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Cromarty Firth Port Authority

Oil Spill Contingency Plan Revision 7

November 2015

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DOCUMENT RELEASE FORM

Title: OIL SPILL CONTINGENCY PLAN - REVISION 7
CFPA/ 7

Client: CROMARTY FIRTH PORT AUTHORITY

Report Reference: P1946B_R3823_REV3

Date of Issue: 5 November 2015

		Hard Copy	Digital
Distribution:	CROMARTY FIRTH PORT AUTHORITY	No: n/a	PDF
	Intertek Energy & Water Consultancy Services	No: n/a	PDF
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Rev No	Date	Reason	Author	Checker	Authoriser
Rev 0	11/06/2015	Original	PAB	NHM	CPM
Rev 1	07/07/2015	Addressing client comments	PAB	NHM	CPM
Rev 2	10/09/2015	Addressing consultee comments	FAB/PAB	ESL	CPM
Rev 3	05/11/2015	Addressing MCA comments	FAB	ESL	CPM

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CROMARTY FIRTH PORT AUTHORITY OIL SPILL CONTINGENCY PLAN

Original Plan prepared by Robin Perry and Associates October 1999

Document revisions and amendments:

Version No:	Date revised
CFPA/03	October 2003
CFPA/04	September 2006
CFPA/05	December 2009
CFPA/06	December 2012
CFPA/07	November 2015

THIS IS A CONTROLLED DOCUMENT

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Cromarty Firth Port Authority	1-5
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Maritime &
Coastguard
Agency

APPROVAL OF OIL SPILL CONTINGENCY PLAN

Issued in accordance with the requirements of
the Merchant Shipping (Oil Pollution Preparedness Response and Co-operation Convention) Regulations 1998,
under the authority of the Government of
the United Kingdom of Great Britain and Northern Ireland
by the Maritime and Coastguard Agency
an Executive Agency of the Department for Transport.

Name of Port / Harbour Oil Handling Facility *	CROMARTY FIRTH
Category of Port	A & B
Name of Operator / Company *	CROMARTY FIRTH PORT AUTHORITY
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APPROVAL

Pursuant to the Merchant Shipping (Oil Pollution Preparedness Response and Co-operation Convention) Regulations 1998, the Oil Contingency Plan submitted by the above is hereby approved by the Secretary of State for the Department for Transport.

Date of Plan	05 November 2015	Plan version (where applicable)	7
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This Plan is valid until 12 November 2020

Issued by the Maritime and Coastguard Agency.

Issued at ABERDEEN
(Place of issue)

Signed *Stephan Hennig*
(Signature of duly authorised official issuing the Approval)

Date 12 November 2015
(Date of issue)

Name STEPHAN HENNIG
(For and on behalf of the Secretary of State)



* Delete as appropriate

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GLOSSARY

AHTS	Anchor Handling Tug Supply Vessels
CEO	Chief Executive Officer
CFPA	Cromarty Firth Port Authority
CGOC	Coastguard Operations Centre
cSAC	Candidate Special Area of Conservation
DEFRA	Department of Environment Food and Rural Affairs
DfT	Department for Transport
DM	Duty Manager
DWT	Deadweight Tonnage
EG	Environment Group
EPS	European Protected Species
ERIC	Emergency Response Intervention Craft
ESD	Emergency Shutdown
FORM	Floating Oil Recovery Method
HILRP	Highlands and Islands Local Resilience Partnership
HSE	Health and Safety Executive
ISGOTT	International Safety Guide for Oil Tankers and Terminals
ITOPF	International Tanker Owners Pollution Federation Limited
LRP	Local Resilience Partnership
m	metres
MCA	Maritime and Coastguard Agency
MGO	Marine Gas Oil
MRC	Marine Response Centre

Mt	Megatonne
NCP	National Contingency Plan
CPSO	Counter Pollution and Salvage Officer
OSIS	Oil Spill Information System
OSRL	Oil Spill Response Limited
OTL	Oil Transfer Licence
PCG	Public Communication Group
PD	Portable Photo-Ionisation
PoCF	Port of Cromarty Firth
PPE	Personal protective equipment
PU	Polyurethane
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations
RPE	Respiratory Protective Equipment
RRP	Regional Resilience Partnership
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SCU	Salvage Control Unit
SEERAD	Scottish Executive Environment and Rural Affairs Department
SEPA	Scottish Environment Protection Agency
SITREPs	Situation Reports
SNH	Scottish Natural Heritage
SOSREP	Secretary of States Representatives
SPA	Special Protection Area
SRC	Shoreline Response Centre
SSSI	Site of Special Scientific Interest

STEL	Short Term Exposure Level
STS	Ship-to-Ship
TWA	Time Weighted Average Exposure
UKCS	United Kingdom Continental Shelf
UKPIA	United Kingdom Petroleum Industry Association
VOC	Volatile Organic Compound

1 INTRODUCTION

This document details the oil spill contingency plan for the Cromarty Firth. It includes: an assessment of the environmental sensitivities in Cromarty Firth, the potential risks, response techniques, chains of command, action plans, contact directory and resource directory.

Port of Cromarty Firth (PoCF) is the trading name of the Cromarty Firth Port Authority (CFPA). Cromarty Firth Port Authority is constituted under the Cromarty Firth Port Authority Order Confirmation Act 1973 (as amended).

The Cromarty Firth (Figure 1-1) is a marine inlet with a narrow, deep water entrance to the Moray Firth. The entrance is approximately 1,500m wide between the headlands of the North and South Sutors and is approximately 50m deep. The outer Cromarty Firth is over 6.5km wide in places and consists of the extensive bays of Nigg, Udale and Cromarty. At Invergordon the Firth narrows to about 2km and extends southwest round Alness Bay to Dingwall and the mouth of the River Conon. The Cromarty Firth is about 29km in length from the Sutors to Dingwall. It is estuarine landwards of Invergordon, but the deep water seaward of Invergordon has a high and stable salinity. The Cromarty Firth together with the land and sea areas surrounding it is one of the most environmentally sensitive areas in the UK

The PoCF comprises the Nigg Oil Terminal, Saltburn Pier, Admiralty pier, Invergordon service base, the Highland Deephaven industrial estate and Nigg Energy Park (Figure 1-2).

1.1.1 Area of Operation

The area of operation for this plan is within the PoCF port limits, which are shown on Figure 1-1 and on Admiralty chart 223. The legal wording for the port limits is as follows: -

1.1.1.1 Seaward Limit

On the North a straight line drawn from the rock which dries 6 feet situated about 0.45Nm 190deg from Port an Righ to a position in Latitude 57° 42.5"N, Longitude 3° 52"W; On the east a straight line drawn from a position Latitude 57° 42.5 N, Longitude 3° 52"W to a position latitude 57° 38"N, Longitude 3° 57"W; on the south so much of a straight line drawn from Navity Chimney to a position in Latitude 57° 38"N, Longitude 3° 57"W as it lies seaward of the coast.

1.1.1.2 Inland Limit

A straight line drawn across the Cromarty Firth, from Ardullie Point on the north shore to Findon Pier on the south shore. It should be noted that this roughly corresponds to the A9 bridge (Figure 1-1).

The limits shall commence at the inland limit and shall extend along both banks of the Cromarty Firth at mean high-water level to the Seaward Limit and shall include the port premises.

Figure 1-2: Sources of oil within the Cromarty Firth



(Source: www.cfpa.co.uk)

2 RISK ASSESSMENT

2.1 SCOPE OF ASSESSMENT

This assessment covers operations within the Port Area, as shown in Figure 1-1.

2.2 FACTORS OF ASSESSMENT

2.2.1 Vessel Traffic

The number of annual vessel movements and size of vessels entering the Port Area in the period 2009 to 2013 are summarised in Table 2.1 below.

Table 2-1: Port Vessel Traffic Summary

Year	Annual Gross Tonnage	Annual Number of Vessel Movements
2009	5439072	651
2010	6893572	625
2011	7969466	663
2012	6966501	664
2013	8393215	686

Source: Port of Cromarty Firth, 2015.

Vessel movements within the Port Area over the period 2009 to 2013 are listed by vessel type in Table 2.2 below. This demonstrates the frequency of visits for the various vessel types.

Table 2-2: Vessel Movements by Vessel Types

Type of Vessel	2009	2010	2011	2012	2013
Rig	18	7	6	6	6
Barge	4	3	17	26	19
Pipelay vessel	7	11	21	23	25
Oil Tanker	20	27	31	22	25
Shuttle Tanker	15	28	32	25	33
Coastal Tanker	19	25	34	34	30
Platform Supply	22	24	51	41	37
Passenger	46	54	45	67	64
Diving Support	55	55	73	59	52
A.H.T.S.	80	78	64	56	68
General Cargo / Heavy Lift	109	99	89	93	103
Tug	222	186	158	165	189
Other	34	28	42	47	35

Source: Port of Cromarty Firth, 2015.

2.2.2 Sources of Oil

2.2.2.1 Nigg Oil Terminal

The Nigg Oil Terminal is a major importer and exporter of crude oil and therefore has potential for a major oil spill within the Firth. Table 2.3 presents a summary of the oil cargo products handled at Nigg Oil Terminal in 2012. Records for 2012 are quoted for demonstration purposes.

Table 2-3: Nigg Oil Terminal Cargo Products Summary (2012)

Oil Type	Operation	Quantity (MT)
Beatrice Crude Oil	Export of oil supplied by pipeline from the Beatrice Field	96,602
Athena Crude Oil	Transshipment (Utilising storage facilities and Ship-to-Ship transfers)	208,589
Banff Crude Oil		3,572
Bentley Crude Oil		32,100
Captain Crude Oil		679,014
Foinaven Crude Oil		168,764
Total		1,188,641

Source: Port of Cromarty Firth, 2015.

Occasionally heavy fuel oil is also imported for Ship-to-Ship (STS) transfer to tankers at Nigg Oil Terminal. General and bulk cargoes are also imported and exported through the Cromarty Firth.

Pre arrival checks

All tankers are required to report their operational condition in accordance with The Merchant Shipping (Vessel Traffic Monitoring and Reporting Requirements) Regulations 2004. The Master of an inbound vessel is given full instructions by the Pilot prior to entering port limits; this includes any navigational information, confirmation of the tidal condition and any anchorage position if appropriate. The Pilot and Master discuss and agree the pilotage passage plan using the PoCF Form prior to entering the port. The Pilot also carries out pre-arrival checks when onboard. These include checks to ensure that the vessel is not leaking oil; that no ballast or overboard discharge, other than normal cooling water, will take place during the passage, without adequate reason and then only with the permission of the Harbour Master.

Passage Restrictions to safe berth

Vessel size is restricted by the depth of water available in the approaches. There is compulsory pilotage for all vessels over 60 metres (m) in length, and for vessels over 20 m in length carrying passengers or hazardous substances; the only exceptions are vessels moving within the port with the permission of the Harbour Master.

Type of berthing operations and size of tugs available

There are adequate harbour tugs available within the Cromarty Firth, and range from 50-60 tonnes bollard pull.

Experienced and qualified Pilots carry out berthing within the Cromarty Firth. To date there have been no incidents of berthing failure.

Berthing failure is considered to be a low-level risk at this port due to the restrictions in place and the experience of the pilots. The size and type of vessel using the port is such that the result of collision damage to the largest Cargo tank, on vessels that utilise the port, would be 300 tonnes of crude oil before hydrostatic balance was achieved.

Analysis of oil cargo transfer and fuel bunkering operations

Tanker operations are carried out using specialised facilities operated by Talisman Energy at Nigg Bay. These facilities are well managed with bunding of the appropriate areas and the provision of an overflow tank to take routine run-off and small quantities of contaminant. Loading is by fixed arms, which are pressure tested annually. Flexible hoses are used for STS transfer. All tanker operations are carried in accordance with Jetty, port and International Safety Guide for Oil Tankers and Terminals (ISGOTT) requirements and checklists, copies of which are provided to Masters before operations can commence.

All vessels that are involved in oil transfer operations have been previously vetted by ship vetting inspectors, this process is based on risk assessment and ensures that the vessels being used by these companies are maintained and operated to the highest industry standards and as such the likelihood of operational failures is significantly reduced. This is demonstrated by the fact that no such incidents have occurred since records began.

Nigg Oil Terminal 16 inch Crude Pipeline from the Storage Tanks to the Jetty

The pipeline from the oil storage tanks to the jetty has a maximum capacity between shutoff valves of 120 tonnes, which could be lost in the event of a pipeline fracture. Historically the section running across the jetty is the most vulnerable and in the past, the jetty has been hit by a barge, which broke loose, although no spill occurred.

Nigg Oil Terminal Jetty Drains Tank

The jetty drains tank contains the runoff from the jetty drains, the pig receiver and the loading arms and has a capacity of 8 tonnes. It is fitted with automatic pump out and a high level alarm. However, the tank has previously overflowed due to the float switches sticking and this is considered to be one of the most likely causes of spillage.

Potential spill size in the event of a Loading arm failure or tank overflow:

- Arms used are 16" diameter and 20 m long, average content being 2000 litres.
- Loading rate is 125,000 litres per minute.

The maximum amount due to overflow, line or loading arm failure would be approximately 70 tonnes. Assuming the scupper valves are closed, approximately 50% should be contained on deck, giving a maximum credible spill size of 35 tonnes.

Annual throughput of Oil Products

Table 2-4: Annual throughput of oil products

Oil Type	Tonnes
Crude Oil	3,564,999
Marine Gas Oil (MGO)	20,000

Maximum credible spillages due to oil handling

Table 2-5 shows the maximum potential oil spillage volumes that could occur during various handling operations

Table 2-5: Maximum potential oil spillage due to handling procedures

Source	Potential quantity
Tanks to Jetty Pipeline failure	120 tonnes Crude
Nigg Jetty Drains tank	8 tonnes
Operational cargo loss	75 tonnes of Crude Oil
Worst case loss of Cargo tank	300 tonnes
Operational Bunker loss	3 tonnes of MGO
Worst case loss of road tanker	25 tonnes
Worst case total loss of oil tanker	120,000 tonnes of Crude Oil
Ship to shore MGO hose failure	6 tonnes
Ship-to-Ship transfer	1 tonne

2.2.3 Ship-to-Ship (STS) transfer operation

Cargo transfer in Cromarty Firth Harbour waters will take place at one of five designated STS locations shown in Figure 1-1. The proposed STS transfer locations are located within the Moray Firth in water depths of between 13 and 22 m. The proposed cargo transfer is undertaken once the supply (mother) vessel is securely anchored and the receiving (daughter) vessel is moored alongside. Transfer operation can involve more than one daughter vessel, but only one at any one time.

The frequency of the proposed cargo transfers is not expected to exceed an average of four per calendar month. The Harbour Authority will only allow one transfer at any given time in Cromarty Firth Harbour waters.

Each proposed cargo transfer will involve numerous parties, including the following:

- Harbour Authority
- The two ships and their Masters
- Ship agent
- Ship broker/charterer
- Ship owners
- STS agent

Prior to a transfer operation all relevant parties are involved in a pre-STC meeting to discuss and agree a cargo transfer plan. The meeting ensures all parties involved are fully briefed and in agreement on the all aspects of the operation, including oil spill response procedure. All operations will be overseen by a STC Superintendent, who will be provided by the STC agent.

In addition to STC transfer operations at anchor within Cromarty Firth Harbour waters, STC transfer operations occur alongside the Nigg Oil Terminal, this is authorised under an existing oil transfer licence (OTL).

The maximum potential oil spill from this source is approximately 1 tonne (Table 2-6).

2.2.4 Other sources of potential oil spillage

2.2.4.1 Bunkering Operations

Gas oil is imported into the Invergordon Supply Base regularly for bunkering purposes, with an annual tonnage of approximately 20,000 megatonnes (Mt), involving some 12 tanker transits, using coastal tankers of about 3,000 deadweight tonnage (DWT) and 12 to 15 anchor handling tug supply vessels.

Bunkering operations are carried out by STC transfer with coastal tankers, a fixed pipe at Service Base and by road tanker at other berths. In addition A.H.T.S. (Anchor Handling Tug Supply Vessels) and supply vessels supply marine gas oil to rigs. Bunkering is only allowed with the Harbour Masters permission and Port Radio must be advised before starting and on completion of operations. The maximum road tanker in use for loading is 25 tonnes. No vessel is permitted to bunker or internally transfer fuel without the permission of the Harbour Master.

Size of hose and contents liable to be lost in the event of a Bunkering

Hoses used are 4" diameter and 20 m long, with an average content of 200 litres. The loading rate is 2000 litres per minute, therefore the maximum amount of bunkers likely to be spilled due to overflow or failure would be approximately 3,500 litres.

In the case of coastal tankers loading/discharging, then the hose is 6" diameter and 40 m long, with a discharge rate of 350 tonnes per hour. This would give a maximum likely spillage of gas oil in event of total hose failure of approximately 6 tonnes.

2.2.4.2 Rig construction

The Cromarty Firth is a major oilrig construction, maintenance and lay-up port with space for over seventeen rigs. This introduces significant supply vessel traffic into the port. There is a minor risk of spillage of gasoil from the cargo and load out operations at the Nigg Energy Park and Highland Deephaven.

2.2.4.3 Cruise ships

The port of Invergordon, which is the primary port in the Firth has the largest deepwater cruise ship berth (Admiralty Pier, owned by Messrs Bannerman of

Tain) in Eastern Scotland and has frequent summer visits from cruise ships, bunkering is infrequent and normally carried out by road tanker.

Table 2-6: Maximum potential oil spillage from other sources

Source	Potential quantity
Collision or grounding to an anchor handler or supply boat.	50 tonnes MGO
Collision between oilrig and the gas oil tanker	50 tonnes MGO
Collision or grounding of vessels proceeding to Nigg Energy Park	10 tonnes MGO
Grounding and loss of the bunker barge bowser (W1517)	200 tonnes MGO
Grounding and loss of the CSO Apache II	900 tonnes MGO
Collision or Grounding of a passenger vessel	100 tonnes heavy fuel oil (HFO)
Spillage of dirty bilge/ballast water	1 tonne
Nigg Oil Terminal overflow of jetty drains tank	1 tonne
Outfall discharging into the Firth (half road tanker load)	12.5 tonnes
Oil slick from seaward – various potential sources	Unquantifiable

2.2.5 Maximum size of vessel capable of entering the port

Cromarty Firth is an excellent port of refuge and is capable of taking vessels up to 155,000 DWT (see Table 2.7 below) and has repair facilities.

Table 2-7: Maximum size of vessel capable of entering the port

Location	Maximum overall length (LOA)	Maximum Draft	Notes
Queen's Dock	160	11.0	
Service Base	300	8.0	(No. 4 berth – 14 metres)
Admiralty Pier	350	10.5	
Saltburn Pier	300	11.0	Min LOA 170m
Nigg Energy Park	300	12.0	
Nigg Oil Terminal	290	17.5	Min LOA 170m Max displacement 157,500 tonnes

2.2.6 Overall conclusion

Cromarty Firth is considered to be a very well controlled, medium risk port area. Proper controls exist through set pilotage procedures; although there is significant tanker movement within the port limits, it is considered that this is well controlled and there are adequate procedures in place to ensure that the chance of an operational spill is considered to be low. The sheer volume and diversity of traffic gives rise to the principal concerns. For example, although all the oilrigs are outside the main channel, they and their anchor patterns can, from time to time, occupy a considerable area of the Firth, thus significantly restricting the navigable area available to smaller vessels.

2.3 TIERED RESPONSE LEVELS DETERMINED

Table 2-8: Determined tiered response levels

Response level	Port	Nigg Oil Terminal
Tier 1	6 tonnes MGO	10 tonnes Crude Oil
Tier 2	50 tonnes MGO	300 tonnes Crude Oil
Tier 3	100 tonnes HFO 900 tonnes MGO	120,000 tonnes Crude Oil

2.3.1 Consensus

The findings of this risk assessment have previously been presented to a meeting of consultees from Scottish Natural Heritage, Scottish Environment Protection Agency, Highland Council, PoCF, Talisman Energy and other port users.

2.4 ENVIRONMENTAL SENSITIVITIES AND PRIORITIES FOR PROTECTION

The Cromarty Firth together with the land and sea areas surrounding it is one of the most environmentally sensitive areas in the UK. The most up to date information on protected sites can be found at <http://gateway.snh.gov.uk/sitelink/index.jsp> by putting in the site name and <http://www.magic.gov.uk/> provides information on clean up options.

2.4.1 General Description

The intertidal flats of the Cromarty Firth support one of the richest invertebrate faunas in the Moray Basin as well as extensive areas of glasswort *Salicornia* spp., beaked tasselweed *Ruppia maritima* and the nationally scarce eelgrasses *Zostera angustifolia*, and *Z. noltii*. Saltmarsh is present where the main rivers enter the firth and these areas provide important roosting sites for waterfowl at high tide. At low tide the waterfowl feed on the large numbers of invertebrates in the intertidal areas as well as the eel grasses. The islands at the mouth of the River Conon, the main river feeding the firth, provide the best example of the transition from woodland to brackish and finally saltmarsh communities in the Highland region. Diverse woodland, dominated by alder (*Alnus glutinosa*), but containing a range of other habitats such as grassland and wetland, occurs at the mouth of the river. The North Sutor coastline includes cliff top areas of grassland and scrub, which support locally rare plants and the only breeding seabird colony in the Inner Moray Firth.

There is a regular haul out of 50 to 100 common seals *Phoca vitulina* on sandbanks east of the Cromarty Bridge.

The Moray Firth has the only major concentration of the Bottlenose Dolphin, *Tursiops truncatus* within the North Sea. 60% of this population are regularly seen between the Sutors at the mouth of the Cromarty Firth.

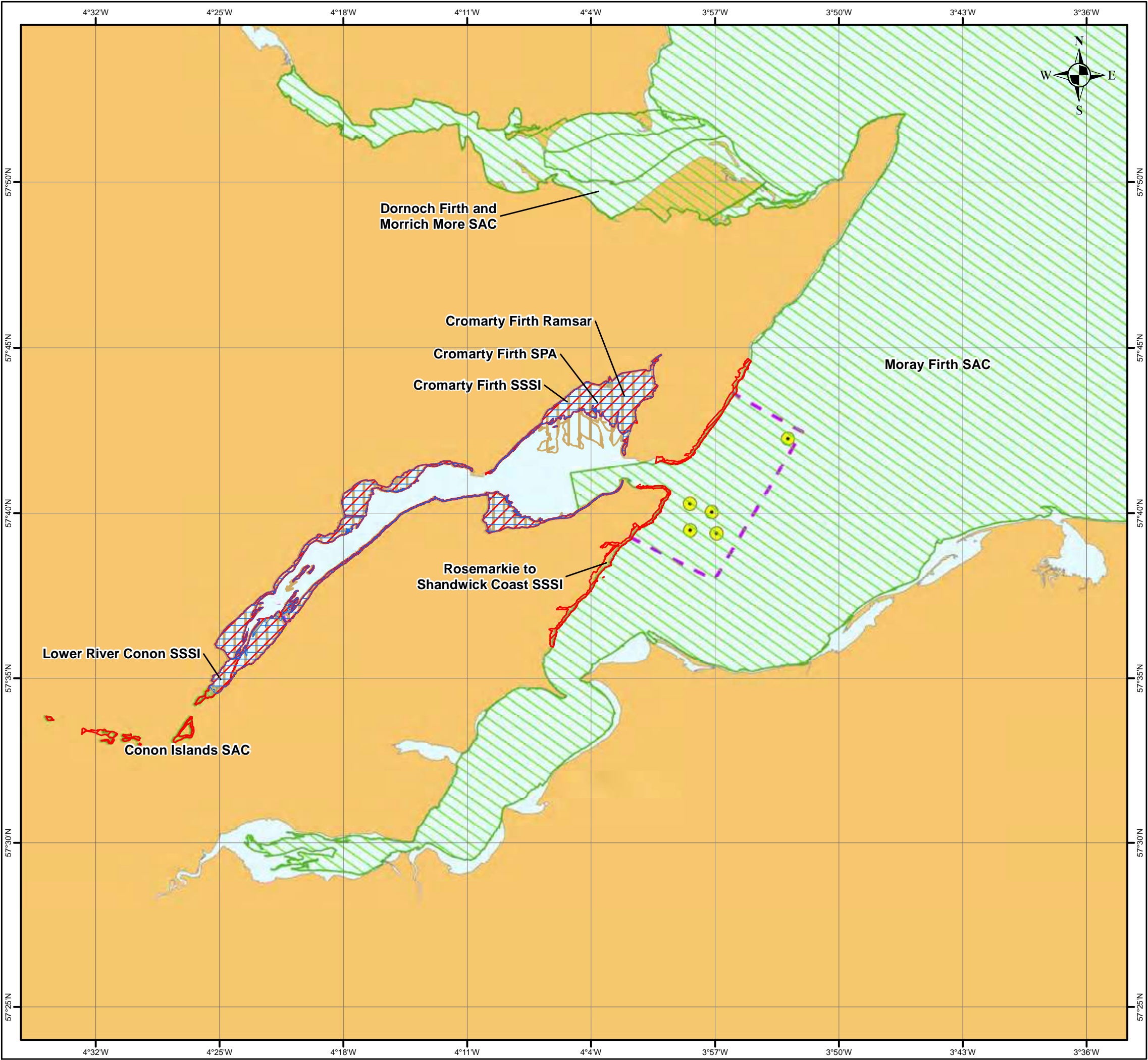
2.4.2 Statutory Conservation Areas

The Cromarty Firth has been designated a Site of Special Scientific Interest (SSSI). Part of the Nigg and Udale Bays are Royal Society for the Protection of Birds (RSPB) reserves. The Cromarty Firth is also an internationally important Wetland site under the (Ramsar Convention (1990) and a classified Special Protection Area (SPA) under the Birds Directive. Part of the Moray Firth Special Area of Conservation extends a short distance into the Cromarty Firth. These statutory conservation designations and the main conservation features are summarised in Table 2-9, and shown in Figure 2-1.

