THE UK RESPONSE TO THE NAPOLI INCIDENT

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INCIDENT OVERVIEW

During severe weather conditions on the morning of 18 January 2007, the MSC NAPOLI, a UK-registered vessel, suffered flooding in her engine room in French Territorial Waters. The MSC NAPOLI’s Master took the decision that the danger to the vessel was sufficient to order the crew to abandon the ship. All the crew were successfully rescued by UK helicopter from Royal Naval Air Station Culdrose. The Marine Accident Investigation Branch has instigated a full investigation into the causes of the incident.

The English Channel is a zone of joint responsibility between France and the UK with regards to maritime pollution incidents under the auspices of the multi lateral Bonn Agreement. There is an Anglo-French joint maritime contingency plan, which is referred to as the Mancheplan. The French and English authorities were faced with a large container ship known to be carrying a cargo that included potentially hazardous materials and to have more than 3,000 tonnes of fuel oil on board. Particular account was taken of the strong advice from environmental experts that if the ship’s cargo and oil would need to be recovered and should not be left to sink in deep water. The effects of sinking in deep water would have been serious long-term environmental damage. In the first instance, there would be the strong possibility of a large release of oil and spreading of the cargo, with the very real consequences of navigational hazard in the Channel. In any case, the oil would have escaped and found its way onto many beaches on both sides of the English Channel for many years, whereas in shallow waters the hydrocarbons and other pollutants could be recovered much more easily and as soon as possible.

In line with the Mancheplan, French authorities led the initial response to the incident, liaising closely throughout with the UK Secretary of State’s Representative for maritime salvage and intervention—commonly known as SOSREP. French tugs arrived on the scene promptly. A French Government intervention team went on board the vessel. Having made an on-scene assessment of its condition, experts concluded that its state was such that it was unlikely to survive prolonged exposure to severe weather conditions. To prevent a serious marine pollution incident, the French and UK Governments recognised that the vessel must be towed to a place of refuge where she could be dealt with in a controlled manner. The need for a place of refuge and its location are always driven by the circumstances of an incident, including the weather, the size and condition of the vessel and the potential threat posed by the vessel and its cargo. Taking all those factors into account, the French authorities were unable to identify a suitable place of refuge on the French coast within about 200 miles.

All other options were on the UK south coast from Falmouth to Portland. A full risk assessment was carried out to determine a location providing best shelter and chance of survival to offload oil and hazardous cargo. None of the main ports, including Plymouth, had sufficient depth of water to accommodate the vessel. The Falmouth Harbour Master reported that the vessel could have anchored outside the harbour, but that Falmouth could not handle or store containers. Moreover, transit to Falmouth, because of the direction of travel and the state of the sea, would have exposed the casualty to severe stress. There was no safe option to enter any south coast port.

An anchorage with good shelter from south-west winds was needed. The most suitable option was Portland because it affords shelter combined with good access to port facilities and, later, the potential for moving the ship into the inner harbour. It also meant that the vessel could be towed in a direction that minimised the stress on its hull. A tow was attached on the evening of 18 January. However, in the early hours of 20 January, the cracks on both sides of the ship worsened and the stern of the ship started settling lower in the water. It became clear that the MSC NAPOLI would not reach Portland. The priority became keeping the vessel intact, as there was real concern that it might start to break up, and therefore looking to beaching it in the shallowest water possible.

Initially the Port of Portland was the preferred place of refuge in which to take the vessel, however as the condition of the vessel deteriorated it was decided to take her into Lyme Bay - originally in order to stabilise her before continuing to port. When it was understood that the condition of the vessel was such that to tow the vessel to port was not possible - beaching her became the only practical alternative. From the beginning of the incident all decisions had to be made against the presumption that the casualty could, and probably would, sink at any time.

