

MVI

17 May 1954

(BLACK FALCON - a-1 Bd)

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

Subj: Marine Board of Investigation; M/V BLACK FALCON (Norwegian),  
explosion, Boston, 2 November 1953, with loss of life

1. The M/V BLACK FALCON, a 4930 g.t. cargo vessel of Norwegian registry, under charter to the Black Diamond Steamship Corporation of New York, loaded general cargo including sodium peroxide at Hamburg, Germany, destined for the United States. The sodium peroxide was contained in approved drums which were properly labeled explaining the nature and characteristics of the material. The 140 drums of sodium peroxide, each weighing 433 lbs., were properly stowed in the 'tween decks of the No. 4 hold, but at Antwerp, Belgium, were re-stowed to the lower hold. The sodium peroxide was not properly described on any dangerous cargo list, manifest, or other ship's document contrary to the requirements of Chapter VI, International Convention for Safety of Life at Sea, 1948, R. S. 4472, as amended, and 46 CFR Subpart 146.06. The re-storage of the sodium peroxide from the 'tween decks to the lower No. 4 hold was contrary to the provisions of R. S. 4472, as amended, and 46 CFR 146.22-100, Table E. On 2 November 1953, after arrival at Boston, while the sodium peroxide was being unloaded, the covering lid of one of the drums came off in handling and a quantity of the sodium peroxide spilled through the interstices of the cargo boards and in the dunnage to the floor of the hold. Fire immediately ensued followed by explosions, and as a result, although 15 persons escaped from the hold, 8 persons lost their lives. The Boston Fire Department responded promptly and extinguished the fire with little damage to the vessel.

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

Chief, MVI Division, to  
Commandant

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3. It is recommended that the Findings of Fact, Opinions, and Recommendations of the Marine Board of Investigation convened to investigate subject casualty be approved.

(signed) P. A. Ovenden

P. A. OVENDEN

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FIRST ENDORSEMENT ON MVI memorandum of 17 May 1954

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

24 May 1954

Forwarded, recommending approval.

(signed) R. A. Smyth  
R. A. SMYTH  
Acting

APPROVED:

26 MAY 1954

(signed) A. C. Richmond

A. C. RICHMOND  
Rear Admiral, U. S. Coast Guard  
Acting Commandant

**REPORT OF A  
MARINE BOARD OF INVESTIGATION**

**convened at**

**U. S. Coast Guard Base,**

**BOSTON, MASSACHUSETTS**

**To inquire into explosion on the  
M/V BLACK FALCON (Norwegian) at  
Army Base, Boston, on 2 November 1953  
with loss of life**

After full and mature deliberation the Board found:

FINDINGS OF FACT

1. That at about 1435, 2 November 1953, while discharging cargo at the Army Base, Boston, Massachusetts, the diesel cargo vessel BLACK FALCON, of Norwegian registry, took fire involving chemicals in No. 4 hold as a result of which eight (8) persons died and about fifteen (15) others required hospitalisation.
2. That the bulk cargo vessel BLACK FALCON, Lloyd's Number 03676, gross tons 4,930, net tons 2,844, owner Skipsaktieselskapet Herstein, Oslo, Norway, was built at Oslo, Norway on 7 June 1949.
3. That the BLACK FALCON is a single screw, diesel propelled, 5 hold cargo vessel, 440.4 feet long, 57.1 feet beam, mean draft 21.6. The engine room is located between Nos 3 and 4 holds.
4. That the BLACK FALCON was manned by a crew of forty-three (43), including the Master.
5. That the vessel started voyage No. 32, the instant voyage, from Hamburg, Germany; ultimate destination, the United States. Prior to overseas departure the vessel's itinerary was as follows: Hamburg, Germany, 6 October 1953; Bremen, Germany, 7 October 1953; Antwerp, Belgium, 14 October 1953; Rotterdam, Holland, 17 October 1953. The vessel departed Rotterdam, 17 October 1953, arriving at New York 30 October and at Boston, Massachusetts on 31 October 1953.
6. That at Hamburg, Germany, and other European ports, the vessel loaded general cargo consisting of such diverse items as: steel, industrial chemicals, furniture, rugs, foodstuffs, paints, bauxite ore residue, glass, baled wool and many other items.
7. That the vessel was under Charter to the Black Diamond Steamship Company of New York, New York.
8. That after arrival at Boston, Massachusetts on 31 October 1953, the vessel moored starboard side to South side of pier, berth F, at the U. S. Army Base, Boston, Massachusetts, and made preparations to discharge cargo.