Table 2-9: Summary of Designated Conservation Areas in the Cromarty Firth

Site Name	Conservation Designation	Feature Description
Moray Firth	Special Area of Conservation (SAC)	Bottlenose dolphins (<i>Tursiops truncatus</i>) Subtidal sandbanks
Cromarty Firth	Site of Special Scientific Interest (SSSI)	Bar-tailed godwit (<i>Limosa lapponica</i>), non-breeding Red-breasted merganser (<i>Mergus serrator</i>), non-breeding Whooper swan (<i>Cygnus Cygnus</i>), non-breeding Redshank (<i>Tringa totanus</i>), non-breeding Wigeon (<i>Anas Penelope</i>), non-breeding Mudflats Saltmarsh Sandflats
Rosemarkie to Shandwick Coast	Site of Special Scientific Interest	Upland birch woodland Maritime cliff Moine Cormorant (<i>Phalacrocorax carbo</i>), breeding Sand dunes Purple oxytropis Mesozoic Palaeobotany Callovian
Cromarty Firth	Ramsar site	Bar-tailed godwit (<i>Limosa lapponica</i>), non-breeding Greylag goose (<i>Anser anser</i>), non-breeding Intertidal mudflats and sandflats Waterfowl assemblage, non-breeding
Cromarty Firth	Special Protection Area (SPA)	Common tern (<i>Sterna hirundo</i>), breeding Osprey (<i>Pandion haliaetus</i>), breeding

Site Name	Conservation Designation	Feature Description
		Waterfowl assemblage, non-breeding
		Curlew (<i>Numenius arquata</i>), non-breeding
		Dunlin (<i>Calidris alpina alpina</i>), non-breeding
		Greylag goose (<i>Anser anser</i>), non-breeding
		Pintail (<i>Anas acuta</i>), non-breeding
		Red – breasted merganser (<i>Mergus serrator</i>), non-breeding
		Whooper swan (<i>Cygnus cygnus</i>), non-breeding
		Bar-tailed godwit (<i>Limosa lapponica</i>), non-breeding
		Oystercatcher (<i>Haematopus ostralegus</i>), non-breeding
		Scaup (<i>Aythya marila</i>), non-breeding
		Wigeon (<i>Anas penelope</i>), non-breeding
		Knot (<i>Calidris canutus</i>), non-breeding
		Redshank (<i>Tringa totanus</i>), non-breeding
Lower River Conon	Site of Special Scientific Interest	Wet woodland
		Open water transition fen
		Saltmarsh
Conon Islands	Special Area of Conservation	Alder woodland on floodplains
Dornoch Firth and Morrich More	Special Area of Conservation	Reefs
		Subtidal sandbanks
		Atlantic salt meadows
		Glasswort and other annuals colonising mud and sand
		Estuaries
		Intertidal mudflats and sandflats
		Otter (<i>Lutra lutra</i>)
		Common (Harbour) seal (<i>Phoca vitulina</i>)
		Dunes with juniper thickets
		Shifting dunes
		Dune grassland
		Shifting dunes with marram
		Coastal dune heathland
		Humid dune slacks
		Lime-deficient dune heathland with crowberry



CROMARTY FIRTH PORT AUTHORITY

OIL SPILL CONTINGENCY PLAN

Figure 2-1: Designated Conservation Areas in
the Cromarty Firth

Legend

- STS Locations
- CFPA Harbour Limit

Designated Conservation Sites

- SPA
- SAC
- SSSI
- Ramsar

Date	Wednesday, August 12, 2015 08:44:06
Projection	WGS_1984_World_Mercator
Spheroid	WGS_1984
Datum	D_WGS_1984
Data Source	CFPA, OSOD, JNCC, SNH,
File Reference	J:\P1946\Mxd\OSCP\mxd Designated_Conervation_Areas
Created By	Emma Langley
Reviewed By	Ian Charlton
Approved By	Chris Mooij



0 2.5 5 10 15 20 km

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2.4.3 Littoral Zone Marine Biology

The rocky shores of North and South Sutor and at Nigg Oil Terminal are examples of slightly sheltered shores whilst those of Balintraid Pier, Invergordon are classed as sheltered rocky shores. Most of the slightly sheltered shores have upper-shore fucoid stands, a well-developed mid-shore barnacle zone and a low shore zone or red turf-forming alga with associate amphipods and isopods. Abundant grazing populations of littorinids and limpets are common in the mid-shore.

On most of the sheltered bedrock shores there is a small uppermost zone of channelled wrack seaweed (*Pelvetia canaliculata*) and a fairly well developed zone of flat wrack seaweed (*Fucus Spiralis*) below this, but these are both absent or patchy and ill-defined on the shingle shores. Mid-shore fucoid stands are present, being replaced by the laminarians at low-shore. Littorinids and limpets are common, but there are no dominant barnacle populations on the sheltered shores.

The soft shores of the Cromarty Firth include the extensive intertidal flats of Nigg and Udale Bays. Both flats are dominated by lugworm (*Arenicola marina*) communities in the mid shore levels, and below, with the most important species in terms of biomass being mussels (*Mytilus edulis*), lugworm, spireshells (*Hydrobia ulvae*), Baltic tellin (*Macoma balthica*) and cockles (*Cerastoderma edula*). The soft shores of the Cromarty Firth appear to be rich in bivalve diversity but poor both in bivalve numbers and in oligochaetes diversity; the sandy, relatively silt-free sediment is thought to be the major factor responsible for this. Nigg and Udale bays both possess extensive mussel beds; the Nigg Bay mussel beds are confined to the west and middle parts of the bay and Udale flats are flanked by mussel beds on the scoured channel edge at Newhall Point.

The extensive cockle resource in Nigg Bay has, at various times, attracted commercial cockle collectors. Such activities in the past have used tractor drawn dredges and these have raised concerns because of the impact on the intertidal habitat and disturbance to the wintering bird populations. As a result, a Nature Conservation Order is in place to control such activities. The detailed wording is as follows:

- a) The killing or removal of any marine invertebrate animal (including mollusca, crustacea or annelid) by mechanical means;
- b) The fishing for, or collection of shellfish; and
- c) The use of vehicles or craft by persons surveying the shellfish resource or collecting or transporting shellfish.

Both bays have extensive intertidal habitats, typified by an eelgrass/tassel weed/spire shell association. These provide an important food resource for the very large numbers of overwintering wildfowl. In general, the invertebrate fauna of the Lower Cromarty Firth is rich compared to many intertidal flats in NE Scotland. In the upper Firth there are smaller areas of intertidal sands and muds lined with a narrow zone of shingle, rated 'very-sheltered shores'. The wide areas of salt marsh, typified by glasswort/tassel weed/eelgrass associations, within the upper Cromarty Firth around Dingwall Bay and the Conon Islands, are of considerable ecological importance.

2.4.4 Sub Tidal Habitats and Communities

The sediment at Invergordon tends to be sandy dominated by the bivalves *Fabulina fabula* and *Gari fervensis*. Further seawards the seabed consisted of stable mud with scattered boiler clinker (ash and partially fused residues from a coal-fired furnace) and a fauna characterised by the bivalve *Abra Alba*. At the narrow entrance to the Firth, which has strong tidal currents and firmer, sandier sediments, species recorded included the polychaete worms *Ophelia borealis*, *Aonides oxycephala*, *Glycera capital*, *Prionosplo cirrifera*, *Microphthalmus* sp. and *Nephtys longosetosa* and the amphiod *Atylus falcatu*. East of the entrance to the Firth the diversity of species was lower than within the Firth.

A MNCR sub littoral survey was carried out between the North and South Sutors at the entrance to the Cromarty Firth, in May 1992. The results indicate a more diverse, but not unusual fauna, including hydroids and anemones. A richer epifauna was recorded on sandy mud east of old Shandwick. Additional survey work in the deep water channels west of the Sutors discovered extensive beds of horse mussels (*Modiolus modiolus*).

2.4.5 Protected Species

European Protected Species (EPS)

EPS are those species listed on Annex IV of the Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (Habitats Directive). They require “a system of strict protection”. In Scotland the Habitats Directive is transposed through a combination of the Conservation of Species and Habitats Regulations 2010 (in relation to reserved matters) and The Conservation (Natural Habitats, &c.) Regulations 1994. For UK offshore waters the Habitats Directive is transposed into UK law by the Offshore Marine Conservation (Natural Habitats & c.) Regulations 2007 (as amended). The regulations make it an offence to deliberately capture, injure, kill or disturb any listed animal. Disturbance of animals includes activities that are likely to:

- a) to impair their ability –
 - (i) to survive, to breed or reproduce, or to rear or nurture their young; or
 - (ii) in the case of animals of a migratory species, to migrate
- b) to affect significantly the local distribution or abundance of the species to which they belong.

Marine EPS species include:

- All cetaceans (dolphins, porpoises and whales);
- Otters (*Lutra lutra*);
- Sturgeon fish (*Acipenser sturio*), and
- Marine turtles (*Caretta caretta*, *Chelonia mydas*, *Lepidochelys kempi*), *Eretmochelys imbricate*, *Dermochelys coriacea*).

Cetaceans and otters are found within the area, further details of which are provided in individual sections below.

Cetaceans

All cetaceans occur on Annex IV of the Habitats Directive and therefore require strict protection.

The Moray Firth is particularly important for Cetaceans and is famous as the home to one of only two known resident populations of bottlenose dolphin (*Tursiops truncatus*) in UK waters. The Moray Firth population is internationally important being the most northerly population of bottlenose dolphins in the world and is the most important population within the North Sea. They are protected by the Moray Firth SAC which covers an area of 1,513 km² and includes parts of the Cromarty Firth. The population consists of about 130 animals. The individuals of this population spend the majority of the year in and around the Moray Firth, and of this population, over 60% are regularly found in and around the Sutors, although individuals have been known to travel as far as Berwick-upon-Tweed on occasions (Moray Firth Partnership, 2011a; 2011b; SNH 2009).

There are eight other cetacean species which are known to occur within the Moray Firth. Regularly occurring species include: harbour porpoises (*Phocoena phocoena*), white beaked dolphins (*Lagenorhynchus albirostris*) and minke whales (*Balaenoptera acutorostrata*). Harbour porpoise and white beaked dolphin are regularly sighted in coastal waters although are also found offshore. Minke whale are regularly present offshore although can be seen close inshore around the Sutors, and tend to enter the Firth during the autumn months of September to early November. The remaining species, which are occasional visitors to the Moray Firth, are: the Atlantic white-sided dolphin (*Lagenorhynchus acutus*), long finned pilot whale (*Globicephala melas*), short-beaked common dolphin (*Delphinus delphis*), killer whale (*Orcinus orca*) and the Risso's dolphin (*Grampus griseus*) (Reid *et al* 2003; Moray Firth Partnership, 2011a).

Species known to visit the Cromarty Firth include harbour porpoise, white-beaked dolphin, Risso's dolphin and killer whale.

Cetaceans are vulnerable to oil pollution and procedures have been drawn up to deal with cetaceans in the event of an oil spill in the Moray Firth including Cromarty Firth. These guidelines are given in Part 4 (Appendix C) of this Contingency Plan. In particular they highlight the importance of the entrance to the Cromarty Firth for dolphins.

Otters

The European otter is an EPS, listed on Annex IV of the Habitats Directive. It is also listed on Annex II of the Habitats Directive requiring the designation of SACs for its conservation. Otters are semi-aquatic mammals that obtain most of their food from lochs, rivers or the sea. The Scottish population is unusual in that it comprises a particularly high proportion (50% or more) of coastal dwelling otters which feed predominantly in the sea (SNH 2008, 2013).

The European otter (*Lutra lutra*) was once widespread in Europe, but numbers declined sharply in the 1960s and 70s due to pollution, exacerbated by habitat loss and hunting (JNCC, 2013). In Great Britain, whilst numbers

fell in England and Wales, they survived in Scotland's cleanest water bodies in the north and west, and Scotland has remained a European stronghold for otters. In 2003, the total Scottish population was estimated at around 8,000 (SNH, 2013).

Whilst the most important coastal areas for otters in the British Isles are the west coast of Scotland and the Shetland Islands, one SAC in the study area, Dornoch Firth and Morrich More SAC, lists otters as an interest or a qualifying feature. This site consists of an estuarine system with extensive areas of bordering natural habitat including sand dune, woodland and small lochans. The area supports a good population of otters in what is the only east coast estuarine site selected for the species in Scotland (<http://jncc.defra.gov.uk>).

Other Protected Species

In addition to these EPSs, Annex II of the Habitats Directive lists animal and plant species of community interest whose conservation requires the designation of SACs. Annex II species which occur regularly in the study area include:

- Common seal (*Phoca vitulina*)
- Grey seal (*Halichoerus grypus*)

2.4.5.1 Common Seals

Recent figures show that common seal numbers around Scotland as a whole are declining. Major declines have been documented in several Scottish populations with declines since 2001 of 76% in Orkney, 30% in Shetland between 2000 and 2009, and 92% between 2002 and 2013 in the Firth of Tay. However, although there was a decline in the Moray Firth by 50% before 2005, the population remained fairly stable for four years and then increased by 40% to 2010 and has fluctuated ever since (SMRU, 2014).

The Moray Firth is home to over 1,500 common seals. Common seals may be seen hauled out on sand banks between Brora Bay and Findhorn Bay and on remote rocky shores (Moray Firth Partnership, 2007).

Distribution information on common seals is mainly based on observations at haul-out sites. Most the haul-out sites within the Moray Firth are in the inner Moray Firth, either on intertidal sandbanks or mudflats connected to the shore at low tide. There are over 20 haul-out sites in the inner Moray Firth and these are found in the Beaully, Inverness, Cromarty and Dornoch Firth, with small groups on sites such as Loch Fleet and Findhorn bay (Moray Firth Partnership, 2007).

There is one SAC designated for seals in the study area; Dornoch Firth and Morrich More SAC, for which common seals are a primary reason for selection of this site. It should be noted that the common seals which use the Cromarty Firth are likely to form part of the population in the wider Moray Firth and particularly the Dornoch Firth where they are a qualifying feature of the Dornoch Firth and Morrich More SAC.

2.4.5.2 Grey Seals

Less information is available on Grey Seals (*Halichoerus grypus*) in the Moray Firth although they have been observed breeding and feeding. A 2012 survey estimated it to be around 560 (Duck, 2013). As many as 300 Grey Seals haul out during the summer on the sandbanks of the outer Dornoch Firth

There are only two sites on the Scottish mainland where grey seals are known to breed, one of which is in the Moray Firth. However, Grey Seal are seldom seen within the Cromarty Firth and are not known to breed there.

Grey Seal pups are born in the Moray Firth in October and November. Unlike the Common Seals, the pups remain ashore for their first few weeks. Grey Seal's annual moult, during which they remain ashore feeding, occurs in spring. Breeding sites in the Moray Firth have been observed on rocky cobble beaches and in caves along the coast between Wick and Golspie, and also may occur at remote sites along the southern shore.

2.4.6 Notable Wintering Birds

The 1995/96 – 2001/02 winter peak mean counts of the qualifying species for the Cromarty Firth SPA/Ramsar site, are as follows:

Species	Number of individuals
Whooper swan ¹	29
Wigeon	11196
Pintail	299
Scaup	138
Red-breasted merganser	224
Bar-tailed godwit	1762
Curlew	1370
Redshank	1209
Knot	4299
Waterfowl	33192

The available data underestimate the use of the Firth by Whooper swan as the counts take place at high tide, not at low tide when geese and swans feed on the vegetation of the mudflats. Actual numbers using the Firth are more likely to be similar to those for Loch Eye SPA and Ramsar site where the majority of the geese and swans roost. The 1996/97-2000/01 winter peak means for these species on Loch Eye are shown in the table below.

Species	Number of individuals
Whooper swan	65
Icelandic greylag goose	1403

The diverse assemblage of wintering waterfowl includes smaller numbers of Slavonian grebe (*Podiceps autitis*), pink-footed goose (*Anser brachyrhynchus*), teal (*A. crecca*) and oystercatcher (*Haematopus*

ostralegus). They contribute to the internationally important waterfowl population that winter in the Moray Basin as a whole.

2.4.7 Notable Breeding Sea Birds

Best recent estimate of the breeding population of notable species of seabird on the Cromarty Firth

Species	Number of pairs	Reference
Cormorants	206	2002 count for the North Sutor (Highland Bird Report 2002)
Common tern	139	2002 - Highland Bird Report 2002.

The Cromarty Firth is an important feeding area for osprey (*Pandion haliaetus*) an Annex I species and part of the SPA interest. It breeds in the surrounding woodlands and in 2003 5 pairs of osprey used the firth for feeding.

In addition to the colony of common terns, the site supports other breeding seabirds including in 2002 up to 113 pairs of Arctic tern *Sterna paradisaea*: an Annex I species.

Also breeding on or close to the cliffs at the north Sutor are the following species: fulmar, guillemot, razorbill, kittiwake,

The intertidal flats and the areas of *Salicornia* spp. *Zostera* spp. and *Ruppia maritima* provide rich feeding grounds for waterfowl as the tide ebbs and flows. Seaduck forage on the intertidal waters. At high tide, waterfowl roost on the fringing saltmarsh, the promontories and on the islands at the mouth of the River Conon. These islands also support an important assemblage of breeding birds ranging from woodland species to waders and wildfowl. The cliffs at North Sutor are used by nesting seabirds, including a nationally important breeding population of cormorant. Terns breed on shingle bars and promontories enclosures around the Firth.

2.4.8 Periods of Biological Sensitivity

Table 2-10 gives the main periods of biological sensitivity for species groups discussed above in the Cromarty Firth.

Table 2-10: Biological sensitivity in the Cromarty Firth

Location	Sensitive Feature	Seasonal Variations Cromarty Firth
Cromarty Firth	Waterfowl	Numbers of waterfowl peak usually in October and November, after which some species decline slightly as birds disperse to other wintering sites. Numbers finally peak again in the Spring before most birds disperse by the end of April.
Sutors	Sea duck	Peak numbers occur in December and January
North Sutor of Cromarty	Breeding seabirds	Peak numbers April to August.
Cromarty Firth and between the Sutors	Dolphins	Dolphins are present throughout the year but their abundance is greatest in the Sutors area.

Location	Sensitive Feature	Seasonal Variations Cromarty Firth
Inner Cromarty haul-out site near A9 roadbridge	Seals/Common seal population of 100 (maximum 300)	Breeding season June-July; all year round in the Firth itself.

2.4.9 Priorities for Protection

Important nature conservation areas cover the whole of the Cromarty Firth and it is difficult to allocate priorities for protection to any specific area. However, it is possible to allocate the following initial priorities and these are based upon the significance of the relevant interests:

- Priority 1: Nigg and Udale Bays and the area between the Sutors.
- Priority 2: Alness and Dalmore Bays.

2.4.10 Socio-Economic Sensitivities

2.4.10.1 Commercial Sensitivity

The Cromarty Firth has significant industrial and commercial development on the northern shore. This is principally centred on Invergordon, with the Service Base and Queens Dock, but there is commercial activity further west at Highland Deephaven, with a pipeline handling facility. In the east there is the oilrig fabrication yard of Global Energy Group, with its large graving dock and quay, as well as the Nigg Oil Terminal operated by Talisman Energy.

2.4.10.2 Tourism and Leisure

Tourism is an important industry in the Highlands. The Cromarty Firth attracts tourists principally on the Black Isle at towns and harbours such as Cromarty. Considerable numbers of tourists pass through the area en route to the far north and west.

In recent years Invergordon has become an important port of call on the international cruise liner circuit, mainly between May and September. This brings many tens of thousands of tourists to the area.

The sheltered waters of the Firth are reasonably safe for yachting and watersports. However, the distance from major population centres means that yacht numbers are small, and are based mainly at Cromarty and Invergordon.

2.4.10.3 Fishery Activities

There are two active licensed finfish farms located within the inner Moray Firth, just inside the entrance to the Cromarty Firth. There are also a number of active shellfish sites. Part of Cromarty Firth is classified as shellfish harvesting areas.

There is an extensive cockle resource in Nigg Bay, which traditionally was harvested by local people by hand. More recently, the beds have attracted commercial cockle collectors who have used either a boat operated suction dredge or land based tractor drawn dredges. Such activities have raised concerns because of the impact on the intertidal habitat and disturbance to

the wintering bird populations. As a result of commercial cockle collection from Nigg Bay in the early 1990s, the Secretary of State (at SNH's request) granted a Nature Conservation Order for Nigg and Udale Bays which was confirmed in 1996. This prohibits mechanical harvesting (Halcrow Group Limited, 2009).

2.5 PROBABLE MOVEMENT AND FATE OF OIL

2.5.1 Movement

Due to the enclosed nature of the Firth, oil will strand on the coastline rapidly after release from almost any location. The extent to which the coastline will be oiled is largely dependent on the size of the spill, particularly in the case of persistent oils.

Observations at the Nigg Oil terminal, considered the site of greatest risk for a Tier 2 or 3 oil spill, show the flood tide stream splitting into two on or about the berthing line of the Terminal Jetty. To the north of the berthing line, the stream turns northwards into Nigg Bay. In the absence of wind, oil is likely to come ashore on the eastern shore of the bay or be swept out close to the eastern shore by the ebb tide. To the south of the jetty, the flood stream flows west to Invergordon and into the inner Firth.

Briggs Marine Environmental Services at Aberdeen hold an OSIS (Oil Spill Information System) computer model of spilled oil movement and fate, specifically tailored for use within the Cromarty Firth. The model output is available to POCF on request.

2.5.2 Fate of Oil

The crude oils handled at the Nigg Oil Terminal are likely to provide the most persistent pollution in the Firth. The five principal cargoes (2012) are crude oils from the Captain, Athena, Beatrice, Bentley and Banff oil fields in the North Sea.

Beatrice crude is a light sweet crude with a wax content of approximately 18%, and a pour point of 20°C. As a result, once it has cooled and weathered slightly, the spilled oil will form semi-solid patches resembling cowpats, which will not disperse naturally either at sea or on the shoreline and which are not amenable to chemical dispersant.

It is also possible that the solidification will encapsulate the light ends which remain in the oil after treatment on the Beatrice A Platform and at Nigg Oil Terminal. This may cause problems for oil spill recovery vessels, as they will require tank heating to re-liquefy the oil and enable it to be pumped out. Once re-liquefaction occurs, the light ends will evaporate, producing a gas cloud at the tank vents. It is therefore essential that all recovery vessels be properly classified for oil recovery.

Captain, Athena, Banff and Bentley crude oils are relatively heavy containing only small amounts of light ends. As such they are likely to form heavy persistent residues. They may be amenable to chemical dispersant if treated soon after release.

Marine gasoil may pose a greater environmental problem in the water column, due to the toxicity and solubility of the lighter fractions. However, it spreads and thins very rapidly to a slate grey sheen of molecular thickness. As a result, thick slicks of gasoil will not persist for long, making the recovery of gasoil in open waters very unlikely. Thick areas will normally only be encountered where a shoreline or other structure has concentrated the oil, and recovery may be possible at these locations.

3 STRATEGIC POLICY

3.1 PLAN OVERVIEW

The oil spill contingency plan of the PoCF forms part of the Port Emergency Plan. It includes all the information necessary to plan for and respond to an oil spill occurring within the PoCF port area.

The scope of the plan has been to identify the potential sources of oil spills and develop scenarios for spills within the port area; to identify and prioritise the areas of environmental and socio-economic sensitivities; to determine how these might best be protected; to describe the recommended clean-up methods and equipment required for the various tiers of response, and to describe the management and administrative arrangements.

3.1.1 Lead Agency

The lead agency is CFPA, with offices at Shore Road Invergordon. The plan preparation, updating and implementation will be the responsibility of the authority's Harbour Master.

3.1.2 Regulatory Framework

The plan has been completed in accordance with the Merchant Shipping (Oil Pollution Preparedness Response and Co-operation) Regulations 1998 and the guidelines issued by the Maritime and Coastguard Agency (MCA). It is designed to be used in conjunction with the PoCF Port Major Incident Plan, and the emergency arrangements are designed to be compatible with, but complementary to, that plan. It will be used by the Government Agencies, Environmental Authorities, Local Authorities, Terminal and Jetty Operators, port users and local interest groups when dealing with oil spills or the threat of spills within the port area.

The Civil Contingency Act (2004) requires Category 1 Responders, such as Police, Fire and Rescue, Coastguard, Scottish Environment Protection Agency (SEPA), NHS Health Boards and Local Authorities, to undertake multi-agency based risk assessments and plan for the response to, and recovery from, events or situations which may constitute a 'major emergency'. The arrangements that allow for effective multi-agency working are described in the Scottish Government guidance document '[Preparing Scotland – Responding to Emergencies in Scotland](#)', which translates the requirements of the Contingency Planning (Scotland) Amendment Regulations 2013. The Scottish resilience structure is based on three Regional Resilience Partnerships (RRPs – North, East and West), underpinned by Local Resilience Partnerships (LRPs).

In Highland, the Highlands and Islands Local Resilience Partnership, or HILRP, is the strategic multi-agency group responsible for emergency planning, resilience and major emergency response and recovery. HILRP consists of the Chief Officers of the main agencies involved in the emergency response and recovery process. The Police Divisional Commander, or nominated deputy, will determine whether or not a situation warrants a strategic level of command.

3.1.3 Categories of Incident

Oil spills are classified to assist with the determination of the correct level of response. The level of response depends upon a number of factors; the quantity of oil spilled, the type of oil, the spill location and its sensitivity and the proximity to available response resources. An internationally recognised three tier spill classification has been devised as follows.

Table 3-1: Synopsis of generic tiered response concept

Response Tier	Description
Tier 1	Small operational type spills that may occur within a location as a result of daily activities. The level at which a response operation could be carried out successfully using individual resources and without assistance from others.
Tier 2	A medium sized spill within the vicinity of a company's location where immediate resources are insufficient to cope with the incident and further resources may be called in on a mutual aid basis. A tier 2 response incident may involve Local Government.
Tier 3	A large spill where substantial further resources are required and support from a national (Tier 3) or international co-operative stockpile may be necessary. A Tier 3 incident is beyond the capability of both local and regional resources. This is an incident that requires national assistance through the implementation of the National Contingency Plan and will be subject to Government controls.

Source: (MCA, 2012).

This plan includes the personnel, response equipment and deployment resources sufficient to respond immediately to a Tier 1 spill. It analyses the additional resources necessary to deal with Tier 2 spills, identifies their location and mobilisation procedures and also includes the arrangements for the management of the various tiers.

Of course, in the early stages of a spill, it may be that insufficient information exists to properly categorise a spill. In this event, having regards to the extreme sensitivity of the area, in the early stages PoCF should be prepared to assume a worst case scenario, until better information is available.

3.1.4 Interface with other Contingency Plans

This plan operates under the general instructions included in the National Contingency Plan for Marine Pollution from Shipping (NCP). Responsibilities for different areas of clean up are listed in Table 3-2.

Within the port limits, the PoCF plan takes priority. However, the Nigg Oil Terminal maintains subsidiary Oil Spill Contingency Plans to deal with Tier 1 spills. These are provided as Annex A.

If spilled oil passes into the Moray Firth, outside the eastern port limits, the responsibility for clean-up on the water passes to the Maritime and Coastguard Agency.

