

Marine Environmental Laws: Response to marine pollution causalities

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SS Torrey Canyon disaster 1967

- The supertanker SS Torrey Canyon hit rocks off the coast of Cornwall, spilling more than 100,000 tonnes of crude oil into the English Channel. Beaches were left knee-deep in sludge and thousands of sea birds were killed in what remains the UK's worst environmental accident.
- It was the first major oil spill in British and European waters, causing enormous damage to marine life and the livelihoods of local people. It also led to changes in the way people viewed the environment.
- This destruction of the birds had a direct impact on sanitation. Many were scavengers, eating rubbish which washed up on shore. That rubbish was instead left to rot on the beaches.
- And the British clean-up effort, which involved the excessive and indiscriminate use of powerful chemicals, made a bad situation much worse.

- The plan was for the chemical to break down the oil and allow it to disperse and be removed by natural bacteria. But instead it killed any kind of marine life it came into contact with, from seaweed to fish.
- It pooled on beaches for hours before being washed away by the tide, making the poisonous effects even worse. A Marine Biological Association (MBA) report in 1968 said the UK's use of detergents resulted "in the death of a large number of shore organisms of many kinds".
- It took 13-15 years for the treated areas to recover, about five times longer than those areas where the oil was dispersed naturally by wind and waves.

Other huge maritime pollution casualties

- 2023 Princess Empress oil spill in Philippines, Pola, Oriental Mindoro on 28th February 2023.
- Persian Gulf Oil Spill 1991 - The worst oil spill in history was the Persian Gulf oil spill, also called the Arabian Gulf or Gulf War oil spill because it was used as a defense tactic. In January of 1991, Iraqi forces attempted to prevent American soldiers from landing on their shores by opening valves at an offshore oil terminal and dumping oil from tankers. The oil resulted in a four-inch-thick oil slick that spread across 4,000 square miles of the Persian Gulf.
- BP Deepwater Horizon Oil Spill 2010 - The BP Deepwater Horizon oil spill is officially the largest accidental spill in world history. It began when an oil well a mile below the surface of the Gulf of Mexico blew out, causing an explosion on BP's Deepwater Horizon rig. The explosion killed 11 people. BP made several unsuccessful attempts to plug the well, but oil flowed at a rate as high as 2.5 million gallons a day until the well was capped on July 15, 2010.
- Ixtoc I Oil Spill 1979 - Like the BP Deepwater Horizon fiasco, the Ixtoc I oil spill didn't involve a tanker but rather an offshore oil well. Pemex, a state-owned Mexican petroleum company, was drilling an oil well when a blowout occurred. The oil ignited, and the drilling rig collapsed. Oil began gushing out of the well into the Gulf of Mexico at a rate of 10,000 to 30,000 barrels a day for almost an entire year before workers were finally able to cap it.

India - Ennore oil spill 2017

The 2017 Ennore oil spill was an oil spill that occurred outside the Kamarajar Port in Ennore near Chennai in Tamil Nadu, India.[2][3] The spill occurred on 28 January 2017 when an outbound empty tanker BW Maple collided with an inbound loaded oil tanker Dawn Kanchipuram at 04:00 local time. The collision occurred two nautical miles off Kamarajar Port in Ennore, a natural harbour about 20 km north of Chennai on the Coromandel Coast. Around 196.4 metric tons (MT) of Heavy Furnace Oil (HFO) was spilled and drifted towards the shore.

IMO's objectives in investigation of marine casualties

- The Organization recognizes the importance of marine safety investigations into marine casualties and marine incidents to prevent reoccurrence and to promote maritime safety and prevent pollution. IMO encourages full cooperation between States in the conduct of investigations, the recognition of mutual interest and the exchange of information regarding investigations.
- The IMO legal framework provides a common and consistent approach for States to adopt in the conduct of marine safety investigations. In this context, marine safety investigations do not seek to apportion blame or determine liability and are conducted with the sole objective of identifying those factors that contributed to the accident such that measures can be established to prevent similar marine casualties and marine incidents in the future.
- As per its terms of reference, the Sub-Committee on Implementation of IMO Instruments (III) is tasked to consider technical and operational matters related to the analyses of investigations reports into marine casualties and incidents and to maintain an efficient and comprehensive knowledge-based mechanism to support the identification of trends to inform the IMO rule-making process, as appropriate.