Concern was urgent and a decision had to be taken without any delay whatsoever. In accordance with the UK’s National Contingency Plan for Marine Pollution from Shipping and Offshore Installations (NCP), environmental bodies and local authorities were consulted. Moreover, through forward planning, which is an integral part of the UK system, SOSREP already had knowledge about the suitability of locations as possible places of refuge for this vessel. SOSREP decided that the only viable option was to beach the ship in shallow water, where there was a greater chance of successful salvage, and decided to turn the vessel towards an identified beaching site in the shelter of Lyme Bay. During the passage the vessel was under tow which broke on several occasions.
NAPOLI - VESSEL DETAILS

Container vessel, UK Flag, Port of Registry London
Built in 1992
Registered Owners - Metvale
Charterers – Mediterranean Shipping Company (MSC)
Ship Managers – Zodiac Maritime Agency
Length overall (LOA) – 275 metres
Deadweight Tonnage – 62277
Gross Tonnage (GT) – 53409
Container capacity – 4734 TEUs
Containers on board – 2318 units, including 159 containing dangerous goods

When the vessel was built in 1992 it was the largest container vessel in the World, the largest now is the Emma Maersk which carries 7000 TEU.

Consultation took place in relation to the selection of the exact beaching position. The requirements included identifying an area of shallow and sheltered water with a forgiving sandy sea bed. The position would ideally be close to a port with facilities to receive the vessel or the oil and cargo depending on the available practical options (Portland). The site also needed to allow accessibility for Salvors. These decisions had to be made immediately given the grave and deteriorating condition of the vessel. As soon as it was known that Lyme Bay was the preferred option a Risk Assessment and an Environmental Impact Assessment were conducted by the established Environment Group.

Although the beaching of the vessel at the world heritage site of Lyme Bay caused understandable and widespread concern - this was the only feasible place to shelter the casualty. The worst outcome would have been for the vessel to have sunk in the Channel or deep water. In its fragile state, had it been towed away, it would have had to face the force of the sea side on and would almost certainly have broken up - with significant environmental consequences.

The MSC NAPOLI incident response command and control protocol followed the UK NCP. The system assumes that there are four distinct theatres of operational activity in a major maritime incident – though not all of those activities will feature in every incident.

- Search and rescue
- Salvage
- Clean-up at sea
- Clean-up of the shoreline

In addition the four distinct theatres of activity there is much overlap into land coordinating activities. The link with marine activities and shore activities is serviced through a land based Strategic Coordinating Group under the chairmanship of the Police Authorities. On this occasion the group were based at Exeter.

The establishment of the marine groups and land coordinating groups are a requirement under the Civil Contingencies Act.

Portland Rescue Coordination Centre become the focus of activity as the vessel was brought into Lyme Bay on the Saturday morning. The various marine control cells were also eventually established here.

SOSREP and the Salvage Control Unit (SCU).

The UK NCP specifies that in the case of salvage activities ultimate control over all operations is the responsibility of a single designated Secretary of State’s Representative (SOSREP) for purposes of maritime salvage and intervention. SOSREP can not abdicate his responsibility. Whether or not he exercised any intervention powers at all he must be in no doubt whatsoever that he is in charge and will be held responsible for the outcome of all plans and decisions.

The overseeing of all UK salvage activities are the responsibility of SOSREP who is supported by a Salvage Control Unit. The SCU comprises a small group of specified persons who alone can represent key interests such as the salvor, the casualty owners, or a harbour authority. It also includes any advisors that are felt necessary e.g. a specialist independent salvage advisor or a chemical cargos specialist. The SCU however is not a committee – at all times the final decisions will be the sole responsibility of SOSREP. At the time of writing no decision has been made as to how the vessel will be removed.

The SCU for the MSC NAPOLI incident was set up at Portland Rescue Coordination Centre (RCC) at Weymouth in Dorset, England. Once the oil bunkers were removed and the cargo removal was well underway the SCU transferred to an office in Portland Port. SMIT Salvage, a Netherlands based firm, were awarded the contract on Lloyds Open Form (LOF) initially for removal of the containers and hydrocarbons. They were also subsequently awarded the contract for the wreck removal.

Marine Response Centre (MRC)

In a UK National level response for the at-sea clean-up activity is directed and co-ordinated by the Marine Response Centre. The MRC for the NAPOLI incident was set up at the nearest appropriate Coastguard station in Weymouth. The Head of Counter Pollution & Response, MCA assumed control. The MRC was responsible for directing all at-sea counter pollution activities including protective booming, collection of and dispersing spilt oil at sea and the coordination and direction of aerial and satellite surveillance.