Shoreline clean-up for all three Tiers will be carried out under the provisions of the Highland Council Oil Spill Contingency Plan.

Table 3-2: Responsibility for clean up

Location of pollution	Responsibility for ensuring clean up
On the water, jetties, wharves, structures, beach or shoreline owned by the harbour authority within the port/harbour area	Harbour Authority
Shoreline (including land exposed by falling tide)	Local authority / SEPA
Jetties, wharves, structures, beach or shoreline which is privately owned	Owner of the property / land
All other areas at sea (including the UK Pollution Control Zone and the UK Continental Shelf)	MCA and, when appropriate, the offshore operator

3.2 RESPONSE STRATEGIES

3.2.1 Overall Response Strategy

The strategy for response to spills within the Firth has been agreed as follows:

Dispersant

There is a presumption against the use of chemical dispersants within the Firth. Each incident will be assessed on a case by case basis after consultation between the Marine Scotland.

Mechanical Containment and Recovery

This is the primary strategy for clean-up within the Firth. Every effort will be made to contain and recover spilled oil close to the source before spreading and thinning has taken place. This is especially important, as there are few sites where measures can be employed to protect the extensive sensitive areas within the Firth.

Protection of Sensitive Areas

This is the secondary method of response. However, as stated, the sensitive areas are so extensive, and the tidal regimes so complex that little in the way of large-scale protection will be possible.

Shoreline Clean-up

It is very likely that in the event of a spill, oil will come ashore. Detailed clean-up guidelines have been developed by Talisman Energy on behalf of PoCF and Highland Council in conjunction with Scottish Natural Heritage (SNH), and SEPA. In many areas within the Cromarty Firth, these require the oil to be left to degrade naturally, as aggressive clean-up may cause more damage than the spilled oil.

3.2.2 Response Techniques for Various Oil Types

3.2.2.1 Containment

The containment methods for all the oils handled in the Firth will be similar. For long term deployment, the Roclean Desmi Ro-boom was tested at Nigg and found to be the most durable. This would also make it suitable for use in the open sea and in a marginal recovery sea state within the Firth. These

often occur when winds funnelling through the Great Glen blow along the Firth generating short steep waves.

For use at a jetty, reeled fence boom allows the fastest deployment in the event of a spill. Whilst this is not suitable for long term use, or in waves, it allows time to deploy more suitable booms. Jackson net boom is also a suitable boom to use at the Nigg Oil Terminal jetty, particularly for the containment of Beatrice Crude oil. This is stored in a purpose designed skip, which allows rapid deployment. This is suitable for longer term use, as it has good wave following characteristics. The major advantage of the boom is the permeability of the boom to water, which enables it to be used in current speeds in excess of 1.5 knots.

For shoreline protection, lightweight portable booms are required. There are many varieties available; however, although they are not required to be as durable as open sea booms, it is important that they are of sufficient quality to be able to withstand manhandling and some abrasion on the shorelines. The two principal varieties are the air tube and skirt boom, or the shore-sealing boom designed for use in the intertidal area. Both of these are made either from polyurethane (PU) or neoprene coated fabric. Booms made from PVC or PVC/PU alloy should not be chosen, as these are insufficiently durable and more prone to degradation by Ultra Violet light. Lightweight booms can also be used for on water containment by small craft. Side sweep booms can be deployed in conjunction with outriggers. These allow single vessels to both contain and recover oil, which is useful in enclosed and confined waterways such as the Cromarty Firth.

3.2.2.2 Recovery

Crude Oil

Beatrice and Jackie are the most difficult of the five crude oils to recover, and therefore the recovery equipment for Beatrice and Jackie crudes (with the possible exception of the netting systems) will be effective in recovering the other crudes.

When Beatrice and Jackie crude is spilled it remains in liquid form for a period of variable and unpredictable length. During this time it can be collected by any type of skimmer, including discs and rope mops. However, after the oil solidifies, which occurs rapidly and with no warning, the options for mechanical containment and recovery are limited. Extensive trials at Warren Spring Laboratory, prior to the field coming onstream identified the following equipment as being effective in recovering solidified Beatrice and Jackie crude oil:-

Open Water

- Biggs Wall Spring Sweep Air Conveyor skimmer, 50 tonnes/hr.
- BNOC Floating Oil Recovery Method (FORM) nets, with detachable 1 cu. mtr cod ends or socks for use on small fishing vessels.
- Jackson Net. Designed to capture oil on the purse seine principle.

Inshore recovery

- Nokia chain belt skimmer.

- Jackson Net.
- Hand scoops and sieves.

Additional equipment, which may be effective, would include:

Floating oil

- Vikoma Sea Devil.
- Vikoma Sea Wolf.
- Roclean Desmi Ro-skim.
- Desmi DS 250.
- GT 185 oil skimmer.
- Vacuum trucks.
- Farm tractor driven slurry trucks.
- Portable vacuum equipment.

Heavy Fuel Oil (HFO)

All the booms, including net booms, and skimmers proposed for use with crude oil will be effective in recovering HFO.

Marine Gas Oil

Although all the boom types, with the exception of net booms will be effective in containing marine gasoil, its lighter characteristics require different recovery devices.

Most oleophilic disc, drum or rope skimmers are effective, as are weir skimmers and vacuum equipment. For small spills sorbent booms can be used for containment and clean-up. In larger spills these can be used in conjunction with other techniques, for example to line the face of an inflatable boom or to place across the face of salt marsh channels to minimise entry of oil into the marsh with minimal disruption to the marsh substrate.

3.3 RESPONSE TECHNIQUES

This section lists the equipment required to respond to the quantities of spilled oil identified in the risk assessment on the water, or in the inshore or near shore areas.

3.3.1 Tier 1

The equipment resources must be available as soon as possible and operating not later than one hour after a spill.

Table 3-3: Potential Tier 1 oil discharges

Oil Type	Potential Oil Loss
Crude Oil	10 tonnes
Marine Gasoil	6 tonnes

3.3.1.1 Crude Oil

The full list of Tier 1 equipment required to respond to crude oil spills at or associated with the Nigg Oil Terminal is listed in Appendix A.1. Key items of equipment are as shown in Table 3-3.

Table 3-4: Tier 1 key equipment

Quantity	Description
1	8x6 trailer
10	10m Vikoma Sentinal Boom
5	10m Vikoma Beach Guardian
1	12K Komara Skimmer, Powerpack and Hoses
1	3" Spate Pump and Hoses
1	Fastank 2000 Gallon Capacity
1	Stihl Backpack Air Blower and Fittings
6	M50 Sorbent Boom (Bales)
4	M75 Pads (Boxes)
4	Danforth Anchors
N/A	Various Ropes
N/A	Personal protective equipment (PPE) (Oilskins, Gloves, etc.)

Whilst tankers are loading this equipment is on standby and can be mobilised, along with personnel, within 30 minutes of the spill.

3.3.1.2 Marine Gasoil

PoCF has a contract to provide Tier 1 response equipment to respond to operational spills from the other operations identified in the risk assessment. In addition, Talisman Energy has indicated that, whenever possible, the equipment listed below will be available to PoCF for use in Tier 1 spills.

PoCF Tier 1 Contracted Equipment.

Owned and operated by Briggs Environmental, Aberdeen.

- 6 x 20m. Sea Sentinal 600 booms.
- 2 x 10m. Shore Guardian booms.
- 1 x Rope mop (skimmer).
- 1 Fastank.
- Sorbent booms and pads.

The booms will allow a small spill to be completely contained or a leaking vessel or rig to be boomed rapidly on the down tide side, before additional resources can be mobilised. The boom and skimmer may be deployed by one of the marine contractors in the Firth.

3.3.2 Tier 2

Tier 2 resources must be operational within four hours of a spill. However, in the case of the Cromarty Firth, due to the sensitivity of the Firth, this timescale has been reduced to three hours.

Table 3-5: Potential Tier 2 oil discharges

Oil Type	Potential Oil Loss
Crude Oil	300 tonnes
Heavy Fuel Oil	100 tonnes
Marine Gasoil	50 tonnes

Spills of this magnitude within the Firth would be likely to have significant impact on the environment and to cause health and safety issues. As a result, port operations may be suspended or restricted, until the situation is under control. This may include the suspension of tanker operations, potentially releasing the Nigg response equipment.

3.3.2.1 Initial Reaction

For spills which are not from the Nigg Oil Terminal, the initial response will be from the PoCF (or spill site operator's) Tier 1 equipment, supplemented by the Nigg Oil Terminal equipment whenever possible. Additional Tier 2 backup resources are available to PoCF as follows:

Tier 2 Contract

PoCF have a contract with Briggs Environmental Ltd for the provision of the Tier 2 response equipment listed in Section 6. Additional equipment would be available from elsewhere if required. The PoCF Duty Manager has callout authority to contact Tier 2 contractors. The expected time on scene is within 1 hour for first response.

Vacuum trucks

Gulley Suckers may be available from Highland Council and from MSIS and Sureclean Ltd., who also have limited oily waste storage facilities.

Deployment Craft

Small marine craft are available from:

- MF Marine Operations, Invergordon
- Caldive, Invergordon

External support

Additional Tier 2/3 equipment support will be available on a contract basis, with a mobilisation time of approximately 4 hours.

MCA Counter Pollution at Sea equipment, including salvage and chemical response equipment and shoreline clean up equipment is available at three locations: Perth, Huddersfield and Milford Haven.

Satellite containers with boom are stored at Belfast, Darlington, Ely, Llanelli, Oban, Truro and Stornoway.

Dispersant Stockpiles are held at 11 strategic locations around the UK.

Aircraft resources based at Coventry, 2 x Lockheed Electra (dispersant spraying) and 2 x Cessna 406 (surveillance). Inverness can be utilised as a forward base but no dedicated MCA aircraft is based there.

3.3.3 Tier 3

Table 3-6: Potential Tier 3 oil discharges

Oil Type	Potential Oil Loss
Crude Oil	150,000 tonnes
Heavy Fuel Oil	7,000 tonnes
Marine Gasoil	2,500 tonnes

In the event of spills of this magnitude, the NCP would be activated. The resources of PoCF, the MCA and other local, national and international spill response contractors would be mobilised in response to the spill. Contact details are included in Section 5 of this plan.

In the event of a major spill, the Tier 1 and 2 resources would be operating within their agreed mobilisation periods. Additional equipment from the national stockpile could be available from Inverness within four hours, with additional equipment from Aberdeen within five hours. Equipment from the Government and commercial stockpiles in England and Wales could be arriving within eight hours.

3.3.4 Disposal Plan

The general disposal policy will be that, wherever possible, oil will be recycled, and every effort will be made to recover free floating oil from the water before it comes ashore. However, with current technology, recycling will not be possible for oil that has been heavily contaminated with debris and beach material, and either landfill or destructive methods would have to be used.

3.3.4.1 Liquid Recovered Oil

Oil recovered from the water surface or bulk oil from artificial or natural impoundments may be able to be treated in the Ballast Water Treatment Plant at Nigg Oil Terminal. This is designed to take discharged oil from response vessels.

Sureclean of Alness and MSIS of Invergordon can take liquid wastes for storage and recycling.

3.3.4.2 Contaminated Oil, Oiled Beach Material and solidified oil

Oil that is heavily contaminated with debris poses the most serious problem for final disposal. It will almost certainly be classified as special waste for which the only suitable options are landfill or destruction. However, there is a

shortage both of approved landfill sites and an absence of incineration facilities in mainland Scotland, although there is a small incinerator on Shetland suitable for the incineration of oily wastes. Therefore final disposal is likely to be a lengthy and expensive procedure.

3.3.4.3 Temporary Storage

The initial movement of oil contaminated material to temporary storage on or very close to the beach does not require a Special Waste Consignment Note. Oil collected on shores and beaches can be kept at the site using Waste Management Exemption Notice No 41, which allows storage at the place of production. Up to 80 cubic metres can be stored in a container, and up to 50 cubic metres in a secure place, such as a lined pit. If the amount of waste exceeds this amount, the area can be subdivided into smaller areas, each of which can store up to the exemption limit.

However, if there is a requirement to move the waste to intermediate storage sites whilst awaiting final disposal, the sites must be licensed by SEPA. A prerequisite for the grant of a Waste Management Licence is that planning permission has been obtained. The full procedure is outlined in the draft SEPA Waste Management Notice, which is reproduced in Appendix D. At present there are no licensed sites around the Firth. However, Sureclean and MSIS are licensed to store significant quantities of solid material prior to final disposal.

3.3.4.4 Final Disposal

After agreement with SEPA, solid waste for landfill will be taken to a licensed final disposal sites. A list of available sites is included in Appendix D.

3.4 LEADERSHIP, COMMAND AND MANAGEMENT

Oil spill response in the Cromarty Firth will be managed by PoCF. The Harbour Master or his Deputies will control the incident response, and the PoCF Harbour Master will be the officer in charge. Tier 1 spills will be managed by PoCF alone, except for spills at Nigg Oil Terminal, which has its own CRP. Tier 2 and Tier 3, and potentially Tier 1, spills will require the mobilisation of support, advisory and liaison staff as the Agency Liaison Team. This team will include a representative from each of the principal authorities involved:

- Highland Council
- Scottish Natural Heritage
- Scottish Environment Protection Agency
- Talisman Energy, Nigg Oil Terminal
- Global Energy Group if from the Nigg Energy Park
- Marine Scotland (Tier 2 and 3 only)
- Contracted Responder (Tier 2 and 3 only)

In addition, MCA will establish a Marine Response Centre (MRC) for Tier 3 spills and may also do so for Tier 2 spills depending on the exact circumstances.

A Command Centre has been established within the PoCF office, from which the incident will be managed and within which there is also sufficient space available to enable MCA to establish the MRC if required.

Depending on the nature and scale of the incident, a Shoreline Response Centre will be established by The Highland Council in Inverness. If the incident requires involvement from other Category 1 Responders (e.g. Police, Fire and Rescue and NHS Highland) a Tactical Oversight Group will be established to manage the multi-agency tactical response. In the event of a Tier 3 spill, the HILRP may also be convened to manage strategic issues.

3.4.1 Responsibilities and Incident Control Arrangements

3.4.1.1 Maritime and Coastguard Agency

The Maritime and Coastguard Agency is responsible for the maintenance of the National Contingency Plan, which sets out the UK National arrangements for dealing with pollution arising from spillages of oil or other hazardous substances from ships and offshore installations. The MCA is the lead agency for response at sea, including dealing with the casualty.

Within port limits, the Port of Cromarty Firth (PoCF) is responsible for the clean-up of floating oil, however the MCA will normally support Port and Harbour Authorities in the event of major spills within their areas of jurisdiction. The MCA can provide advice and technical/scientific expertise, and in the event of a Tier 3 spill, will provide access to the government stockpile of oil spill clean-up equipment and resources.

HM Coastguard is responsible for the co-ordination of Search and Rescue operations in the area, and will also receive and disseminate oil pollution reports from ships, aircraft, offshore installations and other authorities.

3.4.1.2 Marine Scotland

The licensing authorities for the use of chemical dispersants in sea areas North of Latitude 56 degrees North is Marine Scotland.

The use of dispersants is strictly controlled by Government legislation (Food and Environment Protection Act 1985 - Part II and paragraph 21 of the Deposits in the Sea (Exemptions) Order 1985).

"Deposits for the purpose of treating oil on the surface of the sea of any substance produced for that purpose subject to the following conditions:

- a) That the substance is a substance the use of which is for the time being approved by the licensing authority.
- b) That the substance is used in accordance with any conditions to which the approval was subject.
- c) That no deposit is made in an area of the sea of a depth of less than 20 metres or within one nautical mile of any such area save with the approval of the licensing authority."

In the event of an oil spill, Marine Scotland is the first point of approach for any request for approval to spray dispersant if the water depth is less than 20 metres or within one nautical mile of any such area (i.e. the 20 metres rule).

For other areas out with shallow waters, there is no such statutory obligation. However, it is Government policy that the Licensing Authority should be consulted in advance of any proposals to use chemical dispersants except under 'force majeure' conditions, e.g. where people's health is at risk. It is therefore essential to consult Marine Scotland for advice on the implications for fisheries and the marine environment of using dispersants, except where other arrangements have been approved in advance.

In Scotland, Marine Scotland chair the standing Environment Group (EG). The MCA will initiate the formation of an EG to provide advice during any incident requiring a regional or national response (i.e. Tier 2 and Tier 3).

Key Roles in the EG will be filled by individuals most suited to the job and purpose. The scope of the EG functions will be directly proportional to the scale and nature of the incident, its geographical location, extent, severity, pollutant involved, potential hazard to human health and environmental sensitivities. The scale of the incident and response and their constituent phases are likely to evolve over time and the functions of the EG will need to be graduated to meet changing requirements, escalating or diminishing in the input to each phase over time (MCA STOP notice 2/15).

Core members of the EG will comprise as a minimum representatives from NHS Scotland, SNH, SEPA, Marine Scotland and MCA.

3.4.1.3 Scottish Natural Heritage (SNH)

SNH is the government body, established by parliament in 1992, which advises the government on policies relating to and affecting the natural heritage of Scotland. SNH is responsible for administering a range of domestic natural heritage designations including SSSIs. Also on behalf of the government, SNH is responsible for implementing the Bird Directive (79/409/EEC on the Conservation of Wild Birds) and the Habitats Directive (Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna).

In the event of an oil spill incident, SNH will provide advice on hazards to wildlife and coastal habitat, survey the affected areas to determine the potential for damage and advise on the preferred actions to avoid or minimise damage. Any attempt or strategy to clean up the shoreline or open waters of the Firth should only be carried out in consultation with SNH.

3.4.1.4 Scottish Environment Protection Agency (SEPA)

(SEPA is a non-departmental public body with statutory regulatory powers and duties for the protection and improvement of the environment in Scotland and is accountable to the Scottish Executive. SEPA is a Category 1 Responder in terms of the Civil Contingencies Act 2004. SEPA is responsible for licensing discharges to rivers, lochs, wetlands, groundwater, transitional waters and coastal waters, most emissions to air and the carriage and disposal of waste and has a duty of care to conserve the environment. SEPA also has duties requiring it to protect SACs, SPAs and SSSIs, particularly during environmental licensing, and to further the conservation of biodiversity through the exercising of its functions. SEPA's long term goals are to provide an excellent environmental service at local and national level for the people of Scotland. Maintaining and restoring the water environs, ensuring sustainable

waste management, good quality air and land and promoting respect for the environment generally are key deliverables in achieving these goals.

In the event of an oil pollution incident SEPA will respond and provide advice to mitigate or prevent further pollution where practicable. SEPA will regulate and licence the storage, transportation and disposal of any waste products collected as a result of the oil spill recovery operations. In general, as a regulatory body, SEPA will not be responsible for any clean-up operations or costs associated with any clean-up activities. SEPA may, however, require to take evidential samples for possible later legal action.

3.4.1.5 Highland Council

Under the Civil Contingencies Act 2004, Category 1 Responders (local authorities, the emergency services and NHS bodies) are required to put in place emergency plans and to take co-ordinated action in response to emergencies. The Act defines an emergency as *“an event or situation that threatens damage to the environment only if it involves, cause or may cause contamination of land, water or air with biological, chemical or radio-active matter, or disruption or destruction of plant life or animal life”*. Section 2 of the Act places a specific duty upon Category 1 Responders to prevent an emergency, reduce, control or mitigate its effects, in relation to their functions and take any other actions in connection with it. This established a legal obligation on local authorities to deal with the effects of oil spills.

The responsibility of The Highland Council, in common with other local authorities, extends to shoreline clean-up only, i.e. it has no role in the recovery of oil on water. Within PoCF port limits, in accordance with the NCP, responsibility for shoreline clean-up is split between PoCF and The Highland Council, with the former being responsible for piers, wharves and other structures as well as shoreline it owns, and the latter being responsible for structures and shoreline not owned by PoCF, other commercial interests or privately.

In the event of an oil spill within PoCF port limits, The Highland Council will discuss with PoCf (and the MCA) the likely impact on shoreline it has responsibility for and, if appropriate, set up a Shoreline Response Centre (SRC) to co-ordinate Council operations. The Highland Council will work with the PoCF's Tier 2 Oil Spill Responder (Briggs Environmental Services), as well as any Responder appointed by a ship owner or installation, and may appoint its own to assist with shoreline clean-up. The Highland Council will also assist, where possible, with the temporary storage of recovered oil.

The Highland Council will seek full cost recovery from the polluter(s), either through the PoCF or via a joint claim submitted by the MCA.

In the event of Major Incident, a Tactical Oversight Group may be formed to support the work of the SRC and any other response cells set up to manage the incident. In which case, The Highland Council will be represented at the Tactical Oversight Group, alongside other Category 1 and 2 Responders.

3.4.1.6 HM Revenue and Customs

The Waterguard Section of HM Revenue and Customs should be notified of any landing points of recovered oil, modes of transport and quantity of recovered oil.

In the event of a Customs Officer not being present, landing should not be hindered or delayed. However, a log of events and details should be kept to finally account for any movement of the recovered oil.

3.4.2 Responsibilities within PoCF

3.4.2.1 Harbour Master

The Harbour Master will be the officer in charge for the Port Authority. The Harbour Master will be in operational command of all oil spill incidents within the Cromarty Firth. He will report to the Chief Executive Officer (CEO) on the progress of the response and advise on the effects of the spill on the running of the port.

Tier 1 spills at Nigg Oil Terminal will be managed under the Nigg Oil Terminal OCP, keeping the Harbour Master informed of progress. PoCF will take control of Tier 2 spills. Tier 1 spills in the rest of the port will be managed initially from the Port Office. For Tier 2 spills the Harbour Master will activate the Emergency Control Room in the PoCF Boardroom, mobilising the PoCF support staff and the Agency Liaison Team. This will assist Port Radio to continue with normal port operations.

3.4.2.2 Duty Operator

In the event of a spill, the Duty Operator will man Port Radio and initiate the port oil spill contingency plan, by calling out the relevant staff, mobilising the appropriate resources and notifying those authorities required by the plan. They will continue to do so until they are relieved by the Harbour Master or his deputy.

3.4.3 Internal Alerting and Callout Procedure

Oil spills within port limits are to be notified to Port Radio by the fastest means. On receipt of the notification, Port Radio will call the Harbour Master or his deputy, who will decide upon the initial classification of response. Personnel and resources will then be notified or mobilised in accordance with the tables below. A minimum of six persons are available to deal with a response.

Table 3-7: Tier 1 personnel and resource mobilisation / notification

Mobilise	Inform / Alert
Harbour Launch	H M Coastguard, CGOC Aberdeen
Briggs Environmental Ltd	Highland Council
Pollution craft as required	SEPA
Nigg Oil Terminal (if available)	SNH
	Marine Scotland
	Press Officer
	Talisman Energy UK Ltd, Aberdeen (if at Nigg)

Table 3-8: Tier 2 personnel and resource mobilisation / notification

Mobilise	Inform / Alert
Harbour Launch	H M Coastguard, CGOC Aberdeen
Tier 1 and 2 Equipment	Highland Council
Pollution craft as required	SEPA
Nigg Oil Terminal (if available)	SNH
Briggs Environmental Ltd	Marine Scotland
Full agency liaison team	Nigg Energy Park
Press Officer	Highland Deephaven
	Talisman Energy UK Ltd, Aberdeen

Table 3-9: Tier 3 personnel and resource mobilisation / notification

Mobilise	Inform / Alert
Harbour Launch	H M Coastguard, CGOC Aberdeen
Tier 1 and 2 Equipment	Highland Council
Pollution craft as required	SEPA
Nigg Oil Terminal	SNH
MCA Marine Response Centre	Marine Scotland
Briggs Environmental Ltd	Nigg Energy Park
Full agency liaison team	Highland Deephaven
Press Officer	Talisman Energy UK Ltd, Aberdeen

3.4.4 Liaison Procedures with Other Agencies

The following procedure has been agreed in order to ensure full liaison with the relevant agencies.

In addition to the notifications required in 3.4 above, if the incident is a large Tier 1 spill, and for all other spills, an agency liaison team will be formed at PoCF. This will consist of a representative from each of the following:

- Highland Council
- SNH
- SEPA

- Talisman Energy Ltd, from the Nigg Oil Terminal
- Global Energy Group, from the Nigg Energy Park
- Marine Scotland (Tier 2 and Tier 3 only)
- Contracted spill responder (Tier 2 and 3 only)

The team will also maintain close links with their own offices and the SRC if set up. The Harbour Master (or Marine Response Centre if this has been established) will liaise with the Chairperson of the SRC. The Agency Liaison Group will also maintain close links with the SRC Technical, Environmental and Logistics Teams.

The team will also maintain close links with their own offices and in a Tier 2 spill with the Highland Council Emergency Centre, which will be co-ordinating the shoreline clean up. If an SRC has been established, it is essential that close links be maintained between the Harbour Master (or Marine Response Centre if this has been established) and the Chairman of the SRC. The Agency Liaison Group will also maintain close links with the SRC Technical, Environmental and Logistics Teams.

Internally, the PoCF Press and Public Relations adviser will maintain close contact with the Harbour Master; the Agency Liaison Group, the MRC media team for Tier 2 and 3 spills and for Tier 3 spills with the SRC Media team, in order to ensure that all press and media output is properly co-ordinated within the individual agencies. In the event of an emergency being declared the Police will adopt lead responder role and will co-ordinate all media outputs on behalf of the Highlands and Islands Local Resilience Partnership.

3.4.5 Secretary of States Representatives Role and Responsibilities

The Secretary of States Representatives (SOSREP) role has been created as part of the Government's response to Lord Donaldson's Review of Salvage and Intervention and their command and control. Salvage operations are controlled by the SOSREP.

The report identified that during salvage activities, ultimate control over all operations should become the responsibility of a single designated SOSREP for purposes of maritime salvage and intervention and that the SOSREP could not abdicate his responsibility. Whether or not he exercised any intervention powers at all SOSREP would be in no doubt what so ever that he was in charge and would be held responsible for the outcome of all plans and decisions. Put simply - to ignore a situation is not an option.

The powers of Intervention with which SOSREP is invested could indeed not be more far reaching. They are however presently wider for response to pollution than for safety. They provide that SOSREP can direct a person to take, or refrain from taking "any action of any kind whatsoever". Indeed, if SOSREP is not convinced that the person directed can, or will, take the action then he may cause the action to be taken himself – even if this includes the total destruction of a vessel. The legislation also creates criminal offences for non-compliance with a Direction. It should be noted that Directions must be given to specified persons who are those being in charge of a vessel or a port or harbour authority.

In the event of an incident requiring salvage operations the SOSREP will decide whether it is necessary to set up a Salvage Control Unit (SCU). If the size of the incident merits the establishment of a SCU, the SOSREP will travel to the scene at the appropriate time. Upon establishment of a SCU, the Harbour Master will become an active member of the SCU team liaising with the SOSREP throughout the course of the incident.

