present hazards in the transportation of gasoline, and require extreme caution and safe operating conditions at all times. These conditions and requirements are realized by those concerned with the safety of such vessels and a high degree of care for their safe operation has been maintained. This is evidenced by the fact that no liberty type tank vessels except the SS JOHN GOODE were involved in any casualties or accidents resulting from the carriage of inflammable or combustible liquid cargo in bulk.

12. Recommendation 4 of the Board, that the ventilation in the pump rooms of Liberty tank vessels be improved is being studied with a view toward securing better ventilation, particularly in the forward pump rooms of Liberty tank vessels certificated for the carriage of inflammable liquid cargo in the tanks forward of amidships.

13. Subject to the foregoing remarks, it is recommended that the Findings of Fact, Conclusions, and Recommendations of the Marine Board of Investigation be approved.

/s/ EDW. C. CLEAVE  
EDW. C. CLEAVE

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From: Chief, Office of Merchant Marine Safety  
To: Commandant

M  
12 April, 1951  
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Forwarded, recommending approval.

APPROVED: April 19, 1951

/s/ MERLIN O'NEILL  
MERLIN O'NEILL  
Vice Admiral, U. S. Coast Guard  
Commandant