Shoreline Response Centre (SRC).

When the threat of pollution to the shoreline exceeds the capability of the most affected local authorities, or Environment and Heritage Service (EHS) of the DoE (in Northern Ireland), and the MCA indicates a national response is required, those local authorities, or EHS, will set up a Shoreline Response Centre. The purpose of an SRC is to provide an organisation through which local authorities can discharge their responsibilities for preventing and mitigating pollution of the shoreline. In the case of the MSC NAPOLI incident it was not considered necessary to set up a formal SRC since the quantity and extent of pollution was not great. Contractors, engaged by the casualty’s owners to clean-up cargo from the shoreline were also instructed to deal with small quantities of oil as and when it came ashore.

The local authorities of Devon and Dorset also set up their own tactical response centres in order to ensure that their best interests were catered for. These centres dovetailed with the Strategic Coordinating Group based at Exeter.

Environment Group (EG).

In any maritime incident in the UK requiring a regional or national response there will be an Environment Group formed. The core membership of the Group comes from the relevant statutory nature conservation agencies, fisheries department, environmental regulator, and (in the case of incidents beyond territorial waters) the Joint Nature Conservation Committee. The Group will advise on environmental aspects and impacts of all operations and is a common facility providing comprehensive advice to the operational units through nominated Environmental Liaison Officers.

This protocol is part of a long established incident response mechanism in the UK. Standing Environment Groups (SEG’s) are ready, accessible and available for every part of the UK coastline on a continuous basis. Their function is to provide all manner of environmental advice to all response cells as set up for any maritime incident. The MCA provides detailed guidance to all of these groups and their constituent members as to how they fit in to the
in order to gain information on any oil leakage and for containers and their contents arriving on the surrounding beaches.

Skimmers and other mechanical recovery equipment from the UK stockpiles were deployed for recovery of any accidental spillages. Offshore booms were deployed around or in the vicinity of the ship to reduce the spread of oil and protect the beaches. As mentioned above booms were also deployed at the river mouths to prevent oil entering sensitive river systems.

**BUNKER OIL TRANSFER FROM THE MSC NAPOLI**

Hydrocarbon discharge of bunkers was completed initially at a productive rate when the fuel was still warm. Some tanks posed a problem for pumping out when the IFO 380 cooled; consequently an annular water injection system was used to increase the pumping rate. There was minimal loss during the transfer. Oil was transferred into a small tanker for onward shuttle to a treatment facility. The first oil removal from the casualty was on 22nd January and by 11th March all hydrocarbons had been removed.

**CONTAINERS DISCHARGE FROM THE MSC NAPOLI**

The MSC NAPOLI was carrying 2,318 containers, of which 159 contained potentially hazardous materials of various severity, including perfume, pesticides and batteries. Altogether, 114 containers were lost overboard, 82 of which were washed ashore, 14 have been identified submerged and 18 remain unlocated at present. No hazardous cargo was lost overboard. The contents of all containers were identified by a team working within the SCU. An MCA chemist worked with that team to risk assess the potential impact of dangerous goods known to be present on board. A further risk assessment was carried out by the UK Centre for Environment, Fisheries & Aquaculture Science (CEFAS) for environmental impact throughout the early weeks of the incident. As containers were removed, the stress on the ship’s hull decreased, as did the risk of the vessel breaking-up. A crane barge, Bigfoot, was employed in removing containers and passing them to a container barge, Viking 5, for transfer ashore at Portland Port. Every precaution was taken to ensure safety. It was initially expected that the removal of all the cargo could take between five to eight months to complete. The first container was removed on 11th January and all above deck containers were removed by 24th February. The last container with hazardous goods was removed on the 15 May 2007 and the final container was removed from the vessel on the 17th May 2007, just 4 months after the vessel was beached.

