International Nuclear Services

Pacific Sandpiper

An INF3 class vessel, the Pacific Sandpiper joined the fleet of Pacific Nuclear Transport Ltd (PNTL) in 1985.

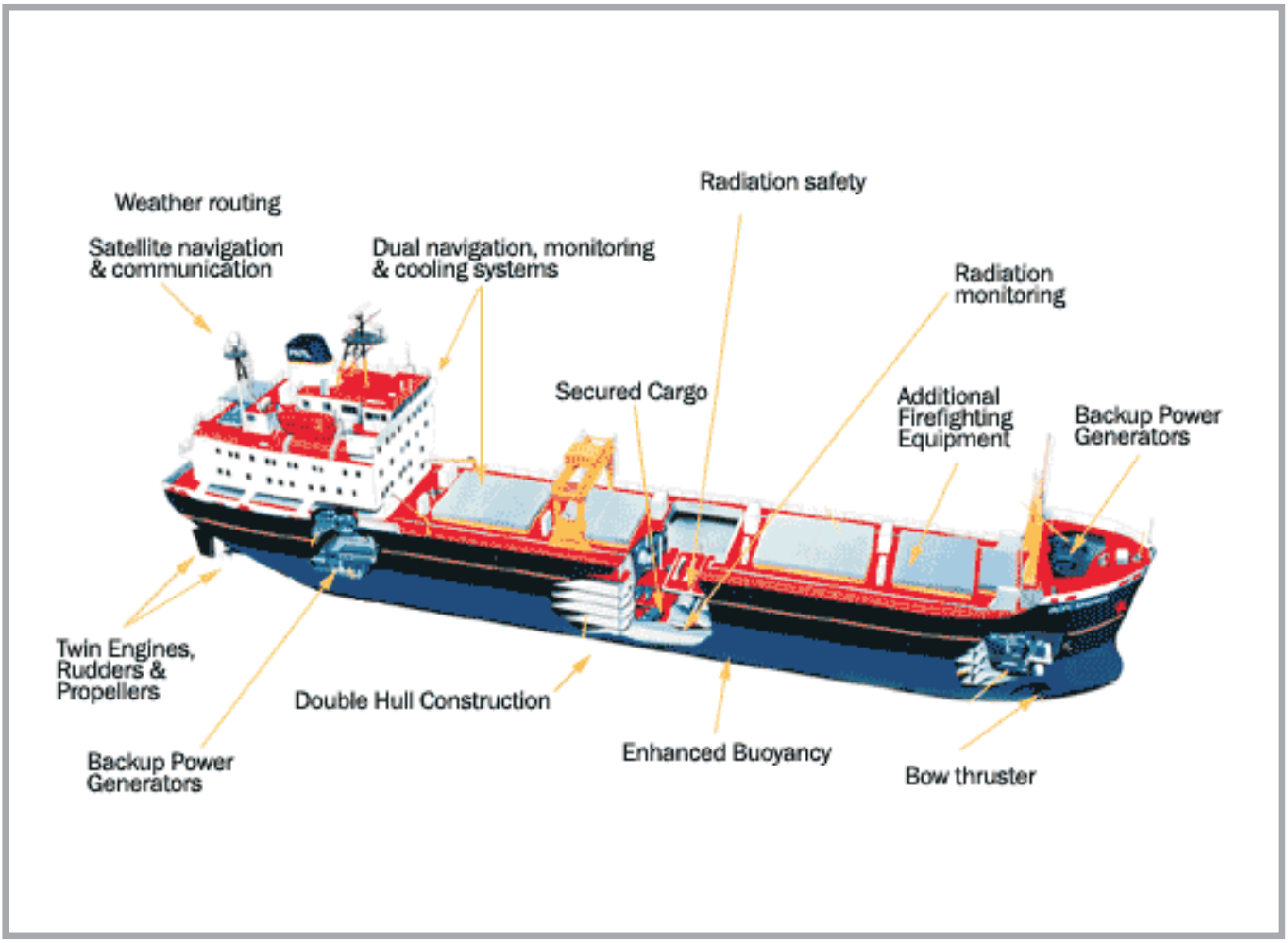
PNTL's ships are dedicated to the transportation of nuclear materials that are classified by the International Maritime Organisation (IMO) of the United Nations at its highest level of INF3. The INF Code regulates shipments by sea of packaged irradiated nuclear fuel, plutonium and high level radioactive wastes.