9. That the contracting stevedoring firm was the Nacirema Operating Company, 177 Milk Street, Boston, Massachusetts.
10. That approximately 50% of the longshoremen engaged in working cargo on the vessel were union members; that the remainder were temporary employees having little or no experience as longshoremen.
11. That the contents and disposition of cargo in No. 4 hold on arrival at Boston, Massachusetts, were as follows:  
'tween decks, 36 bales rubber waste, starboard side; lower hold forward end, port and starboard sides, outboard 140 drums sodium peroxide stowed outboard with cases of glassware inboard, bales of wool over; approximately 400 tons bogore stowed in after two-thirds of hold.
12. That No. 4 hold of the vessel has one 'tween deck and a shaft tunnel on a fore and aft line in the center of the hold, approximately eight feet high. On both ends of the shaft tunnel are located two small ladders leading from the lower hold to the top of the tunnel. From there, access to the 'tween decks and main deck is gained by vertical ladders situated at each end of the hatch square. The double bottoms under No. 4 hold are fuel tanks. There are no means of access to the hold other than through the hatch square.
13. That the material described as bogore occupied approximately two-thirds of the hold and was separated from the cargo in the forward end of the hold by a canvas and dunnage screen rigged athwartships.
14. That specifically, the material referred to in paragraph 13 is a bauxite ore residue, a stable, reddish brown earthy material containing about 45% moisture by weight. The trade name of the substance is "LUX MATERIAL". The importers were the Alpha-Lux Co., of 155 John Street, New York, New York, and the consignee, the Boston Consolidated Gas Company, Everett, Massachusetts. The material, mixed with wood shavings is used to purify gas.
15. That the sodium peroxide was originally loaded in the 'tween decks of the vessel at Hamburg, Germany. The material was in drums, weighing 196.5 kilos (433 lbs.). The importers were Phillip Brothers Chemicals, Inc., 37 Wall Street, New York City. The consignee was the Atlantic Gelatin Company, Woburn, Massachusetts.

16. That the drums containing sodium peroxide were constructed in conformance with I.C.C. specifications applying thereto, with addition of strap-iron caging (exhibit 3a). The drums were marked with a standard yellow descriptive label on the side. The drums were otherwise marked in plain language explaining the nature and characteristics of the material, and giving instructions for stowage and safe handling. I.C.C. specifications require that the drum be used only once with oxidizing materials and that as for strength, it would withstand being dropped from a height of four (4) feet when full and not break. The cover is secured to the drum with a lever-arm wired to a lug welded to the barrel rim, as shown in exhibit 3b.
17. That sodium peroxide  $\text{NaO}_2$ , is a white or yellowish powder obtained by passing heated air over metallic sodium. It reacts with water to form sodium hydroxide and hydrogen peroxide. It is used as an oxidizing and bleaching agent. A small quantity of water combined with large quantities of sodium peroxide and organic material will produce fire and sustain continued reaction.
18. That after the vessel's arrival at Antwerp, Belgium, on or about 14 October 1953, the drums of sodium peroxide were moved from the 'tween decks, No. 4 hold, to the lower hold.
19. That the person who issued the order to shift the material as described in paragraph 16 is identified as Captain [REDACTED], a Dutch national, employed as Continental Marine Superintendent in charge of operations at the ports of Bremen, Hamburg, Rotterdam and Antwerp for the Black Diamond Steamship Company.
20. That the master and officers of the BLACK FALCON were aware that dangerous cargoes required special stowage as evidenced by testimony that "RED LABEL CARGO" was always stowed on deck.
21. That the discharge of cargo from No. 4 hold of the BLACK FALCON at Boston proceeded uneventfully with two gangs of longshoremen discharging simultaneously, the bauxite residue in the after end of the hold with buckets, and the sodium peroxide in the forward end on cargo boards. The two gangs consisted of twenty-two (22) men, were divided into two gangs, consisting of one group of thirteen (13) working in the after end, and the other group, consisting of nine (9) men, in the forward end. The drums of sodium peroxide were stowed in tiers on their ends and were rolled on their chimes by two (2) men and placed on the cargo boards as shown in exhibit no. 4.