The difficulties of removing some containers were compounded by the damage caused to the units during the accident, some were so badly damaged that they collapsed during lifting, or were dislodged during the bad weather making them difficult to extract. Some containers were leaking and one hold was littered in shampoo bottles caused by a fracture to a container. All the vessel major holds were flooded and tidal - so many containers had to be drained on board the Bigfoot barge to reduce the weight for handling. A large number of containers were oiled due to the earlier leakage into the holds and washing around at every high water, this was further compounded by mud which mixed with the oil coating significant quantities of cargo.

Weather conditions greatly influenced the logistics protocols for the discharge operations, safe working limits were put on the operation and quite often the salvage crew were working on marginal limits.

**CONTAINERS AND OIL ASHORE**

In the first few days of the incident there were difficult issues regarding people removing cargo from containers. The UK Receiver
of Wreck (RoW) attended the scene and police were requested to attend in order to bring to an end the public removing cargo from the beach. HMCG rescue teams were also alerted to aid the prevention of item removal RoW forms for completion were distributed and must been completed by those persons removing property from the beach.

A number of containers were washed up on Branscombe Beach in Lyme Bay with a great variety of cargo contents. Some of the containers were breached prior to beaching and the contents littered the coastline, others were looted by members of the public. Fortunately there were no dangerous goods washed ashore that could have caused harm to human health.

As a result, the beaches in the area were fenced off and made secure. After substantial progress of the removal of litter from the beaches, all of the earlier affected beaches are now open to the public and regular patrols are in place to ensure the quick recovery of any washed-up goods. The Branscombe beach remained closed in parts for some 9 weeks while contractors carried out clean up activities.

PORTLAND PORT OPERATIONS

Containers were brought into Portland Port from the MSC NAPOLI by the contracted Viking 5 barge; dry containers were placed on the quayside directly. Those which were leaking or oiled were placed in steel bunds, specially made fit for purpose, to eliminate site contamination. A further site was used to store cleaned and restowed containers ready for departure from the port on an MSC feeder ship the MSC GRACE. This and other sites were used for temporary storage and de-vanning.

An old football pitch now known as “the Hospital” was used to hold containers which were oiled and required washing, emptying and scrapping.

An area was created for the decontamination and unpacking of dangerous goods containers; a specialist team of chemical response contractors dealt with this part of the operation. Areas outside the port were used for storing empty containers. All of these areas are fully operational 24/7.

LOGISTICS

The movement of plant and other equipment such as 40te reach stackers and 300te cranes were a logistical problem themselves. Portland Port is not normally a dedicated container terminal and therefore most of the equipment required to facilitate the port operation had to be brought to the port from elsewhere in the UK, e.g. a reach stacker was procured from Immingham and required a police escort for transport to the south of England.

Portland Port is also not easily accessible by road: there is one road across the causeway to Portland from Weymouth and the removal of over 2000 containers by road was not a practical solution. As mentioned earlier MSC, fortunately, provided a feeder ship, the MSC GRACE, to come to Portland to remove undamaged, clean containers - these were taken out in quantities of 200 or more on each run. Procuring a feeder ship was an additional logistics problem, most are on contract, albeit short term, and not always immediately available. Some providers stipulated a 30 day minimum contract.

Containers had to be inspected by cargo surveyors before they could be moved, road haulage licences were required for trucking out oily water (from the washing down operations). These movements required formal analyses by the Environment Agency before they could be moved onwards. Scrap and wrecked goods could only be processed or taken to a disposal site following loss adjusters’ inspections and ensuring that the disposal site had a licence to dispose of the material.

It is worth mentioning that during the entire operation there have only been minor injuries reported to a number of salvors. This is an extremely good safety record in very challenging operation.

FINANCE

Many UK agencies, including the MCA, have expended significant amounts of money and it is highly likely the recovery of these costs could take a significant amount of time. These agencies will submit their costs to the P&I Club who will then assess the claim before any payments are agreed and fulfilled.

ENVIRONMENTAL ISSUES

The MCA initiated liaison with the local fishing community to ensure that the route of the barge did not cross any deployed fishing equipment. There were no fish farms in the area and no reports of tainting of fish; however some damage was apparently caused to some nets and creels by the MSC NAPOLI on its beaching position.