International Maritime organisation - Casualties

- Under SOLAS regulation I/21 and MARPOL articles 8 and 12, each Administration undertakes to conduct an investigation into any casualty occurring to ships under its flag subject to those conventions and to supply the Organization with pertinent information concerning the findings of such investigations. Article 23 of the Load Lines Convention also requires the investigation of casualties.
- Under the United Nations Convention on the Law of the Sea (UNCLOS), article 94 on Duties of the flag State, paragraph 7, “Each State shall cause an inquiry to be held by or before a suitably qualified person or persons into every marine casualty or incident of navigation on the high seas involving a ship flying its flag and causing loss of life or serious injury to nationals of another State or serious damage to ships or installations of another State or to the marine environment. The flag State and the other State shall co-operate in the conduct of any inquiry held by that other State into any such marine casualty or incident of navigation.”
- IMO adopted a new Code of International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code) when the Maritime Safety Committee (MSC) met in London, for its 84th session in May 2008.

International Convention for the Prevention of Pollution from Ships (MARPOL) 1973

- The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.
- The MARPOL Convention was adopted on 2 November 1973 at IMO. The Protocol of 1978 was adopted in response to a spate of tanker accidents in 1976-1977. As the 1973 MARPOL Convention had not yet entered into force, the 1978 MARPOL Protocol absorbed the parent Convention. The combined instrument entered into force on 2 October 1983. In 1997, a Protocol was adopted to amend the Convention and a new Annex VI was added which entered into force on 19 May 2005. MARPOL has been updated by amendments through the years.

- The Convention includes regulations aimed at preventing and minimizing pollution from ships - both accidental pollution and that from routine operations - and currently includes six technical Annexes. Special Areas with strict controls on operational discharges are included in most Annexes.
- Annex I Regulations for the Prevention of Pollution by Oil (entered into force 2 October 1983)
- Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk (entered into force 2 October 1983)
- Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form (entered into force 1 July 1992)
- Annex IV Prevention of Pollution by Sewage from Ships (entered into force 27 September 2003)
- Annex V Prevention of Pollution by Garbage from Ships (entered into force 31 December 1988)
- Annex VI Prevention of Air Pollution from Ships (entered into force 19 May 2005)

International Convention for the Safety of Life at Sea (SOLAS), 1974

- The SOLAS Convention in its successive forms is generally regarded as the most important of all international treaties concerning the safety of merchant ships. The first version was adopted in 1914, in response to the Titanic disaster, the second in 1929, the third in 1948, and the fourth in 1960. The 1974 version includes the tacit acceptance procedure - which provides that an amendment shall enter into force on a specified date unless, before that date, objections to the amendment are received from an agreed number of Parties.
- As a result the 1974 Convention has been updated and amended on numerous occasions. The Convention in force today is sometimes referred to as SOLAS, 1974, as amended.

International Convention on Load Lines 1966

- As a result of the numerous maritime accidents that have happened at sea due to the overloading of vessels, the significance of having a standard maximum limit for ships was identified long before. However, it took many years to have an International agreement for the universal application of Load lines.
- The regulations take into account the potential hazards present in different zones and different seasons. The technical annex contains several additional safety measures concerning doors, freeing ports, hatchways and other items. The main purpose of these measures is to ensure the watertight integrity of ships' hulls below the freeboard deck.

IMO Specific instrument: Casualty Investigation Code

- In 2008, IMO adopted resolution MSC.255(84) on International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code) and relevant amendments to SOLAS Chapter XI-1 to make parts I and II of the Code mandatory. Part III of the Code contains related guidance and explanatory material.
- SOLAS regulation XI-1/6 became effective on 1 January 2010 and expanded on SOLAS regulation I/21, which only required Administrations to undertake to conduct an investigation of any casualty occurring to any of its ships "when it judges that such an investigation may assist in determining what changes in the present regulations might be desirable". The mandatory provisions of the Code now require a marine safety investigation to be conducted into every "very serious marine casualty", which is defined as a marine casualty involving the total loss of the ship or a death or severe damage to the environment.