22. That at shortly before 1430, four (4) men of the forward gang handling sodium peroxide on the port side, outboard, had finished that side and there remained one (1) gang of five (5) men engaged in discharging the remainder of the drums, consisting of about forty (40). The covering lid of one of the drums came off in handling and a quantity of sodium peroxide, estimated at about twenty (20) lbs., spilled over onto the cargo boards and through interstices on the cargo boards and in the dunnage to the floor of the hold.
23. That the material almost immediately began to burn; that the fire immediately spread to organic materials in the hold.
24. That the fire did not involve or cause any noticeable reaction in the bauxite residue.
25. That the known steps taken by personnel in the hold to put out the fire consisted of stamping on the material which appeared to accelerate the process and to cause further spreading of the fire.
26. That about fifteen (15) persons escaped from the hold after the fire.
27. That the following-named persons lost their lives outright as a result of the fire, vis:-

Mr. Anthony Bensaia, [REDACTED]  
Mr. Alvin Bensaia, [REDACTED]  
Mr. Joseph P. Driscoll, [REDACTED]  
Mr. Chester Kennedy, [REDACTED]  
Mr. George McGrevin, [REDACTED]  
Mr. David McConnell, [REDACTED]  
Mr. Albert Prudente, [REDACTED]

28. That Mr. Thomas Croall, [REDACTED] subsequently died of injuries after removal to Boston City Hospital.
29. That the following-named persons required hospitalization of varying duration from burns and respiratory injuries as a result of the fire, vis:-

[REDACTED]

30. That shortly after the fire began, all remaining drums became involved and exploded intermittently.
31. That the Boston Fire Department responded promptly and extinguished the fire. U. S. Coast Guard and U. S. Naval small craft stood by prepared to render assistance. A detail of Army and Navy medical officers from the Army Base and U. S. Naval Shipyard Annex provided assistance as required.
32. That the vessel was not seriously damaged. The cargo loss consisted of about forty (40) drums of sodium peroxide and is estimated at approximately \$3,500.00.
33. That the exporters of the sodium peroxide, Messrs. Degussa, Frankfort am main, Germany, were provided with shipping instructions as indicated by Exhibit 8 (Phillip Brothers Chemicals, Inc., 37 Wall Street, New York, New York, letter, dated 10 November 1953, to OCMI, New York, New York.).
34. That there was no separate manifest or list of dangerous cargo as required by CG 187 - 146.06-12-13.
35. That the shipping instructions concerning the Boston consignment of sodium peroxide (page 48, ship's manifest), do not describe the chemicals as required by CG 187 - 146.06-12-13-14.
36. That the weather during the vessel's stay at Boston was clear and dry and no liquid was stowed in No. 4 hold of the vessel.
37. That overseas loading of vessels done by stevedores on orders of the Black Diamond Steamship Company representatives indicates that the BLACK FAUCON's officers exercised little or no control over stowage of cargo aboard the vessel.
38. That the country of registry (Norway) of the M/V BLACK FAUCON, and the countries where cargo was loaded (Holland and Belgium) are signatory to the International Convention for Safety of Life at Sea, 1948, and to the regulations appended thereto.
39. That Chapter VI, Regulation 3, International Convention for Safety of Life at Sea 1948, pertaining to carriage of dangerous Goods, defines the term "dangerous goods" and requires that each ship carrying dangerous goods shall carry a special list of such dangerous goods.
40. That the longshoremen working the cargo were generally unfamiliar with the significance of white and yellow label cargo and were capable of making distinction only between red label and no others.