The formal MSC NAPOLI EG was in place throughout the duration of the incident providing all required environmental advice. An Environmental Liaison Officer (ELO) was available for attendance at all meetings of all response cells.

With respect to oiled shorelines - very little contamination occurred of either oil or chemicals. The EG provided field staff to ensure that the clean-up operations did not cause more damage than leaving alone for natural cleaning.

SEABIRD CASUALTIES

It is estimated that 1600 birds were affected, the Royal Society for the Prevention of Cruelty to Animals (RSPCA) were alerted immediately and responded promptly, 900 birds were taken to the RSPCA site at Cross Hatch for washing and cleaning prior to release, 700 birds were found dead: it is unknown how many died as a direct consequence of the MSC NAPOLI accident as not all were oiled. The RSPCA stated that some will have died during the storms at the time and others by natural causes. The first oiled birds were found coming ashore on day 3 of the incident.

ENVIRONMENTAL MONITORING

At a very early stage the UK Department for Environment, Food and Rural Affairs (DEFRA) let a contract for the “UK Provision of Scientific and Technical Expertise with Regard to the Grounding of the MSC NAPOLI in Lyme Bay, Dorset” A comprehensive programme of environmental monitoring was developed. The monitoring programme included extending routine monitoring already taking place and new specific procedures with respect to gaining information on the presence or absence of known hazardous chemicals in the environment.

The Environment Agency carried out further work and monitored beaches between Portland and Brixham since the MSC NAPOLI grounded. Water samples taken from beaches near the NAPOLI remained clear of any signs of pollution. Samples were checked against over 165,000 man-made chemicals at the Environment Agency’s laboratory at Starcross where staff worked round-the-clock to turn-around results within 24-hours.

Beaches tested included Branscombe, Sidmouth, Seaton, Budleigh Salterton, Sandy Bay, Beer, Exmouth, Ladram Bay in Devon and Lyme Regis, Charmouth, Seatown, Eyemouth, West Bay, Burton Bradstock and Abbotsbury in Dorset. The Fleet, a lagoon lying behind Chesil Beach, was also monitored because of its high conservation value. That sampling was extended to include a number of additional Devon shoreline sites. Results to date show
that there is no impact as a result of pollution from pesticides and other chemicals from the MSC NAPOLI.

CEFAS has an emergency response team to deal with marine and chemical and oil spillages. The team provided environmental protection advice following the beaching of the MCS NAPOLI. CEFAS scientists were involved in the response operation from the time the vessel was abandoned, providing expert environmental advice including the assessment of the 159 dangerous goods containers in terms of their hazard to the marine environment. The containers were classified into priority groups for recovery. CEFAS also checked water samples from the flooded hold for toxicity, to determine whether any hazardous materials were leaking from the remaining containers on board the ship.

CEFAS designed an environmental monitoring programme for Lyme Bay, on behalf of DEFRA, to assess any impacts of oil and chemicals lost from the vessel. The results from the analyses of crabs and scallops from the area have been encouraging to date, since concentrations of oil found are at normal background levels.

POST OIL AND CONTAINER REMOVAL – REFLOATING OPERATIONS

Agreements had to be made with EA, DEFRA, CEFAS, SERAD, SEPA and other countries (if necessary) before a final decision could be agreed by SOSREP.

Some of the options considered included:

• Leave in situ and let nature take its course
• Dismantle/cut up the vessel in situ
• Re-float and tow to another area for dismantling.
• Re-float and tow to another port for dismantling.
• Re-float and tow for positioning on the sea bed – an option that would mean towing the vessel far out into the Atlantic and sinking in a predetermined position.

A decision to refloat the MSC NAPOLI in a holding position just off the beach at Branscombe was taken by SOSREP after an assessment of the condition of the ship and the prevailing weather conditions in Lyme Bay. The ship was subsequently refloated on 9th July. The decision to refloat the vessel was made to prevent further deterioration in the structure of the ship and to prevent further damage to the environment. Once afloat, the vessel was held off Branscombe Beach in its current position awaiting a decision on its final disposal. 58,000 tons of water was pumped from the casualty over a period of 6 hours to enable the refloat.