Marine Casualty Reporting process

- Under the above-mentioned mandatory provisions of the Casualty Investigation Code, marine safety investigating State(s) shall submit the final version of marine safety investigation reports to the Organization, for all marine safety investigations conducted into very serious marine casualties. The final marine safety investigation reports shall be made available to the public and the shipping industry.
- Where a marine safety investigation is conducted into a marine casualty or marine incident, other than a very serious marine casualty, and a marine safety investigation report is produced which contains information which may prevent or lessen the seriousness of marine casualties or marine incidents in the future, the final version shall be submitted to the Organization.
- Reporting to IMO is done electronically through the Global Integrated Shipping Information System (GISIS), which has a Maritime Casualties and Incidents (MCI) module database containing a unique collection of MCI data.

The MCI module, which is accessible to the public, contains all marine safety investigation reports submitted to the Organization and all casualty analyses that have been approved by the III Sub-Committee. The data can be accessed by visiting [https://webaccounts.imo.org/Common/weblogin.aspx?App=GISISPublic&ReturnUrl=https%3a%2f%2fgisis.imo.org%2fPublic%2fMCI%2fDefault.aspx&error_message=interaction required](https://webaccounts.imo.org/Common/weblogin.aspx?App=GISISPublic&ReturnUrl=https%3a%2f%2fgisis.imo.org%2fPublic%2fMCI%2fDefault.aspx&error_message=interaction_required)

- Casualty analysis - The III Sub-Committee has a Correspondence Group and a Working Group on Analysis of Marine Safety Investigation Reports dealing with casualty-related matters and, in particular, the process of analysing marine safety investigation reports to identify potential safety issues. If endorsed by the III Sub-Committee, the potential safety issues may be referred to other relevant IMO bodies for further consideration vis-à-vis the effectiveness of international safety standards, as appropriate.
- The activity of the groups on casualty analysis is based on the [Casualty analysis procedure](#), which includes a process of analysis of casualty investigation reports, and procedures for evaluating safety issues that need further consideration.
- Lessons Learned - Lessons Learned are approved by the III Sub-Committee and are circulated in order to increase awareness, in particular, of seafarers for prevention purposes.

Application of International Conventions in India

- The Indian Maritime Administration conducts Investigations and Inquires into marine casualties in accordance with Part XII of the Indian Merchant Shipping Act, 1958 (as amended).
- Amongst other objectives, one of the primary aims of a marine casualty investigation is to gather information that could be used to prevent future accidents. An investigation may also assist in determining what changes in the present regulations might be desirable.

Shipping casualties under Merchant Shipping Act 1958

S 358. Shipping casualties and report thereof.—(1) For the purpose of investigations and inquiries under this Part, a shipping casualty shall be deemed to occur when—

- (a) on or near the coasts of India, any ship is lost, abandoned, stranded or materially damaged;
- (b) on or near the coasts of India, any ship causes loss or material damage to any other ship;
- (c) any loss of life ensues by reason of any casualty happening to or on board any ship on or near the coasts of India;
- (d) in any place, any such loss, abandonment, stranding, material damage or casualty as abovementioned occurs to or on board any Indian ship, and any competent witness thereof is found in India;
- (e) any Indian ship is lost or is supposed to have been lost, and any evidence is obtainable in India as to the circumstances under which she proceeded to sea or was last heard of.