3.5 TRAINING AND REVIEW PROCEDURES

The importance of a well-trained and exercised team cannot be over-emphasised. One of the key features of the success of the Sea Empress spill response was the excellent co-operation between the local agencies, built up over many years of exercising the local contingency plan. This greatly facilitated the smooth reinforcement of the Tier1/2 local team by external Tier 3 personnel.

3.5.1 Training Policy

A training need analysis has been carried out, which has identified the following initial training requirements for PoCF Staff.

Table 3-10: Identified staff training requirements

Staff	Course type	Days	IMO Level	MCA/NI Accreditation
Harbourmaster	Oil spill response manager course	3	2	MCA Level 4p
Deputy Harbourmaster	Oil spill response manager course	3	2	MCA Level 4p
Pilot	Oil spill response manager course	3	2	MCA Level 4p
Duty Manager	Oil spill response manager course	3	2	MCA Level 4p

A centre accredited under the MCA/Nautical Institute Scheme will carry out these courses.

3.5.2 Exercise Policy

Regular exercises are vital to maintain and build on the skills learned during training courses. This can be achieved in several ways: -

- PoCF Training Exercises
- Talisman Energy/Oil Company/Nigg Energy Park Exercises
- Highland Council Exercises
- MCA Exercises

Exercise fall into three main categories

- Internal Section Exercises e.g.:
 - Equipment Deployment
 - Notification and Communications exercises
- Internal PoCF Exercise:

- Exercising all PoCF teams, but with minimal external involvement. This may involve Nigg Oil Terminal, The Agency Liaison Team and equipment deployment.
- Full Inter-Agency Exercise:
 - Testing the full contingency plan, and involving the Highland Council, Marine Scotland, SNH, SEPA, and the Media.

Following an exercise all involved parties are involved in a debrief meeting to identify improvements and evaluate the exercise. The Post Exercise/Incident Report is presented in Appendix G-2. Following an exercise the Post Exercise/Incident Report form will be filled in and sent to the MCA Counter Pollution and Salvage Officer (CPSO) in accordance with MCA guidelines.

3.5.3 Exercise Programme

The programme will be drawn up annually by the Port. It should be borne in mind that major exercises require considerable planning and lead time. Also, the Highland Council Emergency Planning departments, Roads and Transportation and Emergency Services are involved in many other emergency exercises and therefore it will be necessary to programme the exercise within the areas overall exercise schedule up to two years in advance.

It is very important that each exercise is monitored and a report written detailing the lessons learned, identifying any shortcomings, and recommending changes to the contingency plan. Contingency planning is an iterative process, which relies on this cycle of planning, spill response or exercise, identification of shortcomings, revision, exercise etc.

3.5.3.1 Section and Notification exercises

PoCF will conduct either a Section Exercise or a Notification Exercise every six months.

3.5.3.2 Internal exercise

PoCF will conduct an Internal Oil Pollution Exercise annually.

3.5.3.3 Full Inter Agency Exercise

PoCF will plan to hold a major inter agency exercise every three years. Exercises are carried out by PoCF as per MCA requirements.

4 ACTION PLAN

4.1 OBSERVER OF THE INCIDENT

In the event of a spill occurring within the Firth, the observer of the spill will immediately report to the Duty Officer at Port Radio.

- Telephone 01349 852308
- VHF Radio Channel 11 or 16

Early in an incident, not all the relevant facts will be known however, as much as is known of the following information should be reported:

WHO, WHAT, WHERE, WHITHER, WHEN

WHO

Name of observer

WHAT

Has occurred – cause of the spill?

Who is involved – e.g. ships names, jetty operator?

How much oil has been spilled if known, if not

What area does the spill cover?

What colour is the slick?

Is the spill continuing?

What type of oil?

WHERE

Where did the spill occur?

WHITHER

In which direction and speed is the oil going?

WHEN

When did the spill occur?

4.2 SHIP-TO-SHIP (STS) SUPERINTENDENT (STS TRANSFER SPILLS ONLY)

- 1) On call-out proceed to the scene of the oil spill.
- 2) Assume on-scene control until relieved by PoCF officer.
- 3) Start and maintain an incident log.
- 4) Identify the source and cause of the spill.

- 5) If the spill is on-going then, in conjunction with the vessel Master, take all measures available to stop the spill.
- 6) If spill size is unknown attempt to estimate size of the spill.
- 7) Report the spill to Port Radio.
- 8) Request that the on scene vessel initiates spill tracking, and continues until relieved or delegated.
- 9) If possible take sample of the oil for the record.
- 10) Report on-going situation to the Harbour Master.
- 11) Undertake initial response using shipboard oil spill response kit. Continue response until clean-up complete or hand-over/stand down instructed by Harbour Master.
- 12) Follow any further instructions given by the Harbour Master.

4.3 PORT RADIO

On receipt of the initial notification, Port Radio will request the observer to supply as much information as possible from the list below if it has not already been given.

WHO

Name of observer?

WHAT

Has occurred – cause of the spill?

Who is involved – e.g. ships names, jetty operator?

How much oil has been spilled if known, if not

What area does the spill cover?

What colour is the slick?

Is the spill continuing?

What type of oil?

WHERE

Where did the spill occur?

WHITHER

In which direction and speed is the oil going?

WHEN

When did the spill occur?

- 1) Commence an incident log.
- 2) Request the observer to stay in contact until a PoCF officer arrives on scene.
- 3) Establish communications with the polluter. Obtain additional information.
- 4) Despatch the Harbour Launch to the spill site to report findings.
- 5) Contact the Harbour Master or his deputy if not available. Inform him of the situation.
- 6) Agree with the Harbour Master which Tier of response is appropriate.
- 7) Carry out the appropriate notification and mobilisation procedures in accordance with the notification matrix in Section 4.8.
- 8) Despatch the local response resources to the scene of the incident and take control of the incident until the arrival of the Harbour Master or his deputy.
- 9) Handover control of the incident to the Harbour Master on his arrival and inform all units involved.

4.4 HARBOUR MASTER

- 1) On receipt of a spill report, the Harbour Master will evaluate the information, determine which response Tier is appropriate, and inform Port Radio to carry out the notifications and activate the personnel and equipment resources for that Tier.
- 2) If in doubt which level is appropriate, mobilise for the worst case. It is easier to stand down resources than to mobilise them late.
- 3) Call the PoCF CEO brief them of the situation.
- 4) Inform the PoCF PR Manager of the situation.
- 5) Outside working hours proceed to Port Radio. On arrival, take control of the incident from the Duty Operator. Ensure that all parties involved have been informed. Take over the incident log from Port Radio.
- 6) For a large Tier 1 spill and above, activate the Emergency Control Room, activate additional communications.
- 7) For Tier 2 and 3 spills, liaise directly with the Regional Counter Pollution Officer and discuss requirement for him to attend the spill and onsite requirements.
- 8) For large Tier 1 spills and above, liaise directly with Highland Council Oil Pollution Officer to discuss the spill and implications for shoreline cleanup. Maintain this link.
- 9) For Tier 2 and 3 spills be prepared to host the MCA Marine Response Centre (MRC).
- 10) Request Talisman Energy runs the OSIS oil spill prediction model.
- 11) Ensure up to date information on the spill location and movement is being received from the marine craft. Consider mobilising a helicopter for accurate spill reports.

- 12) Closely monitor the progress of the clean-up operation.
- 13) Be prepared to escalate the response at any time if the clean-up resources are inadequate.
- 14) Arrange for oil samples to be taken for analysis. Within the harbour, PoCF as the Statutory Harbour Authority is responsible for sampling and prosecution as necessary. The results should be also be passed to the MCA. Procedure for sampling is attached at Appendix 5.
- 15) SEPA will also carry out oil sampling as considered appropriate to its own remit, the results of which may form the basis of a report to the Procurator Fiscal.
- 16) Pass regular reports to the CEO on the spill situation, resources mobilised, progress of the clean-up and impact on port operations.
- 17) Ensure situation reports (SITREPS) are sent to HM Coastguard CGOC Aberdeen, and copied to Highland Council, SEPA, SNH, and Marine Scotland.
- 18) On completion of the clean-up stand down the operation having taken advice that the Agency Liaison Group (if mobilised) has agreed that the clean-up has been completed satisfactorily.

4.5 PROTRACTED LONG RUNNING INCIDENT

The Harbour Master and Deputy Harbour Master have completed an MCA level 4p (IMO Level 2) course and one of them is expected to be available or nearby in the event of a pollution incident.

In the event of a protracted incident then the duties will be divided, with a senior manager in charge of each shift.

Working patterns would be controlled by the Working Time Directive.

Back up resources would have to be sourced from anti-pollution contractors, i.e. Briggs Environmental, Sureclean or MSIS.

Catering would have to be provided by means of catering trailers, several of which exist in the locality.

Hotel accommodation is limited in the vicinity of Invergordon and it is likely this would have to be sought in the Inverness, Strathpeffer, Dornoch triangle.

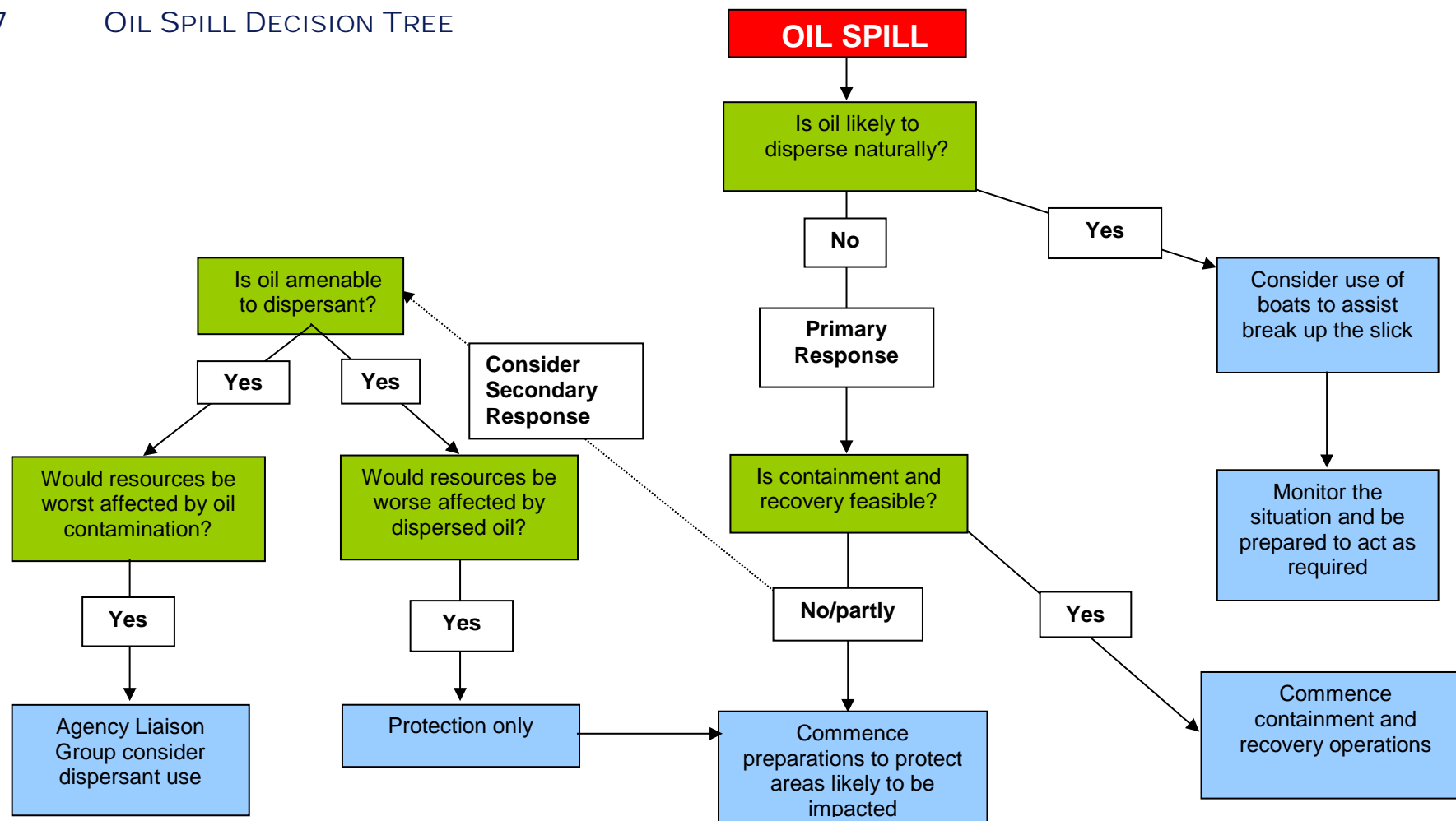
4.6 POCHF SENIOR REPRESENTATIVE

The Senior Representative will be the CEO. He will keep the Authority Board fully informed of all oil spills and will coordinate any press releases.

- 1) On receipt of a call of an oil spill, the Senior Representative will determine whether the spill warrants his presence in the office.
- 2) In all situations, inform the Board of the Port Authority of the situation and keep them briefed throughout.
- 3) Maintain contact with the Authority's PR Manager and approve press statements prepared by her for issue.














- 4) Represent the Port Authority at Press Conferences, in conjunction with Authority technical staff and external agencies as required.
- 5) In conjunction with the Harbour Master, consider the implications for the continued operation of the port. Arrange that all port visitors are kept fully informed of the situation and limit commercial damage as far as possible.
- 6) Maintain a log of key decisions, especially of business cancellations for future cost recovery.

4.7 OIL SPILL DECISION TREE

























4.8 COMMUNICATIONS






















4.8.1 Notification Matrix - Full contact details can be found in Sections 5 and 6

TIER 1		
<u>SPILL OBSERVER – Inform</u>		
Port Radio		01349 852308
VHF Radio Channel		#16 or #11
<u>PORT RADIO – Inform</u>		
Harbour Master		
<u>Mobilise</u>		
Harbour Launch		VHF #11
Briggs Environmental Ltd will mobilise Pollution Craft as required		
VHF Radio Channel		Control on #10
<u>Inform/Alert</u>		
HM Coastguard, CGOC Aberdeen For MCA internal arrangements		Confirm with CG77 POLREP fax report
Highland Council		Outside working hours - 24 Hr emergency number
SEPA		0800 807060 (24 hr)
SNH		Fax outside working hours unless spill exceeds 1 tonne
Nigg Oil Terminal		
<u>HARBOUR MASTER</u>		
<u>Inform</u>		
CEO		
PR Manager		

KEY:-  Telephone.  Fax.  VHF Radio.  Mobile Phone.  Meeting.

TIER 2		
<u>SPILL OBSERVER – Inform</u>		
Port Radio		01349 852308 #16 or #11
<u>PORT RADIO – Inform</u>		
Harbour Master		
<u>Mobilise</u>		
Harbour Launch		VHF #11
Briggs Environmental Ltd will mobilise		
Pollution Craft as required		
Nigg Oil Terminal		
Full Agency Liaison Team		
VHF Radio Channel		Control on #10
<u>Inform/Alert</u>		
HM Coastguard, CGOC Aberdeen For MCA internal arrangements	 	Confirm with CG77 POLREP fax report
Highland Council		Outside working hours - 24 Hr emergency number
SEPA		0800 807060 (24 hr)
SNH	 	
Marine Scotland	 	Confirm with fax
Global Energy Group/Highland Deephaven		
<u>HARBOUR MASTER</u>		
<u>Inform</u>		
CEO		
PR Manager		
<u>After Arrival on Scene Liaise with</u>		
MCA Regional Counter Pollution Officer		
Highland Council Oil Pollution Officer		
Agency Liaison Team		

KEY:-  Telephone.  Fax.  VHF Radio.  Mobile Phone.  Meeting.

TIER 3		
<u>SPILL OBSERVER – Inform</u>		
Port Radio		01349 852308
VHF Radio Channel		#16 or #11
<u>PORT RADIO – Inform</u>		
Harbour Master		
<u>Mobilise</u>		
Harbour Launch		VHF #11
Briggs Environmental Ltd will mobilise		
Pollution Craft as required		
Nigg Oil Terminal		
Full Agency Liaison Team		
OSRL (Nigg Oil Terminal Spills)		Mobilise via Talisman
VHF Radio Channel		Control on #10
<u>Inform/Alert</u>		
HM Coastguard, CGOC Aberdeen		Confirm with
For MCA internal arrangements		CG77 POLREP fax report
Highland Council		Outside working hours - 24
		Hr emergency number
SEPA		0800 807060 (24 hr)
SNH		Confirm with fax
Marine Scotland		Confirm with fax
Global Energy Group/Highland Deephaven		
<u>HARBOUR MASTER</u>		
<u>Inform</u>		
CEO		
PR Manager		
<u>After Arrival on Scene Liaise with</u>		
MCA Regional Counter Pollution Officer		Anticipate attendance
Highland Council Oil Pollution Officer		
Agency Liaison Team		

KEY:-  Telephone.  Fax.  VHF Radio.  Mobile Phone.  Meeting.

4.8.3 Communications Plan

Normal port operations are conducted on VHF Channel 11 and Channel 16. This will continue in the event of a pollution incident.

Marine pollution and salvage operations will take place on VHF channel 10, However if this channel becomes too busy, salvage operations will continue on Channel 69.

Whenever possible, communication links with a vessel causing a spill should also be established on a telephone link, both to minimise VHF traffic, but also to improve security when sensitive issues may be being discussed.

Mobile telephones have been issued to the Harbour Master and Pilots to provide additional communication channels.

4.9 SITE SPECIFIC RESPONSE INFORMATION

4.9.1 Shoreline Access and Clean-up guidelines

Clean-up guidelines have been developed by PoCF, HC and SNH with assistance from, Briggs Environmental and Nigg Oil Terminal.

4.9.2 Shoreline Access Data Sheets

The following data sheets are intended to assist oil spill response personnel in gaining access to the shores of the Cromarty Firth, should shoreline clean-up be required as a response to an oil spillage from Nigg Oil Terminal.

Please note that some of the areas are not public and the landowners permission will be required should the use of their land be requested.

Each location is given a number and these numbers are consecutive in a clockwise direction around the Cromarty Firth commencing with 1 at Cromarty East Beach. These data sheets should be used in conjunction with the appropriate Ordnance Survey map sheet.

Index

- 1) Cromarty East Beach
- 2) Cromarty Harbour Area
- 3) Cromarty Bay Road
- 4) Newhall Point Road
- 5) Balblair Pier
- 6) Ferryton Point
- 7) Alness Ferry
- 8) Shoreline Road A862
- 9) Foulis Point
- 10) Balconie Point (WEST)

- 11) Balconie Point (NORTH)
- 12) Alness Point
- 13) B817 - Invergordon - Dalmore Distillery
- 14) B817 - Invergordon - Balintraid
- 15) Balintraid
- 16) Barbaraville Shoreline Road
- 17) Barbaraville
- 18) Nigg

Table 4-1: Location information tables

1	Location Name:	Cromarty East Beach
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 790675
	Description of Access:	Along A832 to Cromarty then through town through the town to beach
2	Facilities at Access:	<ul style="list-style-type: none"> • Good access to beach for booming, clean-up Amenity area • Good site for positioning of clean-up equipment • Suitable for waste oil skips
	Location Name:	Cromarty Harbour Area
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 787678
3	Description of Access:	A832 to Cromarty. Follow signs for car and passenger ferry
	Facilities at Access:	<ul style="list-style-type: none"> • Access to beach. Slipway suitable for small craft loading (3-4m wide). • Small harbour suitable for small vessels - 60m x 40m. Western arm piled. • Laydown area 20 x 30m. • Possible oil diversion into harbour if western arm boomed. • Good access around harbour, Royal Hotel suitable for local command post.
	Location Name:	Cromarty Bay Road to Jemimaville
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 787678 to NH 720653
	Description of Access:	B9163
	Facilities at Access:	<ul style="list-style-type: none"> • Road hugs coastline, numerous lay-bys for vehicles. Not suitable for large vehicles. • Access good in parts to shoreline. Good laydown area 20m x 10m NH 730654

4	Location Name:	Newhall Point Road
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 710665
	Description of Access:	Turn right off B9163 after Gordon's Mill at chapel remains or through Balblair and turn right.
	Facilities at Access:	<ul style="list-style-type: none"> • Single track road with passing places. Limited access to Udale Bay shoreline across 20 m of scrub land, large vehicles would block access. • Beach access at Newhall point by cottages with small intertidal area at this point.
5	Location Name:	Balblair Pier
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 702671
	Description of Access:	B9163 to Balblair, then through village and turn left.
	Facilities at Access:	<ul style="list-style-type: none"> • Small car park 20m x 20m. • Slipway 4m wide suitable for small craft. • Not suitable for large vehicles
6	Location Name:	Ferryton Point
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 680670
	Description of Access:	Off B9163 signposted Ferryton.
	Facilities at Access:	<ul style="list-style-type: none"> • Single track road with passing places. • Not suitable for large vehicles. • Good access to beach. • Man-made groyne out into Firth 100 metres long.
7	Location Name:	Alness Ferry
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 664664
	Description of Access:	Off B9163 sign posted Alness Ferry.
	Facilities at Access:	<ul style="list-style-type: none"> • Single track road leading to shoreline. • Only suitable for small 4 wheel drive vehicles. • Some access to shoreline.
8	Location Name:	Shoreline Road A862
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	
	Description of Access:	A862 between Mountrich and A9 road bridge
	Facilities at Access:	<ul style="list-style-type: none"> • Road runs along shoreline, steep access to beach, few parking areas. • Very busy access.

9	Location Name:	Foulis Point
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 600635
	Description of Access:	Off A9 between A9 bridge over Cromarty Firth and Evanton
	Facilities at Access:	<ul style="list-style-type: none"> Road runs along shoreline, laydown areas by parking lay-bys. Good Access to shoreline. Foulis Ferry Restaurant at Foulis Point provides good access and large Laydown area (picnic area). Main road very busy. Access to shoreline restricted by 1m crash barrier.
10	Location Name:	Balconie Point West of River
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 615653
	Description of Access:	Turn off A9 to Drummond, cross back over A9, signposted to burial ground road along shoreline to Kirk.
	Facilities at Access:	<ul style="list-style-type: none"> Good access to beach from share road. Car park by Kirk suitable for medium size transport (30 x 50 m). Access to shoreline by Kirk is through graveyard.
11	Location Name:	Balconie Point North of River Glass
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 630660
	Description of Access:	Turn off A9 east of Evanton to Blythswood premises and proceed through to pipe spooling pier (Technip).
	Facilities at Access:	<ul style="list-style-type: none"> Plenty of space, wide tracks (disused airfield), tends to be muddy. Pipe pier (1 km) - suitable for vessel mooring at head of pier only. Good access to shoreline. Small harbour 100 x 30 metres.
12	Location Name:	Alness Point
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 660677
	Description of Access:	Through grounds of Dalmore Distillery (*) From A9 turn off on Invergordon Area HC Water and Sewerage Department access.
	Facilities at Access:	<ul style="list-style-type: none"> Difficult access to shoreline. Distillery access subject to permission. Where A9 crossed River Alness, access below to river for protective boom via above access (*)

13	Location Name:	B817 between Invergordon and Dalmore Distillery
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 710683 to NH 670688
	Description of Access:	B817
	Facilities at Access:	<ul style="list-style-type: none"> • Very good access at Invergordon Industrial area. Port Facilities. • Good access and laydown areas west of Invergordon (car parks. picnic areas) on beach road. • Slip at Yacht Club (NH 685690) suitable for small vessels. Pier at Belle. Port (NH 637689) 10m long 4-5m. wide, for small vessels. Pier at Dalmore Distillery - not suitable for vessel mooring
14	Location Name:	B817 between Invergordon and Balntraid
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH730700
	Description of Access:	B817
	Facilities at Access:	<ul style="list-style-type: none"> • Good access to beach along road. • Numerous Lay-bys for vehicles. • Promenade at Saltburn particularly good for access. • Residential area.
15	Location Name:	Balntraid
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 735707
	Description of Access:	B817 East of Invergordon
	Facilities at Access:	<ul style="list-style-type: none"> • Small pier on private property 120m long x 10m wide. • Suitable for small vessels. • Good beach access. • Permission needed for use.
16	Location Name:	Barbaraville Shoreline Road
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 749720
	Description of Access:	B817 East of Invergordon shoreline road in village
	Facilities at Access:	<ul style="list-style-type: none"> • Good access on promenade road to beach. • Suitable for larger vehicles.
17	Location Name:	Barbaraville
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 755725
	Description of Access:	B817 East of Invergordon, take track at eastern end of village
	Facilities at Access:	<ul style="list-style-type: none"> • Access to shoreline by houses waterfront. • Not suitable for large vehicles. • Further access to shoreline across field track.

18	Location Name:	Nigg
	Ordnance Survey Map Name	Dornoch Firth (21) Landranger Series
	Ordnance Survey Map Co-ordinates:	NH 795710
	Description of Access:	B9175 turn off from A9 signposted Nigg
	Facilities at Access:	<ul style="list-style-type: none"> • Section of road to north of Nigg Oil Terminal provides good access. • No laydown areas. • Good access and facilities at terminal and industrial area. • Pier facilities at Nigg ferry.

4.9.3 Shoreline Protection Sites

Due to the wide expanses of the sensitive areas within the Cromarty Firth, and the speed of the tides, complete protection by booming will not be possible. However, there are a number of sites within the Cromarty Firth where deployment of oil booms may be possible for collection of oil, which may minimise the impact on these sensitive areas.

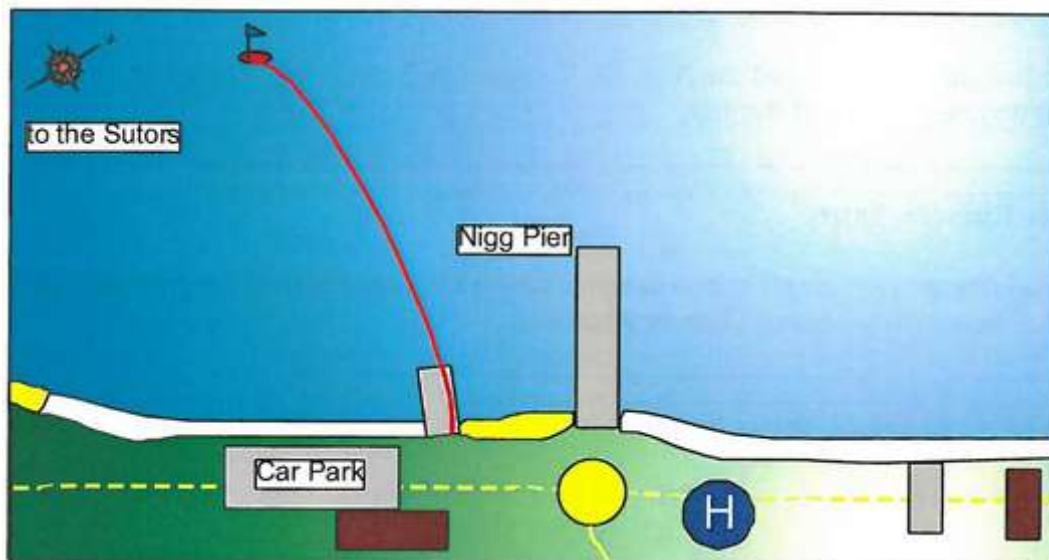
Most of these sites have now been validated by live boom deployments during normal training exercises.