The vessels on scene at this time included the following:

Big Foot Barge with winches and cranes
Leading Tug Smit Advancer
Salvage/anti pollution vessel ‘Union Beaver’.
Workboats ‘Smit Beaver’ and ‘Multra Salvor’
Crewboat ‘Channel Chieftain’
Dedicated steering tug

The workboats were equipped with additional anti pollution gear and with DEFRA approved oil spill dispersant. A dedicated fixed wing aerial surveillance aircraft from the MCA monitored the refloat.

A dive survey below the waterline by a team from the salvage company commenced the day following refloat. The results were not encouraging. The ship was far more damaged than had been estimated. The residual longitudinal strength of the vessel was severely compromised.

Three days after the refloat, the hull condition of the casualty worsened. This lead to the decision to again beach the ship in a position slightly closer inshore.

Residual pollution continued to escape from the ship. Boomimg was in place in all the critical estuaries. In addition consideration was made as to the possibility of offshore booming. Small amounts of oil spill dispersants were being used on any fresh releases of oil.

SECOND BEACHING OF THE NAPOLI

SOSREP sanctioned the beaching of the MSC NAPOLI on the afternoon tide of the 12th July. The decision to re-beach the MSC NAPOLI was taken following the re-floating of the vessel earlier in the week which highlighted the fact that the wreck was in a worse state of deterioration than previously thought. The crack of the hull was some 3m wide in places. On the basis of these findings, the vessel was deemed to be incapable of being towed.

This limited the future options for disposal of the MSC NAPOLI. The wreck’s stern was quite securely aground and flooded in all spaces. For’d of the accommodation there was still residual buoyancy in the forward section. These known factors led to a decision to make an attempt to separate the two halves in a controlled manner.

Contractors employed by the ship’s insurers responded to and cleaning where appropriate of all reports of pollution from the ship impacting the shoreline. The MCA and International Tanker Operators Federation (ITOPF) liaised with the owners and contractors to ensure the correct actions were taken to clean the small amount of oil pollution which impacted the beaches.

SEPARATION OF THE MSC NAPOLI INTO TWO SECTIONS

The MSC NAPOLI could not be removed by a single piece and a decision taken to strategically place cutting charges across the deck, which will enable the vessel to break in two.

Booming was mobilised in support of the operation. Daily aerial surveillance flights monitored any residual pollution.

In a very controlled operation over a period of several days three consecutive charges were detonated to assist the break up of the MSC NAPOLI into two parts. On scene tugs assisted in this process.

The first charge was on the 17th July and the third and final charge on the 20th July where the ship was successfully broken into 2 sections.

A ground and air exclusion zone was in place throughout. As required all cliff paths and access points were closed to the public.

The world’s media were on site throughout to watch the three attempts at separation.

At 1410 BST the final cutting charges were successfully detonated and deck plates and longitudinal became detached and the vessel was gently towed into 2 parts.

FUTURE OF THE FORWARD AND AFT SECTIONS

After stabilisation the forward section was towed to Belfast and taken into a dry dock for in situ cut up and recycling.

Contracts are being negotiated for the removal of the stern section from Branscombe Beach. Preliminary work has been carried out by removing the aft accommodation using cutting tools. The remainder of the stern section is still there, waiting for a weather window during Spring 2008 to finally remove the remainder of the hulk. It is anticipated, once started, the work will take several months to complete.

The story continues.
BIOGRAPHY

Mr. Toby Stone spent 12 years at sea as a Deck Officer with BP Shipping. He joined UK government in 1988. Toby has been involved in and attended the majority of maritime shipping casualties in the UK pollution zone since 1997, including the Sea Empress and Everdecent and MSC Napoli incident. He joined his present post five years ago as Head of Counter Pollution & Response, Maritime & Coastguard Agency, for the United Kingdom. The Headquarters team provides operational, scientific and technical response and support to the Regions of the Maritime and Coastguard Agency and other governmental and outside organisations.