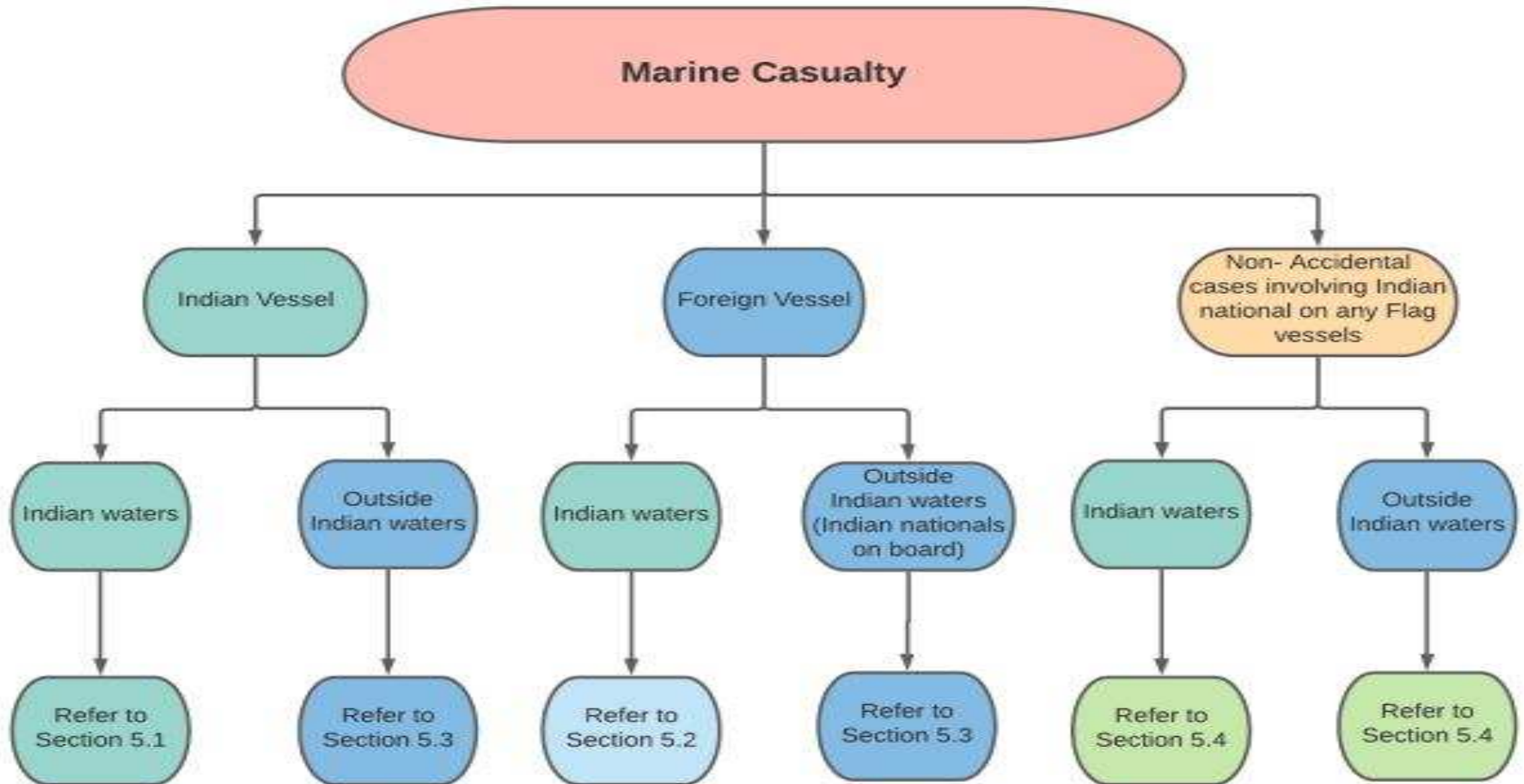
(2) In the cases mentioned in clauses (a), (b) and (c) of sub-section (1), the master, pilot, harbour master or other person in charge of the ship, or (where two ships are concerned) in charge of each ship at the time of the shipping casualty, and in the cases mentioned in clause (d) of sub-section (1), where the master of the ship concerned or (except in the case of a loss) where the ship concerned proceeds to any place in India from the place where the shipping casualty has occurred, the master of the ship, shall, on arriving in India, give immediate notice of the shipping casualty to the officer appointed in this behalf by the Central Government.