4.10 SITE INFORMATION SHEETS

4.10.1 Nigg Ferry Slipway

Area	Cromarty Firth		
Site	1. Nigg Ferry Slipway		
Grid Reference	NH 797688		
Access Route	From the Cromarty Firth Port Authority offices in Invergordon take the B817 through Barbaraville and Kilmuir. At grid reference NH 767748 join the A9 (T) and follow it to the junction at NH 793772. Turn off onto the B9175 signposted to Nigg Oil Terminal.		
Detailed Site Access	Follow the B9175 passed the Nigg Oil Terminal to Nigg Ferry. The boom site at the slipway next to east of the pier.		
Site Hazards/ Safety	Road tankers visit the oil terminal; hence care is required when on the approach roads. The slipway may become slippery when wet.		
Landowners and Contact Numbers	Nigg Ferry Operators	Tel: 01381 610269	Fax: 01381 610408
Communications	Mobile Phone Reception O2 and Vodafone receive a signal in the area.		
Bank Characteristics including Load-Bearing Capability	The slipway is constructed of concrete and it is surrounded by shingle to the east and sand to the west. The slipway will take vehicles.		
Environmental Conditions	Water Depth	Max - 3.5 metres	Min - Dries out
	Tidal Strength	Max - 1.9 knots	Min - Zero knots
	Channel Width	1300 metres (across to Cromarty Ferry slipway)	
Laydown Area	A car park at the head of the slipway will act as a suitable laydown area.		
Booming Objectives and Configuration	The objective of this boom is to collect oil for recovery at the base of the slipway. It is only suitable, as a collection boom, on the incoming tide as the slipway is situated next to the Nigg Pier which restricts the positioning of the boom to collect oil on the ebb tide. The boom could however be left position on the ebb tide to help deflect oil away from the shingle beach. This would reduce the chance of oil impacting this beach and subsequently sinking into the shingle hence making shoreline clean-up difficult.		

Figure 4-1: Nigg Ferry slipway collection boom



Main Equipment Required	150m x shore sealing boom 200m x air tube and skirt boom 3 mooring stakes 14 x anchors and tripping buoys 320m, 15mm polypropylene mooring rope 1 x work boat Lifejackets Ancillaries and support box
Personnel Required	6 personnel on shore 3 personnel to crew the workboat

Figure 4-2: Collection boom at Nigg Ferry slipway

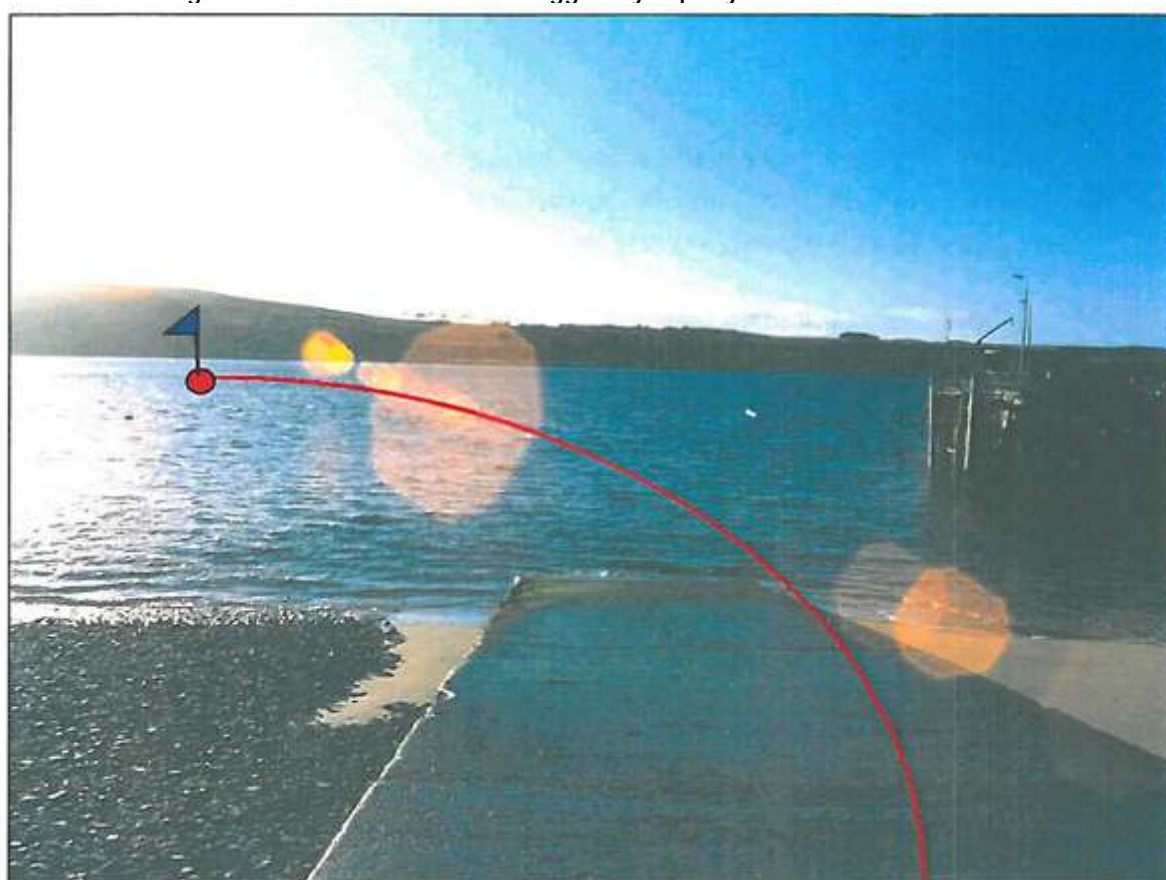


Figure 4-3: Shingle beach to the south of the slipway, looking towards North Sutor

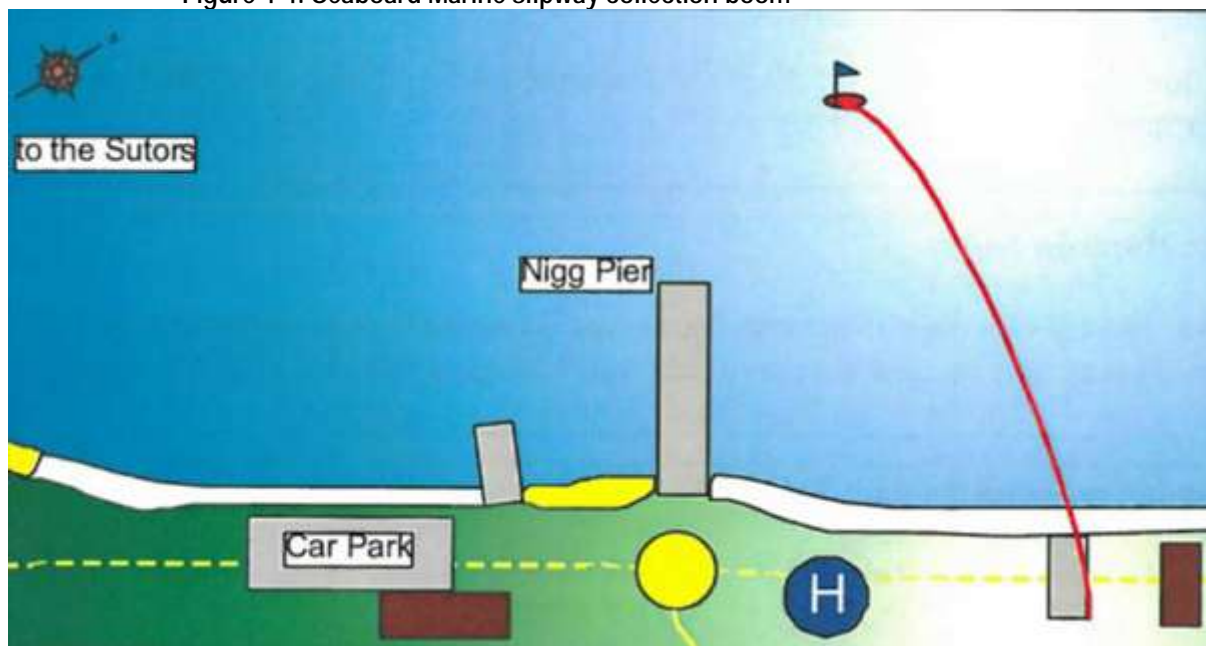


Method of Deployment	<ul style="list-style-type: none"> • Layout and inflate the boom • Connect the air tube and skirt and shore-sealing boom on land prior to deployment • Tow the boom (air tube and skirt boom end first) into position with the work boat • Attach anchors (with tripping buoys) to the boom and moor in position <p>The boom should be maintained regularly. It will need to be re-positioned slightly to act as a deflector boom on the ebb-tide</p>
Recovery Equipment	Small, portable skimmers can be deployed to recover any oil collected
Temporary Storage Equipment and Site	Fastanks can be positioned at the head of the slipway

4.10.2 Seaboard Marine Slipway

Area	Cromarty Firth
Site	2. Seaboard Marine Slipway
Grid Reference	NH 787688
Access Route	From the Cromarty Firth Port Authority offices in Invergordon take the B817 through Barbaraville and Kilmuir. At grid reference NH 767748 join the A9 (T) and follow it to the junction at NH 793772. Turn off onto the B9175 signposted to Nigg Oil Terminal.
Detailed Site Access	Follow the B9175 passed the Nigg Oil Terminal to Nigg Ferry. The boom site at the slipway next to west of the pier.
Site Hazards/ Safety	Road tankers visit the oil terminal; hence care is required when on the approach roads. The slipway may become slippery when wet. There is a helipad at the site if required.
Landowners and Contact Numbers	John Henderson Tel: 01381 610269 (Rents Area) Mobile: 07768 653674
Communications	Mobile Phone Reception O2 and Vodafone receive a signal in the area.
Bank Characteristics including Load-Bearing Capability	The slipway is constructed of concrete and it is surrounded by shingle to the east and sand to the west. The slipway will take vehicles.
Environmental Conditions	Water Depth Max - 3.5 metres Min - Dries out Tidal Strength Max - 1.9 knots Min - Zero knots Channel Width 1300 metres (across to Cromarty Ferry slipway)
Laydown Area	A car park at the head of the slipway will act as a suitable laydown area.
Booming Objectives and Configuration	The objective of this boom is to collect oil for recovery at the base of the slipway. It is only suitable, as a collection boom, on the incoming tide as the slipway is situated next to the Nigg Pier which restricts the positioning of the boom to collect oil on the ebb tide. The boom could however be left position on the ebb tide to help deflect oil away from the shingle beach. This would reduce the chance of oil impacting this beach and subsequently sinking into the shingle hence making shoreline clean-up difficult.

Figure 4-4: Seaboard Marine slipway collection boom



Main Equipment Required	150m x shore sealing boom 200m x air tube and skirt boom 3 mooring stakes 14 x anchors and tripping buoys 320m, 15mm polypropylene mooring rope 1 x work boat Lifejackets Ancillaries and support box
Personnel Required	6 personnel on shore 3 personnel to crew the workboat

Figure 4-5: Collection boom at Seaboard Marine slipway

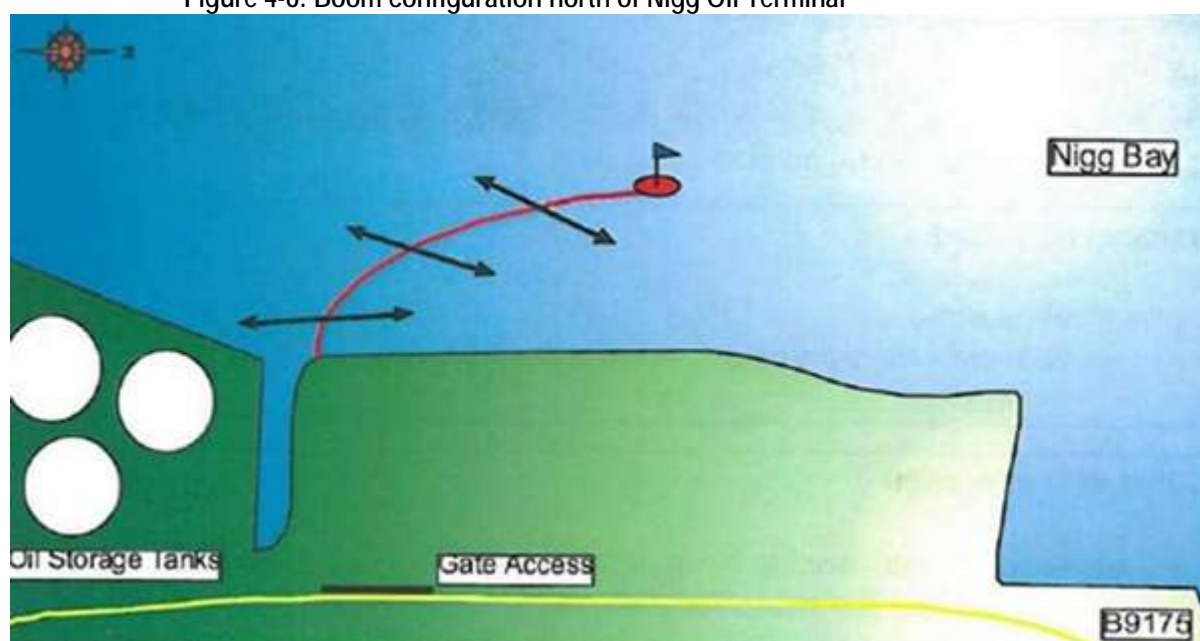


Method of Deployment	<ul style="list-style-type: none"> Layout and inflate the boom Connect the air tube and skirt and shore-sealing boom on land prior to deployment Tow the boom (air tube and skirt boom end first) into position with the work boat Attach anchors (with tripping buoys) to the boom and moor in position <p>The boom should be maintained regularly. It will need to be re-positioned slightly to act as a deflector boom on the ebb-tide</p>
Recovery Equipment	Small, portable skimmers can be deployed to recover any oil collected
Temporary Storage Equipment and Site	Fastanks can be positioned at the head of the slipway

4.10.3 Nigg Bay

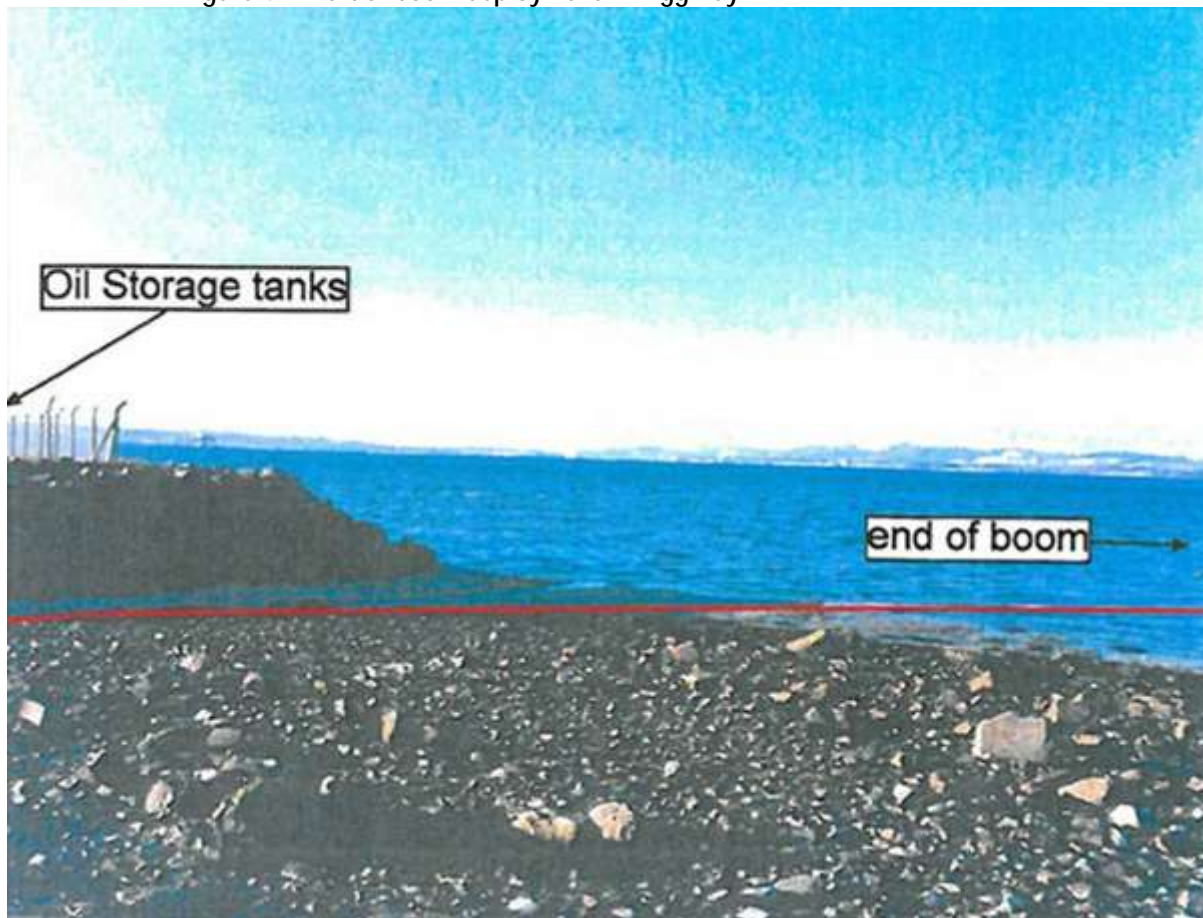
Area	Cromarty Firth		
Site	3. Nigg Bay		
Grid Reference	NH 793709		
Access Route	From the Cromarty Firth Port Authority offices in Invergordon take the B817 through Barbaraville and Kilmuir. At grid reference NH 767748, join the A9 (T) and follow it to the junction at NH 793772. Turn off onto the B9175 signposted to Nigg Oil Terminal.		
Detailed Site Access	Follow the B9175 to grid reference, NH 794709 where there is a gate into a reclaimed piece of land. Enter through this gate and the boom site is at the southern end of the area.		
Site Hazards/ Safety	Road tankers visit the oil terminal which is next to this site hence care is required when on the approach roads. There are rocks and boulders scattered along the shoreline; personnel must take care not to stumble, particularly when handling equipment. It is advisable not to smoke at this site as it is situated adjacent to the oil terminal.		
Landowners and Contact Numbers	There are no landowners evident at this site.		
Communications	Mobile Phone Reception O2 and Vodafone receive a signal in the area.		
Bank Characteristics including Load-Bearing Capability	The whole of this area is re-claimed land and as a result the surface is uneven. The shoreline has scattered the rocks and boulders over medium sediment. A narrow drainage channel runs between this area and the oil terminal.		
Environmental Conditions	Water Depth	Max - 2.1 metres	Min - Dries out
	Tidal Strength	Max - approx. 1.9 knots	Min - 0.1 knot
	Channel Width	N/A	
Laydown Area	The area of reclaimed land is a suitable area to station equipment. The size of the equipment will be restricted however due to the size of the entrance gate.		
Booming Objectives and Configuration	The objective of this deployment is to collect oil in the Nigg Bay area. It can be configured to collect oil on the incoming tide or the outgoing tide. The operation commander must be aware of the times of high and low water in order to achieve these objectives		

Figure 4-6: Boom configuration north of Nigg Oil Terminal



Main Equipment Required	150m x shore sealing boom 200m x air tube and skirt boom 3 mooring stakes 14 x anchors and tripping buoys 320m, 15mm polypropylene mooring rope 1 x work boat Lifejackets Ancillaries and support box
Personnel Required	7 x personnel on shore 3 x personnel to crew the workboat

Figure 4-7: Part of boom deployment in Nigg Bay



Method of Deployment	<p>At this site the rocks may need to be cleared from the shoreline prior to deployment of the boom to ensure that the boom does not suffer abrasion. This can be done using a front-end loader.</p> <ul style="list-style-type: none"> • Layout and inflate the boom • Connect the air tube and skirt and shore-sealing boom on land prior to deployment • Tow the boom (air tube and skirt boom end first) into position with the work boat • Attach anchors (with tripping buoys) to the boom and moor in position <p>The boom should be maintained regularly; particularly around the time that the tide is due to turn as it will need to be re-positioned to collect oil on the outgoing tide.</p>
Recovery Equipment	Small skimmers and vacuum equipment can be used at this site
Temporary Storage Equipment and Site	Fastanks can be stationed at the head of the beach to store any recovered oil.

4.10.4 Cromarty Ferry Slipway

Area	Cromarty Firth
Site	4. Cromarty Ferry Slipway
Grid Reference	NH 786679
Access Route	From the Cromarty Firth Port Authority offices in Invergordon take the B817 westwards to the A9 (T). Join the A9 (T) and follow to the Cromarty Bridge. Having crossed the bridge to the southern side of the Firth, turn first left off the main road onto the B9163 signposted to Cromarty.
Detailed Site Access	Follow the B9163 into Cromarty and to the harbour. From the harbour follow the minor road to the slipway for the ferry at grid reference, NH 786679. The boom site is situated at this slipway.
Site Hazards/ Safety	The slipway itself may become slippery when wet; hence personnel and vehicles should take care. The slipway is surrounded by shingle/sediment which may make equipment handling difficult.
Landowners and Contact Numbers	Cromarty Ferry Operators: Tel: 01381 610269 Fax: 01381 610408
Communications	Mobile Phone Reception O2 and Vodafone both receive good reception at this site.
Bank Characteristics including Load-Bearing Capability	The slipway is constructed of concrete and runs down a shingle beach deposited over fine sediment. The slipway will bear the weight of vehicles and plant.
Environmental Conditions	Water Depth Max - 3.5 metres Min - Dries out Tidal Strength Max - 0.8 knot Min - 0.1 knot Channel Width 1300 metres (across to Nigg Ferry)
Laydown Area	There is a car park at the head of the slipway which can be used to station equipment on standby
Booming Objectives and Configuration	The objective of this deployment is to collect oil. It can be configured to collect oil on the incoming tide or the outgoing tide. The operation commander must be aware of the times of high and low water in order to achieve these objectives.

