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## **Polluting the Seas: The Risks of Human Error**

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*A recent incident of serious marine pollution off Southeast Queensland highlights the risks of human error in shipping accidents. There are implications for ship-owning countries, including Singapore, as the incident may harden the attitude of the Australian government towards reducing the risks of marine pollution in Australian waters.*

IN MARCH 1989, the large American oil tanker *Exxon Valdez* went aground in Alaska's King William Sound causing massive marine pollution. The major cause of the accident was human error. The subsequent investigation found that the third mate did not properly manoeuvre the vessel, and that the master failed to provide navigation watch, possibly because he was under the influence of alcohol.

The *Exxon Valdez* incident became a defining moment in efforts to prevent pollution of the marine environment by ships. It caused a huge public furore in the United States and led to the introduction of the Oil Pollution Act 1990, placing extensive controls over oil tankers and other vessels in American waters.

Now almost 20 years to the day since the *Exxon Valdez* disaster, there has been another serious case of ship-sourced marine pollution. While the amount of oil lost was far less, the consequences may also be far-reaching. As with the *Exxon Valdez*, the main cause of the latest incident is probably human error, demonstrating again that despite all the regulations to prevent marine pollution by ships, it is still hard to reduce the risks of human error.

### **The *Pacific Adventurer* Saga**

On 11 March 2009, the Hong Kong flag container ship *Pacific Adventurer*, on passage in heavy seas off the Southeast coast of Queensland, lost 31 shipping containers overboard. These were loaded with the chemical fertiliser, ammonium nitrate, some of which spilt onto the deck of the ship and into the sea. To make matters much worse, the ship apparently rolled on top of the containers, fracturing the hull and causing the spill of over 200 tonnes of bunker fuel. This created a 60 km oil slick resulting in extensive pollution of the sensitive marine environment of nearby Moreton Island, and along the

popular tourist beaches of Queensland's Sunshine Coast.

Hundreds of workers were engaged in cleaning up these beaches and two mine-hunters from the Royal Australian Navy have been searching for the lost containers so that they might be recovered. They must be recovered as apart from the risks of long-term leaching of ammonium nitrate into the ocean, the area is a rich prawning ground, and trawlers could snag containers leading to the loss of fishing gear, and possibly even loss of a prawn trawler itself. The owners and insurers of the *Pacific Adventurer* face a huge bill for compensation.

The incident attracted huge public attention in Australia. Australians are addicted to their beaches and have a strong popular commitment to protecting the marine environment. Incidents of ship-sourced marine pollution inevitably lead to calls for new restrictions on ships transiting Australian waters, particularly in the Great Barrier Reef and Torres Strait. Extra spice was added to the *Pacific Adventurer* saga because it occurred just before a Queensland State election and the opposition claimed the government's initial response to the incident was inadequate. While there is no evidence of substance to these suggestions, any inadequacies may have been because the ship initially greatly under-estimated the quantity of oil spilt.

### **Cause of the disaster**

The cause of the disaster is being investigated, and the possibility of human error and/or seafarer negligence will be closely examined. The seas at the time the *Pacific Adventurer* lost its cargo overboard were heavy, but not exceptionally so. The ship was still some distance from the centre of Cyclone Hamish. A well-found and well-operated ship should not have lost cargo in this way. The decision of the ship's master not to slow down or alter course to allow the vessel to ride more easily may have been due to his wish to get into the sheltered waters of Moreton Bay ahead of the cyclone, as well as the desire to maintain his schedule.

Press reports suggest the ship's officers had instructed the stevedores loading the containers in Newcastle, the ship's last port of call, to apply normal securing arrangements only rather than storm lashings, even though weather forecasts showed the ship was likely to pass near Cyclone Hamish. The *Pacific Adventurer* is also a multi-purpose vessel, not a dedicated container ship, and containers are carried on deck on top of general cargo holds. This can make securing them more difficult.

The reports that the ship allegedly may have intentionally under-estimated the oil spill are worrying. This might have been done to hide the extent of the pollution, but in fairness, it can be difficult initially to assess the amount of oil released. In rough seas, it is even more difficult. Bad visibility compounds the situation. However, the crew should have been able to tell fairly quickly which tanks were holed and how much fuel had been lost. As a general principle, it is better to have an initial overestimate than an underestimate.

### **Implications for international navigation**

Far-reaching implications of this incident are likely. It will almost certainly harden the attitude of Australian governments to reducing the risks of shipping accidents in Australian waters by whatever means possible. For example, we are less likely now to see any softening of the Australian government's position on compulsory pilotage in the Torres Strait. This was introduced in 2006 because the government thought that unpiloted ships passing through the extremely hazardous waters of Torres Strait posed an unacceptable risk to a very sensitive marine environment. This arrangement has been protested by the US and Singapore.

Shipping accidents are caused by poorly maintained ships and/or human error. While new regulations and active enforcement can reduce the risks of poorly maintained ships, it is much harder to reduce the

risks of human error, particularly at a time when there is already concern about the professional standards of seafarers and the attractiveness of seafaring as a vocation. The risks could become greater as the global economic recession proceeds; international trade declines; ships are laid up; and ship-owners seek to reduce costs, possibly by employing less experienced and qualified crews. The general dictum prevails: “you pay for what you get”.

Ship-owners are caught between the opposing pressures of the need to contain costs, on the one hand, and the need to fulfil their obligations to operate safe and efficient ships, on the other. They do not meet the latter obligations by operating ships with minimum-sized crews, pressuring masters to maintain schedules, or hiring crews that are cheaper but possibly less competent.

We may expect to see a continuation of restrictions on the freedoms of navigation as a consequence of increased international and coastal state concern for the marine environment. This concern has increased enormously over the last 20 years or so. While major ship-owning nations, such as Singapore, may oppose new coastal state regulations on shipping, the trend towards increased regulation is inevitable. Incidents such as that of the *Pacific Adventurer* only serve to accelerate this trend.

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