Standard Operating Procedure during Marine Casualty

- **1. Flow of Information with Directorate General of Shipping during Marine Casualty**
- **2. Division of Responsibilities during Marine Casualty within DGS:**
 - DGCOMM CENTRE: The DGCOM centre is a 24X7 manned DG communication centre details as in Annex 2- List of contacts in case of Marine Casualty.
 - Nautical Surveyor (NS) In-charge of Marine Casualties:
 - Nautical Advisor (NA) :
 - Crisis Management Team:
 - Local (MERCANTILE MARINE DEPARTMENT) MMD Principal Officer (P.O):

Refer the document Attached with this reading material, also available at <https://www.dgshipping.gov.in/WriteReadData/userfiles/file/SOP-Casualty-22022023.pdf>

Action to be taken in marine casualty



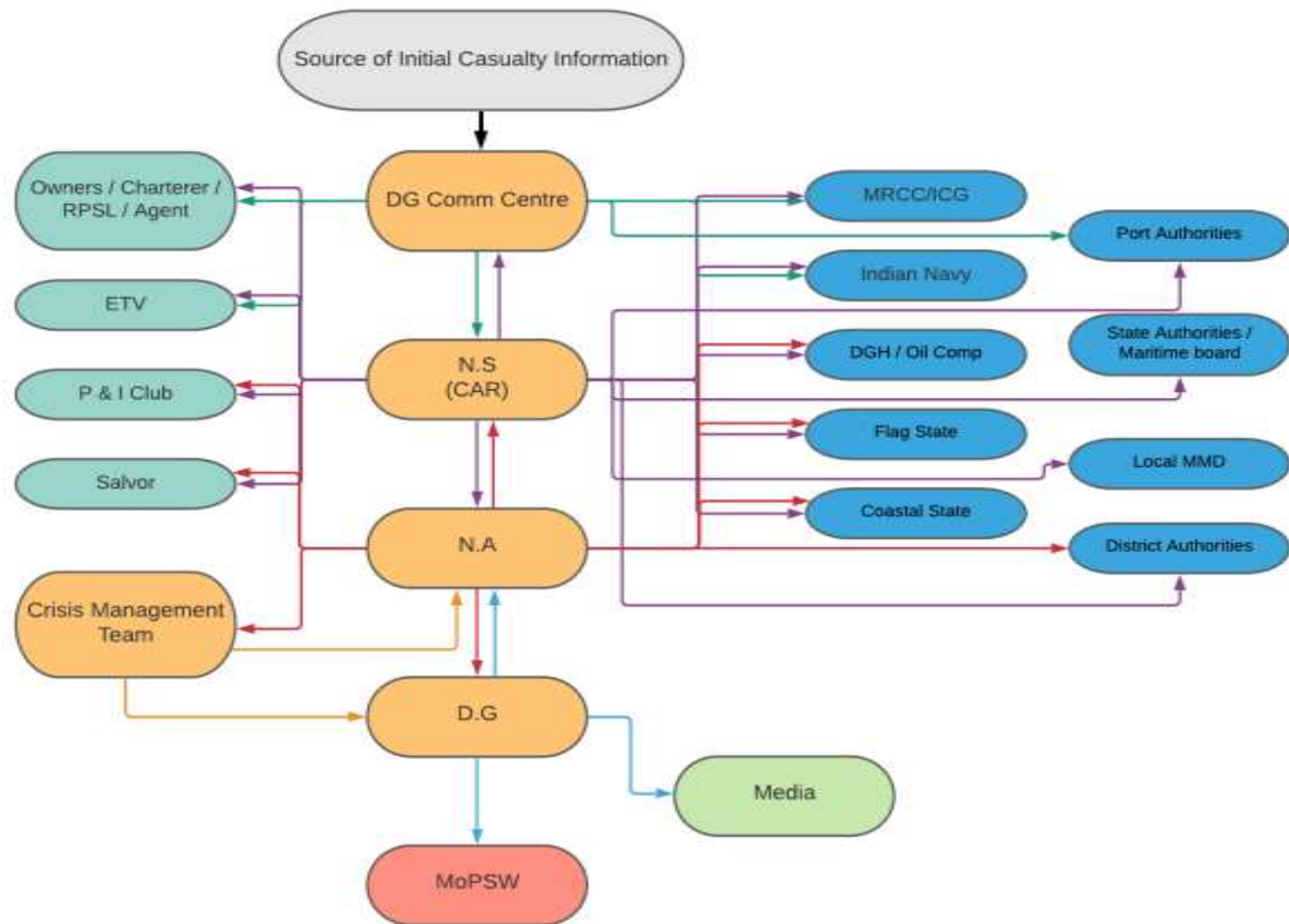


Figure 2 - Flow chart to show communication flow

Action to be taken

DIRECTORATE GENERAL OF SHIPPING STANDARD OPERATING PROCEDURES TO HANDLE MARINE CASUALTY 2021

Section 5. Action of D.G Comm Centre and/or L.R.I.T

- 5.1 In case of casualty involving 'Indian Flag vessel(s) in Indian waters'
- 5.2 In case of casualty involving 'Foreign Flag vessel in Indian waters'
- 5.3 In case of casualty of Indian Flag vessel outside Indian waters or Foreign Flag vessel with Indian national(s) outside Indian waters
- 5.4 In case of death of an Indian national due sickness or other non – accidental causes

- The casualty investigation code defines 'marine casualty' as an event, or a sequence of events, that has resulted in any of the following which has occurred directly in connection with the operations of a ship i.e death of, or serious injury to, a person; or loss of a person from a ship; or loss, presumed loss or abandonment of a ship; or material damage to a ship; or stranding or disabling of a ship, or the involvement of a ship in a collision; or material damage to marine infrastructure external to a ship, that could seriously endanger the safety of the ship, another ship or an individual; or severe damage to the environment, or the potential for severe damage to the environment, brought about by the damage of a ship or ships. However, a marine casualty does not include a deliberate act or omission, with the intention to cause harm to the safety of a ship, an individual or the environment.
- This SOP identifies 'marine casualty' basis if it has happened on 'Indian Flag vessels' or 'Foreign Flag vessel'; and if it was in 'Indian waters' or 'Outside Indian water'; and if the casualty was accidental or non-accidental.

Legal regime for oil spill in India