Figure 4-8: Cromarty Ferry boom configuration

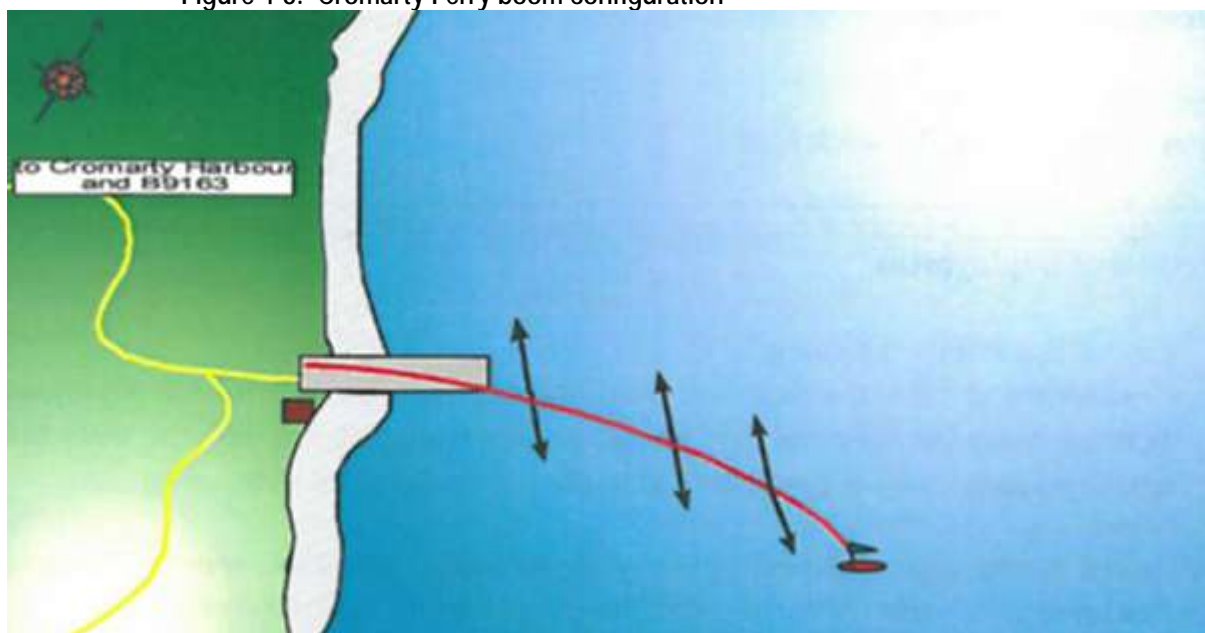


Figure 4-9: Cromarty Ferry slipway boom deployment for an incoming tide

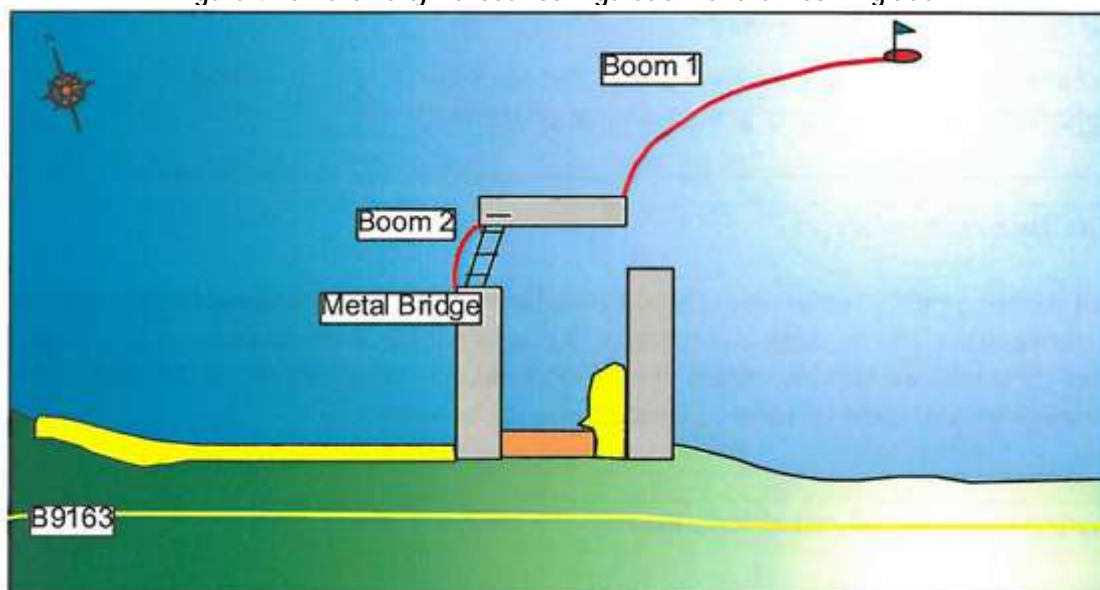


Main Equipment Required	150m x shore sealing boom 200m x air tube and skirt boom 3 mooring stakes 14 x anchors and tripping buoys 320m, 15mm polypropylene mooring rope 1 x work boat Lifejackets Ancillaries and support box
Personnel Required	5 x personnel on shore 3 x personnel to crew the workboat
Method of Deployment	<ul style="list-style-type: none"> • Layout and inflate the boom • Connect the air tube and skirt and shore-sealing boom on land prior to deployment • Tow the boom (air tube and skirt boom end first) into position with the work boat • Attach anchors (with tripping buoys) to the boom and moor in position <p>The boom should be maintained regularly; particularly around the time that the tide is due to turn as it will need to be re-positioned to collect oil on the outgoing tide.</p>
Recovery Equipment	Small, portable skimmers can be deployed to recover any oil collected.
Temporary Storage Equipment and Site	Fastanks can be positioned at the head of the slipway

4.10.5 Cromarty Harbour

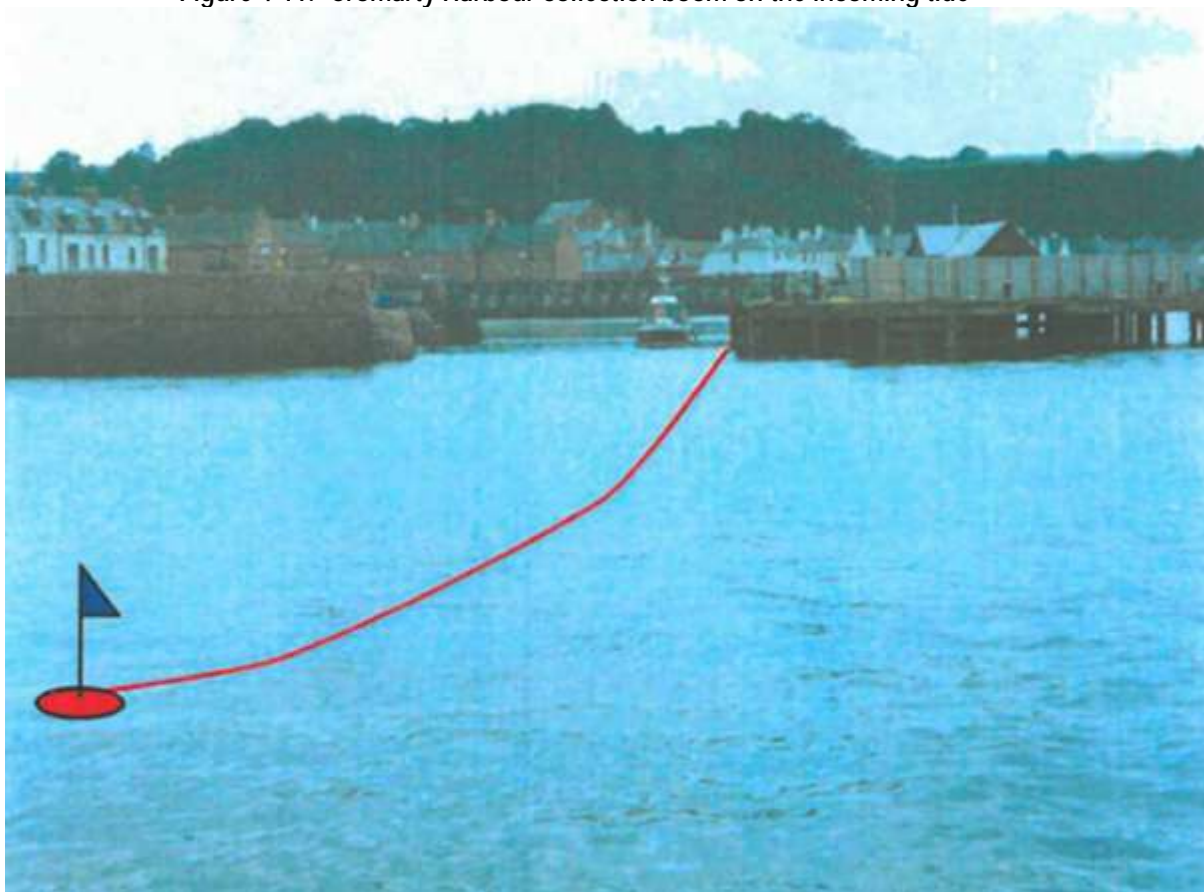
Area	Cromarty Firth
Site	5. Cromarty Harbour
Grid Reference	NH 785678
Access Route	From the Cromarty Firth Port Authority offices in Invergordon take the B817 westwards to the A9 (T). Join the A9 (T) and follow to the Cromarty Bridge. Having crossed the bridge to the southern side of the Firth, turn first left off the main road onto the B9163, signposted to Cromarty.
Detailed Site Access	Follow the B9163 into Cromarty and the harbour is on the left hand side as you approach. The boom site is at the harbour entrance.
Site Hazards/ Safety	All harbour safety regulations should be adhered to when operating in this area. The harbour walls and slipway are constructed from cobble and concrete so it is possible that they will be slippery when wet. Soft sand has accumulated at the base of the slipway so care must be taken. Lifejackets must be worn.
Landowners and Contact Numbers	Cromarty Harbour Trustees 01381 600479
Communications	Mobile Phone Reception O2 and Vodafone obtain a reception at this site.
Bank Characteristics including Load-Bearing Capability	The harbour walls and slipway are constructed from cobble and concrete and will take the vehicles. Soft sand has accumulated at the base of the slipway.
Environmental Conditions	Water Depth Max - 2.7 metres Min - Dries out Tidal Strength Max - 1.4 knots (outside the harbour mouth) Min - No tide Channel Width 30 metres (across both harbour entrances)
Laydown Area	The harbour walls and the area at the head of the harbour walls can be used to station equipment on stand-by.
Booming Objectives and Configuration	The objective of this booming operation is to collect oil moving passed the mouth of the harbour and contain it within the harbour walls. The oil can then be recovered more efficiently in the sheltered waters of the harbour. On flood and ebb tide two booms will be in position, one stretching into the Firth from one harbour entrance, the other closing off the other harbour entrance to contain the oil in the harbour. Boats within the harbour will need to be moved so that they do not become contaminated.

Figure 4-10: Cromarty Harbour configuration for the incoming tide



Main Equipment Required	<p>Main Equipment Required</p> <p>Boom 1</p> <p>300m x air tube and skirt boom</p> <p>50m x sorbent boom</p> <p>2 x anchors and a minimum 50 metres of mooring rope to install a running mooring</p> <p>14 x anchors and tripping buoys to moor the boom</p> <p>Boom2</p> <p>30m x shore sealing boom</p> <p>30m x sorbent boom</p> <p>4 x anchors and a minimum 100 metres of mooring rope to install a running mooring</p> <p>14 x anchors and tripping buoys to moor the boom</p> <p>350m x 15mm polypropylene mooring rope</p> <p>1 x work boat</p> <p>Lifejackets</p> <p>Ancillaries and support box</p>
Personnel Required	<p>7 x personnel on shore</p> <p>3 x personnel to crew the workboat</p>

Figure 4-11: Cromarty Harbour collection boom on the incoming tide



Method of Deployment	<p>It may be useful to install a permanent running mooring on the end of the pier. This will speed up the deployment time of this boom.</p> <ul style="list-style-type: none"> • Install the temporary running mooring • Layout and inflate the boom • Connect the boom to the running mooring • Tow the boom into position with the work boat • Attach anchors (with tripping buoys) to the boom and moor in position • Install the sorbent boom at the inward end of the boom alongside the pier wall <p>The boom should be maintained regularly, particularly checking that the boom is not suffering abrasion on the pier wall.</p> <p>This boom can be re-positioned on the ebb tide to collect oil moving towards the mouth of the Firth.</p> <p>Boom 2 can be installed simply from the workboat once the running mooring have be installed</p>
Recovery Equipment	To recover oil most efficiently skimmers can be deployed from the harbour walls.
Temporary Storage Equipment and Site	Fastanks can be positioned on the harbour walls to work in tandem with the skimmers.

Figure 4-12: Cromarty Harbour containment boom (Boom 2) on the incoming tide



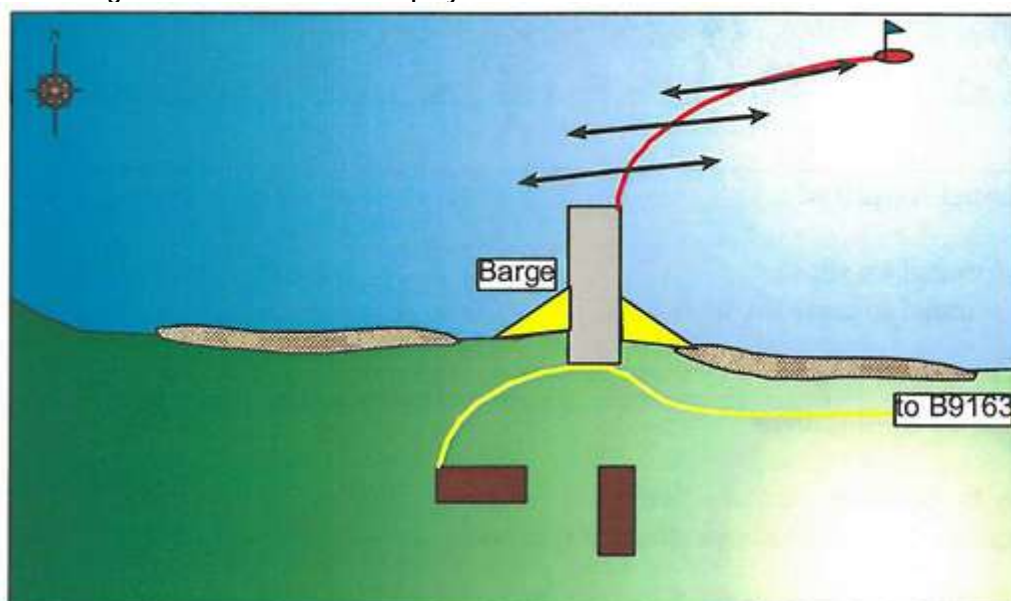
Figure 4-13: Slipway access at Cromarty Harbour, showing the soft sand



4.10.6 Balblair Slipway

Area	Cromarty Firth
Site	6. Balblair Slipway
Grid Reference	NH 702671
Access Route	From the Cromarty Firth Port Authority offices in Invergordon take the B817 westwards to the A9 (T). Join the A9 (T) and follow to the Cromarty Bridge. Having crossed the bridge to the southern side of the Firth, turn first left off the main road onto the B9163, signposted to Cromarty.
Detailed Site Access	Follow the B9163 to grid reference, NH 702666 and turn left onto the minor road. Follow this road down to the shore where there is a slipway. The boom site is situated at the slipway
Site Hazards/ Safety	It is advised to carry out a risk assessment at this site prior to equipment deployment as the area is used for barge operations. The slipway itself is constructed of cobbles and is slippery when wet. There is a build-up of soft sand either side of the slipway from the barge operation so do not walk there unless it is stable.
Landowners and Contact Numbers	<i>The slipway is owned by Highland Council. The area is used by the barge operators who must be consulted prior to commencing operations.</i> 01349 853669
Communications	Mobile Phone Reception Vodafone has a weak signal.
Bank Characteristics including Load-Bearing Capability	The shoreline is a shingle/cobble mixture with a build-up of soft sand around the slipway. The banks are grass covered. The slipway is constructed from stone. The tarmac road runs close to the backshore
Environmental Conditions	Environmental Conditions Water Depth Max - 2 metres Min - dries out Tidal Strength Max - 1.8 knots Min - 0.1 knot Channel Width 1100 metres across to Invergordon.
Laydown Area	There is a suitable area at the head of the slipway to laydown equipment. Consult with Highland Council in order to establish permission to use the land.
Booming Objectives and Configuration	The objective of this boom is to collect oil migrating up the Firth on an incoming tide. Equally the boom configuration can be altered to collect oil leaving the Firth on the outgoing tide. The operation commander must be aware of the times of high and low water in order to achieve these objectives.

Figure 4-14: Balblair Pier deployment



Main Equipment Required	150m x shoresealing boom 200m x air tube and skirt boom 50m x sorbent boom 2 x anchors and a minimum 50 metres of mooring rope to install a running mooring 14 x anchors and tripping buoys to moor the boom 190m x 15mm polypropylene mooring rope 1 x work boat Lifejackets Ancillaries and support box
Personnel Required	5 x personnel on shore 3 x personnel to crew the workboat

Figure 4-15: Boom deployment from Balblair Pier

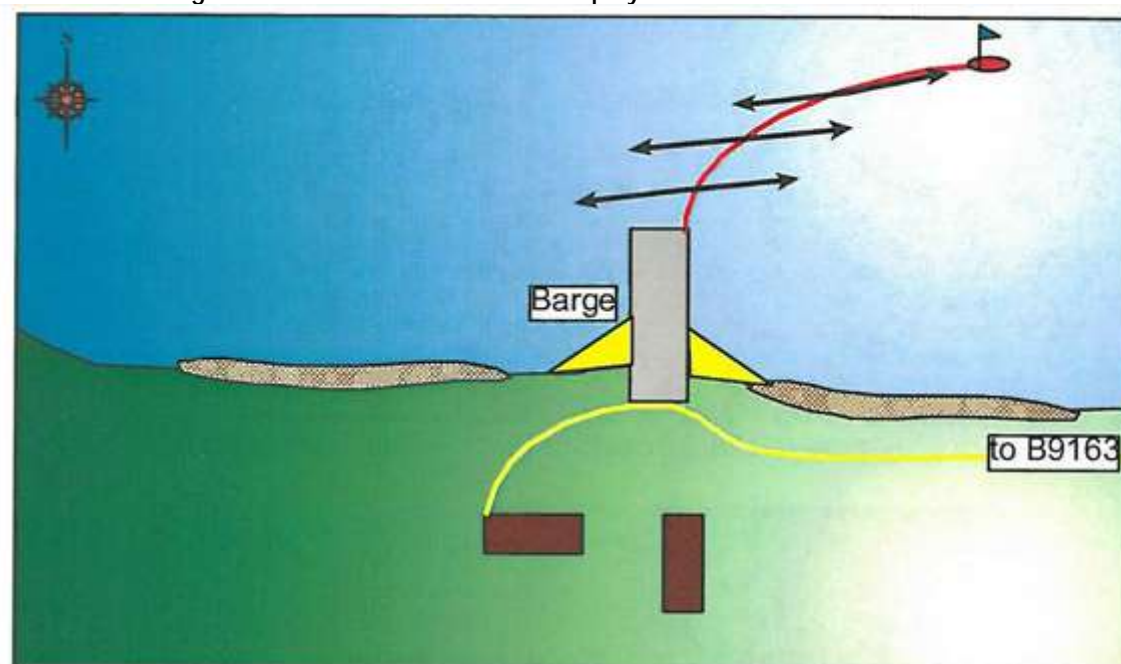


Method of Deployment	<p>It may be useful to install a permanent running mooring on the end of the pier. This will speed up the deployment time of this boom. Install the temporary running mooring:</p> <ul style="list-style-type: none"> • Install the temporary running mooring • Layout and inflate the boom • Connect the air tube and skirt and shore-sealing boom on land prior to deployment • Tow the boom (air tube and skirt boom end first) into position with the work boat • Attach anchors (with tripping buoys) to the boom and moor in position • Install the sorbent boom at the inward end of the boom alongside the pier wall <p>The boom should be maintained regularly, particularly checking that the boom is not suffering abrasion on the pier wall.</p> <p>If necessary this boom can be re-positioned on the ebb tide to collect oil moving on the outgoing tide.</p>
Recovery Equipment	<p>Small skimmers can be deployed from the pier wall to recover any oil that has been collected. The sorbent boom backing the inflatable boom will also act as a recovery device.</p>
Temporary Storage Equipment and Site	<p>There is sufficient space to erect Fastanks at the head of the pier.</p>

4.10.7 Belle Port Pier

Area	Cromarty Firth
Site	7. Belle Port Pier
Grid Reference	NG 673689
Access Route	From the Cromarty Firth Port Authority offices in Invergordon take the B817 westwards approximately 2 miles, towards Alness
Detailed Site Access	The boom site is alongside the B817. Pull in at the small lay-by at grid reference, NG 673689 opposite the Belle Port private house.
Site Hazards/ Safety	Barriers restrict passage onto the pier. There is also a sign on the pier warning of danger. This may be due to the stone pier, which may be crumbling. Confirmation from the JBB (Greater Europe) Plc, Dalmore Distillery must be sought before accessing the site. Care is certainly required when working in the area and lifejackets must be worn at all times.
Landowners and Contact Numbers	JBB (Greater Europe) Plc, Dalmore Distillery, Alness Tel: 01349 882362
Communications	Mobile Phone Reception O2 and Vodafone networks are available in this area.
Bank Characteristics including Load-Bearing Capability	The bank alongside the road is constructed from concrete with a grass covering which is suitable to work from. Rock armour adjoins this concrete wall. The pier itself is constructed from large stone blocks with patches of covering grass. As the tide ebbs there is a small area of shingle where the pier joins the bank.
Environmental Conditions	Water Depth Max - approx. 3.8 metres Min - dries out at shoreline Tidal Strength Max - 1.8 knots Min - 0.1 knot Channel Width 2 kilometres across to Ferryton Point
Laydown Area	There is a small area alongside the road to laydown equipment. If the pier is safe then it can also be used. A risk assessment must be carried out prior to doing this however.
Booming Objectives and Configuration	The objective of this boom would be to restrict the movement of oil up the Firth on an incoming tide. As the tide ebbs this deployment could be reversed to collect oil heading back to the mouth.

Figure 4-16: Belle Port Pier boom deployment

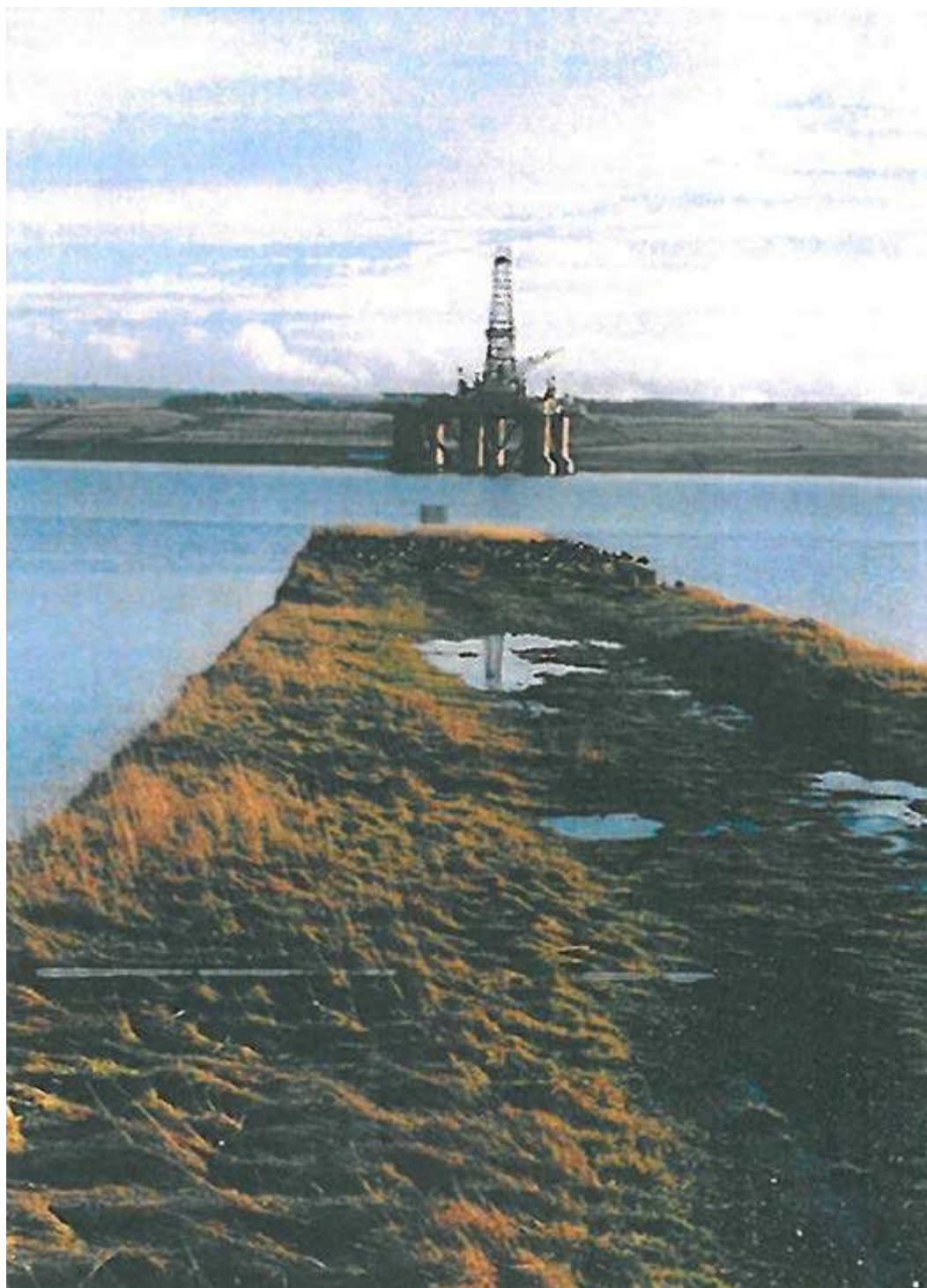


Main Equipment Required	150m x shore sealing boom 200m x air tube and skirt boom 50m x sorbent boom 2 x anchors and a minimum 50 metres of mooring rope to install a running mooring 14 x anchors and tripping buoys to moor the boom 350m x 15mm polypropylene mooring rope 1 x work boat Lifejackets Ancillaries and support box
Personnel Required	7 x personnel on shore 3 x personnel to crew the work boat

Figure 4-17: Boom deployment at Belle Port Pier (with oilrigs moored nearby)



Figure 4-18: Showing the surface characteristics of the pier



Method of Deployment	<p>It may be useful to install a permanent running mooring on the end of the pier. This will speed up the deployment time of this boom:</p> <ul style="list-style-type: none"> • Install the temporary running mooring • Layout and inflate the boom • Connect the air tube and skirt and shore-sealing boom on land prior to deployment • Tow the boom (air tube and skirt boom end first) into position with the work boat • Attach anchors (with tripping buoys) to the boom and moor in position • Install the sorbent boom at the inward end of the boom alongside the pier wall <p>The boom should be maintained regularly, particularly checking that the boom is not suffering abrasion on the pier wall.</p> <p>If necessary this boom can be re-positioned on the ebb tide to collect oil moving towards the mouth of the Firth.</p>
Recovery Equipment	<p>Small skimmers can be deployed from the pier wall to recover any oil that has been collected. The sorbent boom backing the inflatable boom will also act as a recovery device.</p>
Temporary Storage Equipment and Site	<p>There is sufficient space to erect Fastanks alongside the road and on the pier. A risk assessment of operations on the pier must be carried out prior to this however as they compromise the safety of personnel operating equipment.</p>

4.11 POLLUTION REPORT FORMS AND RECORDS

4.11.1 Reporting

Record keeping is an essential part of spill management. It is most important to record not only all actions, but also the factors considered which led to the decisions and actions. Written records must therefore be kept of all meetings, in the form of minutes and administrative support will be required for this. Records of actions and telephone calls made and received can be kept on a record form, an example of which is reproduced below. Good financial records are also required which must also explain what expenditure has been made and exactly why. Unless this occurs, cost recovery can prove difficult or impossible

4.11.1.1 Shoreline Oiling Survey Form – SCAT FORM

Segment: _____ Date: _____ Time: _____ to _____
 Surveyed from: Air/Boat/Viewpoint/Foot Weather: Sun/Cloud/Fog/Drizzle/Rain/Breeze/Wind
 Surveyors: _____ Org./Tel.: _____
 _____ Org./Tel.: _____
 Photo Roll #: _____ Frames: _____ to _____ Photo Roll #: _____ Frames: _____ to _____

Dominant substrata & oiling (circle substrata present & tick for some oil or double tick for lots of oil)

Splash zone: Seawall Hard cliff Soft cliff Rock Boulder Cobble Shingle Sand Mud Marsh
 Oil: _____
 Uppershore: Seawall Hard cliff Soft cliff Rock Boulder Cobble Shingle Sand Mud Marsh
 Oil: _____
 Middle Shore: Seawall Hard cliff Soft cliff Rock Boulder Cobble Shingle Sand Mud Marsh
 Oil: _____
 Lower Shore: Seawall Hard cliff Soft cliff Rock Boulder Cobble Shingle Sand Mud Marsh
 Oil: _____

Surface Oiling (mark location of area on map/sketch)

LOC	AREA		DIS	SURFACE OIL										ZONE				SLOPE	SURFACE SUBSTRATUM
	LENGTH (m)	WIDTH (m)		THICKNESS (mm)	CHARACTER (tick one)								ZONE (tick one)						
					FR	MS	TB	TC	SR	AP	NO	DB	SZ	US	MS	LS	V	H	M
A																			
B																			
C																			
D																			

(Distribution: Give Percentage of Surface Covered by Oil)

(Oil Thickness: Give Thickness of Oil on Surface to nearest mm)

(Character: FR = Fresh; MS = Mousse; TB = Tar Balls; TC = Tar; SR = Surface Oil Residue; AP = Asphalt Pavement; NO = No Oil Observed; DB = Debris)

(Substratum types: Sw = Seawall; Hc = Hard cliff; Sc = Soft cliff; R = Rock; B = Boulder; C = Cobble; Sh = Shingle; S = Sand; M = Mud; Ms = Marsh)

Subsurface Oil (mark location of pit on map/sketch)

PIT NO.	PIT ZONE (tick one)				PIT DEPTH (CM)	OILED ZONE (CM)	CLEAN BELOW?	CHARACTER (tick one)						WATER TABLE	SHEEN COLOUR	SEDIMENT TYPES (B, C, Sh, S, M)
	SZ	US	MS	LS				AP	OP	PP	OR	TR	NO			
1																
2																
3																
4																
5																

(Character: AP = Asphalt Pavement; OP = Oil-Filled Pores; PP = Partially Filled Pores; OR/C = Cover or Coat; OR/S = Stain or film; TR = Trace; NO = No oil)

(Sheen Colour: B = Brown; R = Rainbow; S = Silver; N = None) (Sediment types: B = Boulder; C = Cobble; Sh = Shingle; S = Sand; M = Mud)

Features (circle)

Oil on lichen: Extensive Some None seen
 Dead limpets / scars: Many Some None seen
 Bleached algae: Extensive Patchy Appears healthy
 Oil under boulders: Many Some None seen
 Clean-up effects: Rutting Trenches Pressure washing

Notes

4.11.1.2 Initial Pollution Report (POLREP)

Fax to: HM Coastguard 01224 212862 ☐ Copy to: RSPB 01463 715315 ☐
SEPA 01349 863987 ☐ SSPCA ☐
SNH 01349 865609 ☐ Police Scotland 01463 230800 ☐
Talisman (Nigg) 01862 851563 ☐ (major spills only)

A. CLASSIFICATION i) Doubtful ii) Probable iii) Confirmed		B. OBSERVED i) Date: ii) Time: iii) By:	
C. POSITION AND EXTENT OF POLLUTION (By latitude and longitude, if possible, state range and bearing from some prominent landmark and estimated amount of pollution, e.g. size and colour of polluted area; number of tonnes of oil spilled, or number of containers, drums, etc. lost. When appropriate, give position of observer relative to pollution.)			
D. TIDE AND WIND (Speed and direction)		E. WEATHER AND SEA (Conditions & Sea State)	
F. CHARACTERISTICS OF POLLUTION (Give types of pollution, e.g. oil, crude or otherwise; packaged or bulk chemicals; or garbage. For chemicals, give proper name or United Nations number, if known. For all, give also appearance, e.g. liquid; floating solid; liquid oil; semi-liquid sludge; tarry lumps; weathered oil; discolouration of sea; visible vapour; etc.)			
G. SOURCE AND CAUSE OF POLLUTION (E.g. from vessel or other undertaking. If from vessel, say whether as a result of apparent deliberate discharge or a casualty. If the latter, give a brief description. Where possible give name, type, size, nationality and port of registry of polluting vessel. If vessel is proceeding on its way, give course, speed and destination, if known.)			
H. DETAILS OF VESSELS IN THE AREA (To be given if the polluter cannot be identified and the spill is considered to be of recent origin.)			
J. HAVE PHOTOGRAPHS BEEN TAKEN? and/or SAMPLES FOR ANALYSIS <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No			
K. REMEDIAL ACTION (Taken, or intended, to deal with the spillage.)			
L. FORECAST OF LIKELY EFFECT OF POLLUTION (e.g. arrival on beach, with estimated timing)			
M. NAMES (of those informed)			
N. ANY OTHER RELEVANT INFORMATION (e.g., names of other witnesses, references to other instances of pollution pointing to source.)			