PNTL overview

PNTL is the world's leading nuclear transport specialist, with more than 40 years of experience without any incidents involving the release of radioactivity. Its ships are used to transport MOX fuel assemblies and vitrified high level waste to Japan. PNTL is owned by INS (62.5%), a Japanese consortium (25%) and AREVA through its subsidiary TN International (12.5%). PNTL uses dedicated vessels, which have regularly transported spent nuclear fuel from Japan to France and the United Kingdom.

The Pacific Sandpiper was used to transport spent nuclear fuel, research reactor fuel and is currently being used to transport vitrified high level waste (HLW), travelling principally between Europe and Japan. The Pacific Sandpiper has also made special visits to IMO meetings in London and to open days in Cape Town and Durban to enable the public, media and public representatives to see for themselves the safety features on PNTL ships.

Factbox Dimensions	
Length overall	103.92m
Breadth	16.55m
Draft	6.016m
Number of holds	5
Capacity	24 flasks
Design speed	13 knots
Deadweight (max)	3,775 tonnes



Safety in depth

The design of the Pacific Sandpiper represents one of a series of barriers to protect its cargo. It has a double hull throughout and impact resistant structures between the hulls. It also has duplication of all the essential systems to provide high reliability and accident survivability. This means that if any important system fails during a voyage, either due to mechanical failure or as a result of an accident, there is always a back-up system ready to be brought into operation.

The Pacific Sandpiper has a number of advanced safety features. These include:

- Double hull and hull reinforcing to withstand collision damage
- Enhanced buoyancy to ensure the ship will continue to float even in extreme circumstances
- Dual navigation, communications, and cargo systems
- Twin engines and propellers
- Additional fire fighting equipment, including a hold flooding system and spare electrical generators.

Security

The international regulators setting the standards for the protection of nuclear material are the International Atomic Energy Agency (IAEA) and its Member States, and in the European Union, Euratom.

Prior to each shipment, a transport plan is prepared documenting the specific arrangements to be implemented for the shipment. The specific regulations that are met or exceeded by the design and operation of the Pacific Sandpiper are as follows:

- NISR 2003 – UK Nuclear Industry Security Regulations
- Convention on the Physical Protection of Nuclear Material (IAEA publication INFCIRC 274)
- Recommendations on the Physical Protection of Nuclear Material published by the IAEA (INFCIRC 225)

Emergency Arrangements

As required by the International Atomic Energy Authority (IAEA), in the unlikely event of an Emergency situation developing, a fully trained and equipped team of marine and nuclear experts is available on 24-hour emergency standby.

Crew

The Pacific Sandpiper will carry a crew which is substantially larger than that found on chemical tankers of a similar size. All senior navigating and engineering officers hold certificates of competence for a higher rank than the one they serve. For example, the Chief Officer must hold a Master's Certificate. In addition all personnel are actively encouraged to enhance their skills and qualifications and to take relevant training courses.

Regulations

The Pacific Sandpiper's design and operation meets all the relevant requirements of the following:

- United Kingdom Maritime and Coastguard Agency (MCA) regulations
- Japanese Ministry of Land, Infrastructure, Transport and Tourism (MLIT) regulations
- International Convention for the Safety of Life at Sea (SOLAS),which sets standards for the safe operation of vessels
- The International Convention for the Prevention of Pollution from Ships (MARPOL), which protects the marine environment from pollution by vessels
- IMO International Maritime Dangerous Goods (IMDG) Code applicable to radioactive materials
- IMO International Safety Management Code (ISM Code)
- IMO International Ship and Port Facility Security Code (ISPS Code)
- The United Nations Convention on the Law of the Sea (UNCLOS), which recognises the principles of the right of innocent passage through territorial seas and the freedom of navigation beyond; and also that vessels carrying nuclear substances must carry documents and observe special precautionary measures when exercising the right of innocent passage through territorial seas

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