### OPINIONS

1. That the fire apparently came about as a result of a quantity of water, the amount and source of which are unknown, coming into contact with spilled sodium peroxide and some organic material such as wood shavings, etc.
2. That it is probable that the chemical would have been less likely to come in contact with water if it had been stowed in the 'tween decks.
3. That stowage in the lower hold was not the proximate cause of the fire as it could have occurred in the hold, tween decks, deck, or on the deck, assuming that the same conditions obtained.
4. That failure to advise the longshoremen of the properties of the chemical, resulted in inadequate care being used in the handling of the chemical, causing the spillage.
5. That perhaps the chemical would have received more careful handling had the longshoremen been properly advised of the nature and properties of the chemical.
6. The Master of the BLACK FAUCON was inattentive to his duties in that he failed to become acquainted with or have knowledge of the dangerous cargo on board his vessel and that he further failed to insure that the dangerous cargo on board his vessel was stowed in compliance with the provisions of R.S. 4472, as amended, and 46 C.F.R. 146.22-100, Table E, while the BLACK FAUCON was on the navigable waters of the United States. It is the opinion of the Board that such failures on the part of the Master of the BLACK FAUCON contributed to the cause of the subject casualty which resulted in loss of life.

### RECOMMENDATIONS

1. That a placard be devised showing the various colored labels affixed to containers of dangerous cargoes and distributed to stevedoring firms and other places where longshoremen congregate.
2. That pursuant to R.S. 4450, as amended (46 U.S.C. 239(h)), a duplicate original record of investigation of subject casualty be transmitted to the Attorney General of the United States as such record contains evidence of probable criminal responsibility on the part of Karre Langhelle, Master of the M/V BLACK FAUCON at the time subject casualty occurred, arising out of violation of R.S. 4472, as amended (46 U.S.C. 170) and regulations thereunder, and 18 U.S.C. 1115.
3. That the agent of the Black Diamond Steamship Corporation, charterers, being responsible for the improper stowage of the sodium peroxide on board the BLACK FAUCON, be assessed the full monetary penalty for the violation of R. S. 4472, as amended, and 46 C.F.R. 146.22-100, Table E, and that the BLACK FAUCON be seized and proceeded against by way of libel in the District Court of the United States in any district in which vessel may be found.

4. That a copy of the "Dangerous Cargo Manifest" or " Dangerous Cargo List " correctly describing all articles as defined by 46 C.F.R. Subchapter N (CG 187) as specifically required by 46 C.F.R. 146.06.12-18 be furnished the Captain of the Port of each port of call and that necessary qualified personnel be supplied for policing and enforcement of the requirements of such Subchapter N.

(signed) R. J. Mauerman  
R. J. MAIERMAN, Rear Admiral, U. S. Coast Guard, Chairman

(signed) W. W. Storey  
W. W. STOREY, Captain, U. S. Coast Guard, Member

(signed) A. G. Moberg  
A. G. MOBERG, Commander, U. S. Coast Guard, Member

(signed) [REDACTED]  
[REDACTED] Lieutenant, U. S. Coast Guard, Recorder

The board then, at 1420 hours, 2 December 1953, adjourned to await the action of the convening authority.

(signed) R. J. Mauerman  
R. J. MAUERMAN, Rear Admiral, U. S. Coast Guard, Chairman

(signed) [REDACTED]  
[REDACTED] Lieutenant, U. S. Coast Guard, Recorder