4.11.1.3 Incident Log Sheet

Incident		Date	
Name		Location	

[illegible]

4.12 PRESS AND PUBLIC RELATIONS MANAGEMENT

4.12.1 The Principles

The speed and quality of initial action in relation to any crisis is crucial to its eventual resolution with minimal damage to the responsible authority. Most importantly, it can 'freeze the action' and return the initiative to the authority, and establish a basis of sympathy and understanding between the authority and the media and public which will prove of considerable benefit later.

4.12.2 The Objectives

Our objectives in managing press and public relations activity for an oil-related incident in the Cromarty Firth are:

- To demonstrate an effective and efficient response to the incident, in liaison and co-operation with all parties involved.
- To demonstrate concern for the marine and coastal environment, wildlife, users of the Cromarty Firth and the interests of local inhabitants.
- To avoid or minimise damage to the reputation of the PoCF.

4.12.3 Command and Control

The Incident Command Centre will be at Cromarty Firth Port Authority headquarters in Invergordon, which will also accommodate the Agency Liaison Group and the Marine Response Centre, if required.

The CEO of PoCF will be responsible for the media response.

A Media Liaison Point will be established at [...location to be agreed*] to afford effective control over media representatives arriving on the scene, including press photographers and television film crews.

In the event of an incident which threatens public safety, Police Scotland will be responsible for overall command and control. Police Scotland will co-ordinate the other emergency services and responding agencies during the 'emergency phase' of the incident, and will also be responsible for co-ordination of the media response. At the earliest opportunity, and before any media release, the CEO of PoCF should seek to confirm if Police Scotland is to co-ordinate the media response. If so, all media releases must only be issued in liaison with the Police Media representative.

If the HILRP is established, a Media Briefing Centre (located at the Green House, Beechwood Business Park North, Inverness) will be set up simultaneously. All subsequent press conferences, involving spokespersons from the relevant responding agencies, should take place within these premises. The Public Communication Group (PCG) Co-ordinator will be responsible for ensuring co-ordination of all media matters until there is a handover, either to the Port of Cromarty Firth or The Highland Council.

4.12.4 The First Steps

- 1) Define the level of response – Tier 1, Tier 2 or Tier 3 – and institute the appropriate mobilisation and inform/alert procedures.
- 2) Conclude a holding statement to the press. The CEO and the Press and Public Relations Consultant will develop a suitable statement, consulting other organisations as appropriate, for issue within one hour of the incident. The Harbour Master/Port Manager/CEO will conduct any television or radio interviews required.
- 3) Consider the needs of press and television cameras and make appropriate arrangements within any restrictions placed by Command and Control.
- 4) Consider further press statements as the incident develops. In a Tier 1 response, the CEO and Press and Public Relations Consultant will determine whether any further press statement is required. In a Tier 2 or Tier 3 response, the release of further information to the media will be determined in consultation with the Agency Liaison Group, the Marine Response Centre and Police Scotland, as appropriate.
- 5) Arrange the monitoring of radio, television and newspapers. Checking of media coverage is vital to continuing management of the incident. Monitors should be delivered hourly by fax to the Incident Command Centre.

4.12.5 Further Action

The media should be briefed on a regular basis as management of the incident develops. Those involved in Command and Control, together with the appropriate Press and Public Relations Consultants, will determine the nature and timing of briefings.

4.12.6 Contacts

(See Section 5)

List of Press and Public Relations Consultants for the organisations involved, with all office, home and mobile telephone numbers, and fax numbers.

List of Highland and Scottish newspaper, radio, television and news agency (including Press Association) contacts, with all telephone and fax contact numbers.

Contact telephone and fax numbers for the media monitoring agency.

* Media Liaison Centre – As it is preferable to maintain separation of incident control and media management, this should not be at PoCF headquarters. A possible location is Invergordon Service Base, which offers the advantage of security controlled gatekeeping. However, it may be considered that a media presence within the base could risk compromising incident management operations through the base.

5 CONTACT DIRECTORY

Cromarty Firth Port Radio	24 hours	Tel: 01349 852308 Fax: 01349 854172
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EMERGENCY SERVICES

POLICE SCOTLAND	EMERGENCY	-	999
	NON-EMERGENCY	-	101

FIRE & RESCUE SERVICES	EMERGENCY	-	999
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Scotland Fire and Rescue Service (North HQ) 19 North Anderson Drive Aberdeen AB15 6TP	Tel: 01224 636666
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MARITIME AND COASTGUARD AGENCY	-	999
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Regional Headquarters MCA Aberdeen

Marine House	CGOC	Tel: 01224 592334
Blaikies Quay		Fax: 01224 575920
Aberdeen	Marine Office	Tel: 01224 597900
AB11 5PB		Fax: 01224 591920

AMBULANCE SERVICE	EMERGENCY	-	999
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Scottish Ambulance Service	Tel: 01463 667799
St Andrews Ambulance Association	Tel: 07900 818023

NHS HIGHLAND	Office hours	Tel: 01463 704886
Out of hours Public Health on call doctor (Raigmore):		Tel: 01463 704000

HIGHLAND COUNCIL

Emergency Planning (office hours only)	Tel: 01463 713479
Out of hours, ask for the Community Services Duty Officer	Tel: 01349 886690

RNLI Invergordon Lifeboat	Boat House	Tel: 01349 853915
	Lifeboat Ops Manager	Tel: 07715 014004

REGULATORY AGENCIES

SCOTTISH GOVERNMENT

Ports Division	Tel: 01312 447878
Edinburgh	Fax: 01312 440463

MCA

MCA Headquarters

Spring Place	Counter Pollution/ response dept.	Tel: 02380 329483
105 Commercial Road		Fax: 02380 329485
Southampton SO15 1EG		

Counter Pollution & Salvage Officer
Scotland & N Ireland
Marine House
Blaikies Quay
Aberdeen
AB11 5PB

Stephan Hennig

Tel: 01224 597900
Mob: 07764 144382

**UK BORDER AGENCY
Aberdeen Office**

Chief Immigration Officer

Tel: 01224 722890
Tel: 01224 214341
Fax: 01224 214340

**SCOTTISH NATURAL HERITAGE
East Highland Area Office**
Fodderty Way
Dingwall Business Park
Dingwall
Ross-shire IV15 9XB

Area Office

Tel: 01349 865333
Fax: 01349 865609

Out of Hours Numbers

Ben Leyshon (Area Officer)

Home: 01381 600348

Mob: 07794 621946

Steve North (Ops Manager)

Home: 01463 782156

(Head of SNH Habitat & Species Unit)

Dr John Baxter

Silvan House

231 Corstorphine Road

Edinburgh. EH12 7AT

Tel: 01313 162600

D/D: 01313 162610

Fax: 01313 162690

home: 01620 895669

Mob: 07774 161 273

Pager: 07699 761 509

**SCOTTISH ENVIRONMENT PROTECTION AGENCY (SEPA)
North Region HQ**

Graesser House

Fodderty Way

Dingwall IV15 9XB

24 hrs Emergency Line

Tel: 01349 862021

Fax: 01349 863987

Tel: 0800 807060

MARINE SCOTLAND

Notification and permission to spray dispersants (if required)

Environmental Protection Section

Marine Laboratory

P0 Box 101

375 Victoria Road

Aberdeen

AB11 9DB

Mob: 07770 733423

Email: spillresponse@marlab.ac.uk

failing contact on

the above call switchboard: Tel: 01224 876544

PRINCIPAL PORT USERS

Nigg Oil Terminal

Control

Tel: 01862 851396

Main

Tel: 01862 851631

Fax: 01862 851563

Nigg Energy Park

Rory Gunn

Tel: 01862 851700

Highland Deephaven (Technip UK Ltd) 24 hrs		Fax: 01372 864140 Tel: 01349 863336
Admiralty Pier (Bannerman Transport)		Tel: 01862 892322 Fax: 01862 892812
	John MacKay (Port Facility Manager)	Tel: 01349 853743 Mob: 07793 800881
Dalmore Distillery		Tel: 01349 882362
Invergordon Distillery		Tel: 01349 852451
Balcas Timber Ltd	24 hrs	Tel: 01349 854711 Fax: 01349 854584
The Crown Estate Edinburgh		Tel: 01312 606070 Fax: 01312 606090
Talisman Energy Ltd Aberdeen		Tel: 01224 352500 Fax: 01224 353400
	Emergency Room/ Petrofac Emergency Centre	Tel: 01224 348000 Fax: 01224 748001
Cromarty Harbour Master	Emergency Contacts	Tel: 07453 695648 Tel: 07802 234305

WILDLIFE AND ANIMAL WELFARE

SCOTTISH WILDLIFE TRUST (HQ)

Cramond House	Tel: 01313 127765
Cramond Glebe Road	Fax: 01313 128705
Edinburgh EH4 6NS	

ROYAL SOCIETY FOR THE PROTECTION OF BIRDS

(RSPB do not accept sick animals or birds, for this contact SSCPA)

Ross-shire & Moray Firth	Tel: 01463 715000
Etive House	Fax: 01463 715315
Beechwood Park	
Inverness IV2 3BW	
Conservation Manager	Kenna Chisholm
Out of Hours	Home: Mob: 07787 722684 01381 621416

SCOTTISH SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS

National helpline:	Tel: 03000 999 999
Inverness Animal Welfare Centre	Tel: 01463 230206
5 Inshes, Old Perth Road, Inverness	

OIL SPILL RESPONSE ASSISTANCE

UK Spill Association
5 Ludshott Manor
Woolmer Lane
Bramshott
Liphook
GU30 7RD

www.UKspill.org

Tel: 0845 6259890
Mob: 07793 649643
info@ukspill.org

International Tanker Owners Pollution Federation
1 Olivers Yard
55 City Road
London, EC1Y 1HQ after hours/24 hrs

www.itopf.com
Tel: 0207 566 6999
Fax: 0207 566 6950
Tel: 07623 984606

Other useful contacts:

International Petroleum Environmental Conservation Association
Oil Companies International Marine Forum
International Maritime Organisation

www.ipieca.org
www.ocimf.com
www.imo.org

MAJOR OIL SPILL RESPONSE ORGANISATIONS

Raw Group Emergency Response 24 hrs
Unit 9-13 Office
Bloomfield Commercial Centre
Factory Street
Belfast, BT5 5AW

Tel: 0845 166 8491
Tel: 028 9045 7271

Briggs
1st Floor
Marine House
Blaikies Quay Emergency Response 24 hrs
Aberdeen, AB11 5EZ

Tel: 01224 898666
Fax: 01224 896950
Tel: 0800 374 348

Oil Spill Response Emergency Response 24 hrs
Lower William Street
Southampton, SO14 5QE

Tel: 023 803 31551
Fax: 023 803 31972

Oil Spill Response
Marine House
Blaikies Quay
Aberdeen, AB11 5EZ

Tel: 01224 726859
Fax: 01224 726860

Braemar Howells
Baluniefield
Balunie Drive
Dundee, DD4 8UX Emergency Response 24 hrs

Tel: 01382 775760
Fax: 01382 731669
Tel: 08700 73776673

OTHERS

Aberdeen Met Office
Lord Cullen House
Fraser Place
Aberdeen AB25 3UB

Tel: 01392 885680
Fax: 01392 885681

MS Industrial Services Ltd
Admiralty Base, Shore Road
Invergordon, IV18 0RE

Tel: 01349 854454
Fax: 01349 854454

Sureclean Ltd
10 River Drive
Teaninich Industrial Estate
Alness, IV17 0PG

Tel: 01349 884480
Fax: 01349 883612

6 RESOURCE DIRECTORY

The Nigg Oil Terminal equipment list is included in Appendix A.1 – Nigg Oil Terminal Risk and response arrangements

6.1 TIER 1 AND 2 EQUIPMENT HELD BY BRIGGS ENVIRONMENTAL LTD. FOR THE POCF CONTRACT

Equipment	Quantity
Sea Sentinel 600	6
Shore Guardian 550 (10m)	2
Peristaltic Pump (self-powered)	1
Rope Mop Skimmer	1
Little Wonder Air Blower	2
200 gallon FASTANK with Liner	1
15kg anchor	2
Anchor Chain	2
Tripping Buoys	4
Ground Stakes	7
12mm Rope coil	3
Boom Inflation Adaptors for Shore Guardian	1
Boom Inflation Adaptors for Sea Sentinels	1
Boom Unicorn Towing Bridles (pair)	1
2" Rigid Suction Hose (5m)	2
2" Lay Flat Discharge Hose (10m)	1
Jerry Can 5 Litre	2
Heavy Hammer	1
Tool Box	1
Oil Only Absorbent Boom (4) H204 1335	3
Oil Only Absorbent Roll (50cm x 40m)	1
Box Oily Waste Bags (UN Numbered) (80)	1
Waste Bag Tie Wraps (100)	2
Poly Sheeting	1
Sand Bags	100
Hazard Tape	1
Rubber Gloves	30
Disposable Suits	4
Eye Wash	1
First Aid Kit	1
Hand Wipes	1

6.2 SURECLEAN LTD

Vacuum tankers	Quantity
10,000 litres	1
15,000 litres	2
22,000 litres	1

6.3 NIGG OIL TERMINAL RESPONSE EQUIPMENT

Equipment	Quantity
LM146 trailer including mesh kit and cover	2
ERIC – Emergency Response Intervention Craft	1
NOFI 350E Boom within hanging rail container	1
100m Shore Guardian boom (8 x 20m lengths, 2 x 10m lengths) + bags	2
200m Sea Sentinel boom (8 x 20m lengths, 4 x 10m lengths) + bags	2
Boom Vane (0.5 m depth)	1
Boom ancillaries: water pump and hoses, echo Airfan PB2155, camlock adaptors + hoses, bale 10mm Polyprop, bale 12mm Polyprop, 12x anchors, 24x anchor chains, 15 x tripping buoys	2
Boom spares: spare material, boom roller, tube evostick, hot air gun	1
Mini Scantrawl system inc 10 x 1 tonne bags, 2 x 10m Sea Sentinel leader boom and all ancillaries (echo Airfan PB2155, camlock adaptors + male flexi hose for airfane and mosen adaptor, bale 10mm Polyprop, bale 12mm Polyprop, boom spares, 4x Sea sentinel tow ends)	2
GP30 Powerpack	2
Dual Desmi Termite weir skimmer system (5"male Camlock fittings, c/w DOP 160), hot annulus water injection ring, hot water washer, 20m 5" discharge hose + camlock fittings for termite, 20m hydraulic hose set for Termite and GP30 Powerpack	2
MiniMax skimmer with debris collar inc 75C spate pump. MiniMax hoses (10m 3" rigid + camlocks & 20m 3" layflat)	1
Komara 7K mini system, complete with spark arrestor and Chalwyn valve	2
Fastank temporary storage systems	4
4 x 3m lengths sorbent boom	20
200 sheets (1 Bale) sorbent pads	20
PPE package for 10 responders (overall, safety glasses, ear plugs, safety helmet, rigger gloves, rubber gloves ½ length, waterproof suits, tyvek disposable suits)	2
Decon package: fastank bund complete with storage bag, scrubbing brush, 100x oil waste bags, roll plastic sheeting, bucket, barrier tape	3
Consumables: 3x barrels (black oil drum), 10 x rakes, 10 x shovels, 10 x squeegees, 10 x 20m rope snares, 3 x bag pompoms, 1 x scrubbing brush	1
First aid kit	3
Fire extinguisher	2
Handheld VHF	4
Gas monitoring – Gasalertimicro, 4 gas detectors & LEL, O ₂ , CO, H ₂ S, + rechargeable batteries	2

7 REFERENCES

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- SNH, (2009). *Whales, Dolphins & Porpoises, Naturally Scottish*. Available at: www.snh.org.uk
- SNH, (2013). *Otters SNH website*. [online]. Available at: <http://www.snh.gov.uk/about-scotlands-nature/species/mammals/land-mammals/otters/>
- SNH, (2015). *Dolphins and porpoises*. <http://www.snh.gov.uk/about-scotlands-nature/species/mammals/marine-mammals/dolphins-and-porpoises/>

8 APPENDICES

- Appendix A Subsidiary Plans**
- Appendix B Health and Safety**
- Appendix C Draft Procedure for dealing with Cetaceans**
- Appendix D Waste Disposal**
- Appendix E Oil Sampling**
- Appendix F Amendment Procedure**
- Appendix G MCA Forms and Reports**
 - A. Annual Return Form**
 - B. Post Exercise/Incident Report**
- Appendix H Memorandum of Understanding between the Maritime and Coastguard Agency and the Scottish Environment Protection Agency on Counter Pollution Response**

Appendix A Subsidiary Plans

A.1 NIGG OIL TERMINAL RISK AND RESPONSE ARRANGEMENTS

A.1.1 Risk Assessment

Crude Oil Export Operations

The greatest credible risk of crude oil spillage from Nigg Oil Terminal is from tanker loading operations. Analysis of world oil spills from tankers by the International Tanker Owners Pollution Federation Limited (ITOPF) shows that most tanker spills occur during routine cargo handling operations rather than as a result of accidents. Most of these spills are, however, relatively small (less than 7 tonnes); in comparison, accidents such as collisions and groundings give rise to less than 10% of all spills from tankers, but a quarter of these are larger than 700 tonnes.

Studies carried out in the United States variously predict one operational spill for either 35 or 39 port calls. With an expected frequency of 35 tanker visits per year, Nigg Oil Terminal may therefore expect an average of 1 crude oil spill every year. This frequency of spills, does not, however, indicate the severity of spill incidents. The overwhelming majority of tanker related spills worldwide are <7 tonne.

Potential sources of oil spillage from loading operations at the Terminal are as follows:

- vessel tank overflow;
- hose/pipeline/loading arm failure;
- flange leaks;
- loss of oil to sea via sea valves;
- structural damage to loading pipeline; and
- structural damage to tanker.

In the case of vessel tank overflow, at least half of the maximum estimated spill (75 tonnes) would be retained on deck.

The amount of oil spilled in the event of a pipeline rupture or flange leak, would be governed by the size of rupture or leak. Spillage from loading hose connection/disconnection is unlikely as the lines are cleared after each operation. The escape of any residual oil is prevented by drip trays that are located under each manifold arm.

It is estimated that the maximum credible size of spillage during tanker loading operations at Nigg Oil Terminal is 75 tonnes (560 barrels). This is the estimated loading line throughput that could be lost during a period of 40 seconds, allowing 30 seconds for Emergency Shutdown (ESD) activation and 10 seconds for actual valve closing at a maximum loading rate of 7,500 tonnes per hour (50,000 barrels per hour). Emergency Shutdown points are located at various strategic areas including one on board the vessel.

Fracture of the 36" crude oil loading pipeline, running down the length of the jetty (380 m) to the tanker loading system, could result in a maximum spill of 120 tonnes. The line is fitted with isolating valves at the Terminal, entry to the approach trestle and at the jetty head. The valves at the trestle and jetty head

operate in conjunction with the ESD to isolate the contents of this pipeline in the event of an accident during tanker loading operations.

Spillages within Nigg Oil Terminal

Normally, minor spillages of crude oil within a Terminal are the result of everyday operational procedures such as pigging operations, or during routine maintenance. Within the Nigg Oil Terminal all areas where accidental spillage of crude oil could reasonably be expected to occur are concrete bunded. Any accidental spillage within these areas would be contained.

Nigg Oil Terminal has two completely separate drainage systems, one for clean water run-off and the other for 'dirty' areas that could be contaminated with crude oil. Drainage water from the 'dirty' areas is channelled to a storage tank prior to treatment in the Ballast Water Treatment facility. Once any contaminants have been removed the clean water is discharged to Nigg Bay. To cater for the accidental spillage of crude in 'clean' areas, the clean water drainage system has a large three stage interceptor thus ensuring that contaminated water could not leave the Terminal via the clean water drainage system.

Tank overflow or rupture is possible major source of spillage within the crude oil handling areas of the Terminal. The two floating roof storage tanks are fitted with high level alarms to prevent overfilling. During filling, oil levels are remotely monitored and controlled by valve activation from the Central Control Room. All crude oil tankage within the Terminal is contained within a sealed bund with a capacity 10% greater than the volume of each tank.

The bund walls and base are concrete to prevent any oil which might be spilt from soaking into the ground. The bunds will therefore contain any credible spillage including a catastrophic tank failure where the design of the bund walls is such that they should absorb the energy involved in a 'tidal wave' type release of oil from the Tanks.

The possibility of a crude oil spillage extending outside the crude handling area, is therefore highly remote.

The 16" Shandwick Bay to Nigg Oil Terminal Landline

Pipelines are generally regarded as the safest means of oil transportation. The Leak Detecting Telemetry System incorporated into the main pipeline measures flow rate leaving Beatrice 'A' and compares it with the flow rate arriving at the Terminal at Nigg. In the event of a total fracture of the pipeline, it is expected that the system design would enable shutdown and isolation to be achieved in approximately two minutes with a maximum crude oil spillage of about 60 tonnes, based on the maximum throughput of 50,000 barrels per day (6,677 tonnes per day). However, allowing for instrument error, a slow unconfirmed leakage from the landline, over a long period of time, could result in up to 7 tonnes a day of oil accumulating on the ground surface.

Table A-1: Potential sources and sizes of marine spills

Source	Function	Maximum Spill Size/Cause	Maximum Spill rate/Duration
Pipeline 36" 1,425m	Transfer crude oil from tanks via pumps rupture to loading jetty	120 tonnes	Instantaneous
Tanker Load	Crude oil onto tanker	75 tonnes/ overflow, leakage	40 seconds for ESD loading valve system activation
Jetty Drainage Tanke	Receives contents of loading arms, pig receiver, rainwater	8 tonnes	Instantaneous rupture, overflow
Ship-to-Ship transfer	Transfer oil between ships	1 tonne	instantaneous

Figure A-1: Nigg Oil Terminal Jetty - Moored Rigs in the background



A.1.2 Tiered Resources List

Table A-2 below summarises the levels of tiered response and resources available to Talisman Energy.