- An examination of the legal regime governing oil spills in India identifies multiple issues that need to be addressed in order to determine liability and establish a limit that can address the environmental damage incurred due to an oil spill.
- Multiple parties are involved in the trade of oil, each of whose liabilities and level of negligence differ. In many cases, it would not be difficult to show that the stranding or collision that caused the spillage and consequent ecological damage was brought about by the negligence of one or more ship-owners. For example, a failure to exercise reasonable care by a crew member or poor construction, or inadequate maintenance, are all identified as negligence on the part of the owner. On the other hand, situations do arise where accidents cannot be directly attributed to the negligence of one person, such as vessels involving multiple parties, namely the respective owners of the cargo and ship, the party that chartered the ship, the ship manufacturer, the insurer or party responsible for the maintenance of the ship, etc. With the focus of the liability regime in place being upon the owner, other parties responsible for the oil spill have a greater chance of evading their liability and payment of the costs involved in the oil spill clean-up.

- Additional complications also exist, resulting in further opportunities for liability to be evaded. For instance, a ship registered in one nation could well be sailing under the flag of another. Likewise, an oil tanker owned by one company could be chartered by another. In the case of an offshore installation, an oil platform owned by one corporation might easily be licensed to another company for drilling. To summarise, it is not pragmatic to apply ordinary rules of law for the determination of the costs and consequences of oil spillage.
- Oil spills fall purely under the ambit of civil liability, and there is no regime of criminal liability for punishing a party liable for oil-pollution under the Act. However, oil pollution is a public nuisance and cases have been registered under the Indian Penal Code (IPC) for rash navigation and endangerment of life of others. Section 268 of the IPC allows a person to be held guilty for causing public nuisance. Section 278 of IPC also allows a person to be held responsible for vitiating the atmosphere so as to “make it noxious to the health of persons in general dwelling or carrying on business in the neighbourhood or passing along a public way”. However, the challenge with applying this provision in case of oil pollution is that the prescribed penalty of up to Rs. 500 is ludicrously small.

Thank You!