

APPENDIX B

SUMMARY OF SIGNIFICANT SPILL EVENTS

The following is a chronological collection of significant spill events from around the world that contributed to the author's evaluating whether improvements have been made in response capabilities, response performance, and perceptions regarding spill response.

Vessel name: *Amoco Cadiz*

Spill date: 1978

Location of spill: Brittany, France

Amount spilled: 231,000 tonnes

Significant issues:

- Salvage attempts failed.
- Aggressive shoreline cleanup caused serious habitat damage.

Reference: Baker (1997)

Vessel name: *Tanio*

Spill date: 1980

Location of spill: Brittany, France

Amount spilled: 6,500 tonnes

Significant issues:

- Successful shoreline cleanup used mechanical shoreline cleanup and dispersants.

Vessel name: *Sivand*

Spill date: September 1983

Location of spill: River Humber, UK

Amount spilled: 6,850 tonnes

Significant issues:

- Aerial and boat application of dispersants.
- First major aerial application of dispersants in the UK.

Reference: UK Department of Transport (1984)

Vessel name: *Exxon Valdez*

Spill date: March 1989

Location of spill: Prince William Sound, Alaska, US

Amount spilled: 37,415 tonnes

Significant issues:

- Early opportunity to contain and recover oil near the source was missed.
- Lengthy decision process and lack of experience with dispersant use.

- *In situ* burning was limited because of lack of public acceptance of this technique.
- Overly aggressive cleanup of affected shorelines caused more damage than the oil itself.
- Shoreline sensitivities and priorities for cleanup were not identified and agreed on by federal and state government and industry prior to the spill.
- Federal, state, and RP did not co-ordinate their responses and media efforts.

Reference: Tebeau (1995), Westwood *et al.* (1989)

Vessel name: *American Trader*

Spill date: February 1990

Location of spill: Long Beach, California, US

Amount spilled: 1,418 tonnes

Significant issues:

- Effective co-ordination between government and industry.
- Employed 2,000 response personnel and cost \$47 million.

Reference: Rolan and Cameron (1991), Tebeau (1995), Walker *et al.* (1995)

Vessel name: *Rosebay*

Spill date: May 1990

Location of spill: English Channel, UK

Amount spilled: 1,100 tonnes

Significant issues:

- Approximately 700 tonnes dispersed or evaporated.
- Approximately 300 tonnes came ashore and cleaned by 200 response personnel.
- Spill stimulated mandate to develop coastal protection strategy plans.

Reference: Perry (in press), UK Department of Transport (1992)

Vessel name: *Mega Borg*

Spill date: June 1990

Location of spill: Gulf of Mexico

Amount spilled: 13,265 tonnes

Significant issues:

- Provided opportunity for dispersant effectiveness testing.

- Underscored the importance of salvage capabilities.
- Provided support for the concept of *in situ* burning as a response technique.

Reference: ITOPF (1991), Payne *et al.* (1993)

Vessel name: Haven

Spill date: April 1991

Location of spill: Port of Genoa, Genoa, Italy

Amount spilled: 142,857 tonnes

Significant issues:

- Lack of co-ordinated spill management between government and industry.
- At-sea mechanical recovery and shoreline protection booming strategies were ineffective.

Reference: IOPC Fund (1992a), Walker *et al.* (1995)

Vessel name: Nagasaki Spirit

Spill date: November 1992

Location of spill: Malacca Straits

Amount spilled: 12,000 tonnes

Significant issues:

- No at-sea mechanical recovery or dispersant spraying took place.
- Response involved extensive manual clean up of shorelines.
- Lack of international co-operation between governments.

Vessel name: Aegean Sea

Spill date: December 1992

Location of spill: La Corunna, Spain

Amount spilled: 74,490 tonnes

Significant issues:

- Severe weather prevented at-sea recovery of spilled oil.
- Shoreline cleanup minimised environmental damage.
- Perception of spill management satisfactory.

Reference: IOPC Fund (1992b)

Vessel name: Braer

Spill date: January 1993

Location of spill: Shetland Islands, UK

Amount spilled: 84,700 tonnes

Significant issues:

- Massive experiment into the effects of naturally dispersed oil.
- After action reports validated dispersant use as UK's primary response strategy and documented inadequate salvage capabilities, and recommended significant changes to the NCP.

Reference: Donaldson *et al.* (1994), ESGOSS (1994)

Vessel name: Morris J. Berman

Spill date: January 1994

Location of spill: San Juan, Puerto Rico

Amount spilled: 2,684 tonnes

Significant issues:

- Employed the USCG "shoot first, ask questions later" policy.
- Skimming capacity of 24,615 tonnes per day was assembled.
- Spill management did not fully integrate resources from government, RP, and their contractors.
- Cost management was extremely weak.
- Inside the US, the general perception was that the spill was well managed.

Reference: Etkin (1998a), ITOPF (1995), Tebeau (1995)

Vessel name: Sea Empress

Spill date: February 1996

Location of spill: Milford Haven, UK

Amount spilled: 72,000 tonnes

Significant issues:

- Use of aerial dispersants successful.
- Perception of spill management satisfactory.
- Management of salvage operation criticised leading to a major inquiry into salvage and (government) intervention.
- Self-cleaning of shoreline was encouraged.
- Shoreline cleanup minimised environmental damage.

Reference: Donaldson (in press), Ingham (1996), SEECC (1998)

Vessel name: Nakhodka

Spill date: January 1997

Location of spill: Sea of Japan

Amount spilled: 6,240 tonnes

Significant issues:

- Response efforts revealed shortage of seagoing skimming equipment.
- Employed 202,000 response personnel and 100 vessels.
- Resource utilisation not fully co-ordinated.

Reference: Moller (1997)

Vessel name: Evoikos

Spill date: October 1997

Location of spill: Singapore Straits

Amount spilled: 28,571 tonnes

Significant issues:

- Smoke haze from Indonesian forest fires made aerial surveillance difficult.
- Observers reported that dispersant spraying continued for too long.

- Mechanical containment and recovery equipment could not be deployed because of the lack of necessary vessels of opportunity.

Reference: IOPC Fund (1997)

Vessel name: *Kure*

Spill date: November 1997

Location of spill: Humboldt Bay, California, US

Amount spilled: 15 tonnes

Significant issues:

- Employed 450 response personnel and cost \$12 million to clean up.
- 2 tonnes of oil was recovered.

Reference: OSIR (1997d)