Table A-2: Tiered response and resources available from Talisman Energy

Tier	Resources Available	Capability	Mobilisation Authority & Response Time
1	NIGG OIL TERMINAL RESOURCES Containment and Recovery Equipment	Tier 1 / 2 response	Activated By: Terminal Manager Resp. ⌚: Immediate
2	NIGG OIL TERMINAL RESOURCES Containment and Recovery Equipment	Tier 2 response	Activated By: Terminal Manager Resp. ⌚: Immediate
	CROMARTY FIRTH PORT AUTHORITY (CFPA)	Tier 2 spills within the Cromarty Firth port	Activated By: Terminal Manager Resp. ⌚: Immediate
	OSRL RESPONSE TEAM	Spill response team management and coordination.	Activated By: Terminal Manager via Talisman Aberdeen Emergency Coordinator / Nominated Call-out Authority Resp. ⌚: 4 to 6 hrs
	<u>OSRL Aerial Surveillance and Dispersant Service</u> Cessna 310 Aerial Surveillance Aircraft (Coventry Airport)	Aerial Surveillance and Spill Assessment	Activated By: Terminal Manager via Talisman Aberdeen Emergency Coordinator / Nominated Call-out Authority Resp. ⌚: Max. Spill Overhead Time 4 hrs
	Cessna 406 Aircraft, Dispersant Spray Pod and Dispersant Stockpile (Coventry / Inverness Airport)	Disperse up to 25 tonnes of amenable hydrocarbon/sortie	Activated By: Terminal Manager via Talisman Aberdeen Emergency Coordinator / Nominated Call-out Authority Resp. ⌚: 4 to 6 hrs

Tier	Resources Available	Capability	Mobilisation Authority & Response Time
3	OSRL RESOURCES		
	<p>Offshore, Coastal & Shoreline Containment and Recovery Equipment in UK. See Section 3.1</p> <p>Hercules L382 Aircraft, ADDS</p> <p>Pack and Dispersant Stockpile</p> <p>(East Midlands / Bournemouth Airport / OSRL Base)</p>	<p>Tier 3 Response Stockpile</p> <p>Disperse up to 340 tonnes amenable hydrocarbon/sort</p>	<p>Activated By: Terminal Manager via Talisman Aberdeen Emergency Coordinator / Nominated Call-out Authority</p> <p>Resp. ⌚: On-discussion with OSRL Duty Manager</p> <p>Activated By: Terminal Manager via Talisman Aberdeen Emergency Coordinator / Nominated Call-out Authority</p> <p>Resp. ⌚: On-discussion with OSRL Duty Manager</p>

A.1.3 Nigg Oil Terminal Resources

These resources are under the direct control of the Terminal Manager and are available for immediate use.

Equipment maintained at Nigg Oil Terminal for use for containment and recovery operations are detailed in Table A-3.

Table A-3: Nigg Oil Terminal Response Equipment

Quantity	Equipment Details
2	LM146 trailer including mesh kit and cover
1	ERIC – Emergency response intervention craft
1	NOFI 350E Boom within hanging rail container
2	100m Shore Guardian boom (4x20m lengths, 2x10m lengths) + bag
2	200m Sea Sentinel boom (8x20m lengths, 4x10m lengths) + bags
1	Boom Vane (1/2m depth),
2	Boom ancillaries: water pump and hoses, echo Airfan PB2155, camlock adaptors + hoses, bale 10mm Polyprop, bale 12mm Polyprop, 12x anchors, 24x anchor chains, 15x tripping buoys
1	Boom spares: spare material, boom roller, tube evostick, hot air gun
2	Mini Scantrawl system inc 10 x 1 tonne bags, 2 x 10m Sea Sentinel leader boom and all ancillaries (echo Airfan PB2155, camlock adaptors + male flexi hose for airfane and mosen adaptor, bale 10mm Polyprop, bale 12mm Polyprop, boom spares, 4x Sea sentinel tow ends)
2	GP30 Powerpack
2	Dual Desmi Termite weir skimmer system (5"male Camlock fittings, c/w DOP 160), hot annulus water injection ring, hot water washer, 20m 5" discharge hose + camlock fittings for termite, 20m hydraulic hose set for Termite and GP30 Powerpack

Quantity	Equipment Details
2	MiniMax skimmer with debris collar inc 75C spate pump. MiniMax hoses (10m 3" rigid + camlocks & 20m 3" layflat)
2	Komora 7K mini system, complete with spark arrestor and Chalwyn valve
4	Fastank temporary storage systems
20	4x3m lengths sorbent boom
20	200 sheets (1 Bale) sorbent pads
2	PPE package for 10 responders (overall, safety glasses, ear plugs, safety helmet, rigger gloves, rubber gloves ½ length, waterproof suits, tyvek disposable suits)
2	Decon package: fastank bund complete with storage bag, scrubbing brush, 100x oil waste bags, roll plastic sheeting, bucket, barrier tape
1	Consumables: 3x barrels (black oil drum), 10x rakes, 10x shovels, 10xsqueegees, 10x 20m rope snares, 3 x bag pompoms, 1x scrubbing brush
3	First aid kit
2	Fire extinguisher
4	Handheld VHF
2	Gas monitoring – Gasalertimicro, 4 gas detectors & LEL, O2, CO, H2S, C/W rechargeable batteries

The above resources are available for immediate use and are stored at the Terminal.

A.1.4 Tier 2 – Port of Cromarty Firth

Tier 2 oil spill response equipment is available from a combination of resources at the Nigg Oil Terminal and from the PoCF, who have the responsibility for Tier 2 spills within the Cromarty Firth remit.

For a current list of the available resources from the PoCF, refer to the PoCF OSCP.

Mobilisation Procedures

In the event of a Tier 2 spill from the Terminal, the Terminal Manager can request assistance from the PoCF directly, informing Talisman Emergency Co-ordinator in Aberdeen of any further assistance required.

A.1.5 Tier 2 – Oil Spill Response Limited

OSRL are contracted to provide experienced and qualified personnel to provide assistance in the management and coordination of an ongoing spill response strategy

Mobilisation / Call Out Procedure

It is the responsibility of the Emergency Co-ordinator / the nominated call-out authority to mobilise OSRL. The procedure for mobilising OSRL is initially by a single telephone call to 02380 331551 (24 hours) where the on-call Duty Manager (DM) will be alerted.

The DM can give advice and guidance as to what response equipment and strategies are appropriate based on the information provided by Talisman. On

request the DM will then activate the on-call response team members, as required and initiate the mobilisation of the response equipment.

For full mobilisation confirmation by fax is required on 02380 331972.

It should be noted that OSRL can be called upon for advice and guidance for any Tier of response.

Contractual Agreement

Talisman Energy (UK) Limited currently has a contract with Oil Spill Response Limited to provide response equipment and personnel in the event of an oil spill emergency within Nigg Oil Terminal.

A.1.6 Additional Resources

Mobilisation Procedure

OSRL Aerial Surveillance and Dispersant Services

OSRL provide an Aerial Surveillance and Dispersant Services to Talisman, as a participant of OSRL, within the United Kingdom Continental Shelf (UKCS). Resources will be positioned at 4 airfields around the United Kingdom, each of which can be operated 24 hours per day as required.

Aerial resources which can be mobilised through OSRL are detailed below.

Mobilisation / Call-Out Procedure

If it is recognised that the Aerial Surveillance and / or Dispersant Services are required to supplement the PoCF and Terminal resources the Terminal Manager should liaise with the Talisman Emergency co-ordinator in Aberdeen.

It is the responsibility of the Emergency Co-ordinator / the nominated call-out authority to mobilise OSRL. The procedure for mobilising OSRL is initially by a single telephone call to 02380 331551 (24 hours) where the on-call DM will be alerted.

If further resources are required to respond to the spill incident, Talisman has full access to the OSRL Tier 3 stockpile in Southampton, refer to the section below.

A.1.7 Tier 3 Oil Spill Response Limited (OSRL)

Talisman are shareholder members of Oil Spill Response East Asia Response Limited and have access to the OSRL Southampton Equipment Stockpile and Trained personnel to supply a professional response consisting of trained consultants, Operators and equipment. OSRL holds a comprehensive range of oil spill equipment at the Tier 3 stockpile in Southampton.

Mobilisation / Call-Out Procedure

It is the responsibility of the Emergency Co-ordinator / the nominated call-out authority to mobilise OSRL. The procedure for mobilising OSRL is initially by a single telephone call to 02380 331551 (24 hours) where the on-call DM will be alerted.

The DM can give advice and guidance as to what response equipment and strategies are appropriate based on the information provided by Talisman. On request the DM will then activate the on-call response team members, as required and initiate the mobilisation of the response equipment.

For full mobilisation confirmation by fax is required on 02380 331972.

It should be noted that OSRL can be called upon for advice and guidance for any Tier of response.

Contractual Agreement

Talisman Energy (UK) Limited currently has a contract with Oil Spill Response Limited to provide response equipment and personnel in the event of an oil spill emergency within Nigg Oil Terminal.

Tier 2 / 3 Aerial Response Services

OSRL provide an Aerial Surveillance and Dispersant Services to its participants within the UKCS. Resources will be positioned at 4 airfields around the United Kingdom, each of which can be operated 24 hours per day as required.

Table A-4: Resources mobilised through OSRL

Aerial Resources and Locations		
Quantity	Description	Operator
1	Cessna 310 Aerial Surveillance Aircraft (fitted with various cameras) located at Coventry Airport	OSRL / Reconnaissance Ventures Ltd (RVL)
1	Cessna 406 Aircraft, Dispersant Spray Pod and Dispersant Stockpile located at Inverness / Inverness Airport	OSRL / Reconnaissance Ventures Ltd (RVL)
1	L382 Hercules Aircraft, ADDS Pack and Dispersant Stockpile located at Southampton Airport / OSRL Base	OSRL
1	Dispersant Stockpile and Transfer Equipment located at Scatsta Airfield, Shetland (OSRL).	OSRL

A.1.8 Additional Resources Maritime and Coastguard Agency (MCA)

MCA is the organisation, which leads the government response to pollution at sea and assists local government with the onshore response to shoreline pollution. In the event of an oil spill resources may be available at the discretion of MCA.



Mobilisation / Call-Out Procedure

MCA will be notified by the HM Coastguard in the event of an oil spill. A Duty Principal Counter Pollution Officer is on call 24 hours a day.

A.1.9 Additional Resources Highland Council (Local Authority)

The Highland Council maintains a small quantity oil spill response equipment in Dingwall and a much larger stockpile in Inverness.

Mobilisation/Call-Out Procedure

The Highland Council can be notified by telephone using the contact details in Section 5 above. Please note that the primary role of The Highland Council's oil spill equipment is to support its own organisational responsibility to reduce, control and mitigate the effects of pollution, and specifically to discharge its duty for shoreline clean-up. Only if equipment is surplus to this requirement will it be allocated to a third party, and only then on a strict like-for-like replacement basis.

The stockpile in Inverness is stored in three 8ft steel ISO containers and a priority contract is in place with a local haulier to facilitate deployment. The equipment includes the items detailed below:

Quantity	Item
34	Shore Sealing Boom in 15m sections (510m)
34	Sea Skirt Boom in 15m sections (510m)
42	Bales containing 4 lengths of 3m x 20m Oil only Sock & Net Boom (504m)
2	Boom Stretchers with 6' aluminium poles
10	Mooring Buoys c/w strops & shackles
6	Unicon Plates c/w towing bridles
10	Tripping Buoys
1	PVC Bag containing assorted lengths of Mooring Rope
1	PVC Bag containing assorted lengths of Tripping Line
1	600ltr Instee Tank
1	Reinforced PVC Tarpaulin
12	150N Automatic Lifejacket
1	150N Manual Lifejacket
5	Shovels
5	Spades
4	Spazzles
6	Buckets
1	Bundle of Sand Bags
1	Pinch Bar
2	Wheel Barrow
1	Boat Hook
1	14lb Sledge Hammer
2	7lb Sledge Hammer
2	4lb Club Hammer
6	3'6" Large Tethering Stakes
12	2'4" Small Tethering Stakes
10	20kg Bruce Anchor c/w anchor chain & shackles
3	2.5kg Folding Grapnel Anchor

Quantity	Item
2	Bag of Anchor Chain
1	Tirfor type Winch c/w handle & steel rope
4	Coils of Rope (assorted diameter)
4	2 Tonne Strops (2m)
4	1 Tonne Strops (1m)
2	2" PVC Outlet Pipe, c/w fittings incl. monsun Mk XII adapter
2	2" PVC Inlet Pipe, c/w fittings incl. filter terminal
1	2" PVC Extension Pipe, c/w fittings
2	Honda Pump 4 stroke (GX120)
2	Echo PB-24LN 2 stroke Air Blower c/w monsun Mk XII adapter
1	5 Gallon Jerry Can for unleaded petrol
1	20ltr Container of unleaded petrol
1	5ltr Container of 2 stroke oil
1	5ltr measuring jug for fuel mixing & funnel
1	5ltr Container of mixed 2 stroke fuel
1	Honda Trash Pump (GX160)
1	2" PVC Outlet Pipe for trash pump, c/w fittings incl. monsun Mk XII adapter
1	2" PVC Inlet Pipe for trash pump, c/w fittings incl. monsun Mk XII adapter
1	Buoy Inflator
1	Tool Box
3	Roll of Zebra Tape
1	Pack of PMR Radios (x4), c/w batteries
1	Solas Life Ring 3kg
1	Floating Throwing line 30m
1	Floating Throwing Line Sock Type
3	Pair of Safety Wellingtons (size 9)
3	Pair of Safety Wellingtons (size 10)
2	Pair of Thigh Waders (size 9)
2	Pair of Thigh Waders (size 10)
20	Pair PVC Knitted Wrist Gloves (size 10)
6	Safety Helmets
10	Visor Safety Over Spectacles
20	Face Masks
30	Pair of Ear Plugs
6	Hi Vis Yellow 'Beach Master' Waistcoats XL
12	Green Waistcoats XL
20	Tyvek White Disposable Boilersuits XL
20	PVC Waterproof Yellow Rainsuits XL
1	First Aid Kit (21-50 person)
1	Eye Wash Solution (2 bottles)

A.2 NIGG ENERGY PARK TIER 1 RISK AND RESPONSE ARRANGEMENTS

The majority of activities at the Nigg Energy Park site are covered by the PoCF general contingency plan. A number of vessels involved in subsea construction as well as a small number of offshore supply vessels use the facility.

A.2.1 Berthing Risk

Assuming a fuel capacity of 40 tonnes, a collision with the jetty could produce a spill from the ready use tank of 2 tonnes of Marine gas oil.

A.2.2 Collision or grounding

In the event of a serious collision or grounding and assuming the loss of the complete vessel, the total spillage could be no more than 40 tonnes of marine gas oil.

Tier 1

2 tonnes marine gasoil

Tier 2

40 tonnes marine gas oil

Tier 1 Equipment resources

Nigg Energy Park has an agreement with PoCF to utilise the PoCF Tier 1 and Tier 2 oil spill response resources.

A.3 HIGHLAND DEEPHAVEN

The dynamically positioning pipe laying vessels use the pier at Highland Deephaven for the load out of subsea flow lines for the North Sea. In order to do this the vessel moors stern to at a short distance from the pier by a Mediterranean moor, where she is held by anchors ahead and by mooring ropes astern.

Bunkering at this location is normally carried out by coastal bunker tanker.

Figure A-2: CSO Apache at Highland Deephaven



A.3.1 Risk Assessment

Berthing Incident

The risk of a berthing incident is very small, as all vessels visiting Highland Deephaven, being dynamically positioned has precise control having an array of thrusters and controllable pitch propellers. However, there is always the risk that the system can malfunction and that she would impact the jetty. However, there are no tanks on the ships side and therefore the possibility of a spill is almost negligible form a berthing incident.

Bunkering

The vessel bunkers in up to 200 tonne parcels from local marine craft whilst on the pier. The spill risk from a burst hose or tank overflow is assessed as being approximately 1 tonne of Marine Gasoil.

Collision or Grounding

There is only a slight risk of a spill from a collision, as she has a double hull around the majority of the hull and tanks spaces.

However, in the event of a grounding, the majority (810 tonnes) of her fuel is carried in double bottom tanks. The remainder, 103 tonnes, is carried in various day tanks for the main engines, thrusters, winches and generators. In addition there is approximately 40 tonnes of lubricating oil onboard as well as 16 tonnes of hydraulic oil. The potential exists for the complete loss of these oils.

Tier 1

1 tonne marine gasoil

Tier 2

50 tonnes marine gasoil

Tier 3

903 tonnes marine gasoil

40 tonnes lube oil

15 tonnes hydraulic oil.

Tier 1 Equipment resources

Highland Deephaven has an agreement with PoCF to utilise the PoCF Tier 1 and Tier 2 oil spill response resources.

Appendix B Health and Safety

B.1 CROMARTY FIRTH PORT AUTHORITY HEALTH AND SAFETY POLICY

The Company places the greatest importance on health and safety matters and undertakes to conduct its operations in such a way as to ensure the health and safety of all its employees, visitors and the general public.

To this end, the Company will endeavour to create and develop a working environment in which there is an awareness of the vital importance of health and safety and which encourages all employees to participate in developing and practising safe working methods and to have a regard for the welfare of themselves and others.

We are confident that all employees will comply with their obligation to act in a safe manner and will fully co-operate with management on matters of health, safety and welfare. Such co-operation will be appreciated.

The Cromarty Firth Port Authority Health & Safety Policy is a stand-alone controlled document which is reviewed on a regular basis. The document is part of the PoCF Quality Management System and a copy of the current document is available on request from the Port Office.

B.2 ANNEX 1 - SELECTED HEALTH, SAFETY & WELFARE LESSONS ARISING FROM THE SEA EMPRESS SPILL

Management

1. SRC

A member of the SRC should be the nominated safety officer for the incident. This role will include the responsibility to ensure that health, safety and welfare issues are considered at appropriate stages of the incident and to identify when additional advice and assistance might be required.

2. Welfare

For protracted incidents there needs to be careful consideration of welfare provision for personnel, e.g. feeding, transport, water, sanitation, washing facilities, waste management etc. It is suggested that the voluntary sector can be rapidly mobilised to provide certain welfare services for the first week of an incident. After which alternative arrangements should come into force utilising local authority or contractors, i.e. there is a 1 week period at the beginning of incident within which to mobilise the preferred medium to long term arrangements.

3. Beach Masters

Health, safety and welfare on individual beaches should be the responsibility of the Beach Master. Beach Masters should have the authority within their area of beach or shoreline to stop any unsafe practices or activity. All Beach Masters, regardless of alternative provision, should also be able to provide first aid cover. There should be a weekly meeting of Beach Masters to review operations and health, safety and welfare issues. On sustained incidents personnel can gain Beach Master status through operational experience.

Technical Information

4. COSHH Data for Crudes, Refined Products, And Clean Up Material.

This information should be held, or accessible, centrally by MCA so relevant information can be faxed to the SRC once it is known from the manifest what materials are being dealt with. It will also be necessary to obtain amended advice for weathered material where inhalation hazards are greatly reduced after 24 hours from spill release.

5. Additional Risk Assessments

Additional health and safety risk assessments may be required where there are particular difficulties or constraints which necessitate unorthodox working arrangements. For instance there may be no conventional landside access to some sections of shoreline. In such situations it may be necessary to mechanically lift in and out equipment and personnel or gain access from the sea. The SRC has to come to a decision, balancing the imperative for clean up against potential increased risk to personnel and increased costs, on when such clean-up goes ahead and what techniques will be used.

6. Adjoining Sites

Working on beaches and shorelines adjacent to ports, harbours, docks and other industrial usage may pose additional hazards which are not immediately apparent. Risks may arise where access to the particular beach or shoreline is via such premises. Even when the current usage presents little or no additional risk there may have been historical usage which should be considered. In such situations advice should be sought from the current occupier of the site as to any additional precautions that might be advisable, or in the case of vacant sites the local Environmental Health Department or local Environment Agency Office may be able to provide relevant advice.

Specific Hazards & Risks

7. Trenching

When trench and backfill techniques are used on sand beaches the trenched area requires time to stabilise before it can safely take traffic. Depending on the nature of the beach, and vehicle, at least 4 days is typically required for the beach to stabilise after backfilling to allow further vehicular traffic. A backfilled area may also take up to 4 days to stabilise sufficiently to allow pedestrian traffic. Caution should always be exercised on backfilled areas until it is known that there has been sufficient stabilisation, and there should be appropriate signs displayed on the main entrance points to the beach. Physical barriers may need to be considered.

8. Buried Oil

Where oil has been intentionally buried, or otherwise covered up by beach material, it is possible for the oil to be liberated sometime after the incident. This will normally be as a result of beach stripping of dynamic beaches by energetic sea conditions. If the beach is an amenity beach there could be risk to the public or the oil could be re-mobilised by tides to contaminate other nearby beaches. Whilst this may be unavoidable, appropriate information for

beach users should be displayed. Sites and approximate quantities of buried oil should be recorded.

9. Heavy Seas

Working on beaches in heavy seas, i.e. big rollers, requires special care. During heavy seas personnel should be deployed on tasks higher up the beach so as to maintain a safe distance from the waters' edge.

10. Large Boulder Fields

During the SEA EMPRESS incident slips and falls on boulders were the second most frequent cause of injuries. Contaminated boulder beaches, or beaches with extensive boulder fields require additional care. Boulders, which may already be worn smooth by tidal action, become very slippery when covered in oil and can become almost impossible for pedestrian traffic. When planning an in-situ clean up the first stages of the clean-up should concentrate on creating safe access for the personnel involved with the clean-up operation.

11. Rock Platforms

In the event that personnel have to work from rock platforms, which may themselves be contaminated with oil material, it is essential that suitable provision must be made to reduce the likelihood of; and protect against the consequences of; falls. Additional risk assessments are necessary and consideration must be given prior to the commencement of activity to the provision and use of appropriate harnesses and other safety equipment.

12. Personal Protective Equipment (PPE)

All personnel should be issued with an agreed standard kit of PPE which will include clothing to prevent skin or soft tissue contact, safety footwear and headgear etc. and which should be worn at all times. In addition there should be additional PPE available, which would be called upon by the Beach Master and issued in accordance with any specific activities or risks that are encountered. (NB see note about PPE in hot weather - heat exhaustion)

13. Heat Exhaustion and Hypothermia

In extreme weather conditions personnel may be subject to the risk of either heat exhaustion or hypothermia. Beach Masters must be vigilant in adverse or extreme weather conditions for evidence of either effect. In the case of extreme weather conditions the SRC should ensure that routine reminders are issued to Beach Masters regarding this issue, and to consider when a suspension of certain activities might be a sensible precaution. In hot conditions Beach Masters should also be vigilant that personnel do not remove PPE, that an effective sunscreen is used where necessary and there are adequate rest breaks and availability of drink to prevent dehydration.

14. Water Quality for Bathers

During oil spills there will inevitably be hydrocarbons in the water column for some time after the spill. At present whilst there are arrangements to formally prevent fish stocks from contaminated waters finding their way into the food chain, there does not appear to be similar formal arrangements to prevent the recreational use of affected waters. The local environmental health department

is responsible under their statutory responsibilities to provide any clearance testing of waters for recreational use.

15. Monitoring of airborne Volatile Organic Compounds (VOCs)

Occupational monitoring of VOCs may be required under certain circumstances, particularly in the first hours after a spill when volatile components and particularly benzene may be released. However, given that activities take place in an open environment, it could be difficult to obtain representative exposure levels for staff without personal dose monitoring. As a consequence there may be a need to differentiate between monitoring required for occupational exposure and any general monitoring of environmental levels which may be relevant for assessing any increase in potential risk to the local population.

16. Marine Operations

Information regarding any marine operations, which may impact on personnel on the shoreline, must be provided to the SRC. This could include, for example, a schedule of flights and locations for aerial application of dispersant.

B.3 ANNEX 2 - HEALTH AND SAFETY REGULATIONS WHICH ARE LIKELY TO APPLY TO MAJOR CLEAN-UP OPERATIONS

- First Aid at Work Regulations 1981
- Noise at Work Regulations 1989
- Management of Health and Safety at Work Regulations 1992
- Manual Handling Operations Regulations 1992
- Personal Protective Equipment at Work Regulations 1992
- The Provision and Use of Work Equipment Regulations 1992
- Personal Protective Equipment (Amendment) Regulations 1994.
- The Control of Substances Hazardous to Health Regulations 1994
- Construction (Design and Management) Regulations 1994
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995
- Construction (Health, Safety and Welfare) Regulations 1996
- (NB each set of Regulations listed has a companion Approved Code of Practice or Guidance on Regulations)

B.4 ANNEX 3 - INITIAL ACTIONS IN THE EVENT OF MOBILISING THE SRC FOR THE HEALTH AND SAFETY OFFICER

- 1) Health and Safety file – set up the health and safety file for the operation and establish arrangements for its maintenance.
- 2) Cargo details – Secure information on type of material(s), total tonnage etc., estimate of tonnage spill to date. Copies of relevant hazard sheets from owner/consignee via MCA. File in H&S file.
- 3) Time of incident – Time of first release, duration of material at sea and exposed to elements and wave action etc. Review likely impact on risk. File in H&S file.
- 4) Weather reports – Weather forecast for the next 24 hours including sea conditions, obtain regular updates via the SRC. Review likely impact on risk. File in H&S file.
- 5) Marine operations – Summary of action to date, details of any material used to break up or disperse spill. Quantity used, where and when applied. Relevant hazard sheets via MCA. Establish communications via the SRC to ensure up-dates on material usage during marine operations.
- 6) Beach Masters – Identify Beach Masters, prepare and provide an initial safety briefing. Plan for attendance at weekly Beach Master briefings.
- 7) Induction Arrangements – Establish arrangements for safety induction of staff and personnel. Induction arrangements to cover the management and supervisory arrangements on-site and principal hazards and issues.

B.5 ANNEX 4 - HAZARDS ASSOCIATED WITH NORMAL WORK PRACTICES

Local authorities should review their safety policies, related documentation, and instructions to ensure that the following hazards and issues are adequately dealt with in both their emergency plans and normal working instructions:

- Lifting and manual handling
- Working with and around vehicles
- Working with and around chemicals
- Working with and around noisy equipment
- Personal Protective Equipment and clothing
- Welfare provision for site, or remote, working
- Working in extremes of temperature and weather
- Supervision for site and remote working
- First aid arrangements
- Reporting procedures
- (NB this should not be taken as an exhaustive list)

All the above are hazards or issues which may be encountered on most working days by local authority staff and should therefore already be dealt with in appropriate safety training, documentation, and instruction. In addition local authority supervisory staff should also be familiar with these issues and their management.

B.6 ANNEX 5 – HAZARDS ASSOCIATED WITH DIFFICULT ACCESS ARRANGEMENTS

In some situations it may be necessary to work on sections of the shoreline where there is no conventional vehicular or pedestrian access. In these situations it is likely that landside access may be effected by cranes and cradles, whilst marine side access may be possible using suitable shallow draft boats and other craft. In any event an operation which necessitates special access arrangements must introduce additional risks and hazards. Therefore it is appropriate that all proposed arrangements be reviewed from a safety management point of view before activities are commenced.

In some situations a review may result in an operational decision to abort any plans to clean up an individual beach or section of shoreline where risks to staff were considered to be unacceptable. Whilst this may give rise to recurrent problems elsewhere, if oil becomes re-mobilised, it may be justified for operational and safety reasons. It is also considered essential to liaise with, and take advice from, the local Coastguard organisation in any situation where special access arrangements are proposed.

Where an operation proceeds then the SRC and Beach master should ensure that as a minimum the following issues and arrangements should be adequately provided for and documented in addition to the general guidance on health and safety described elsewhere in this STOp Note.

PPE: This will include items such as appropriate safety harnesses and rigs for cliff top access and personal flotation devices for marine-side access. Staff must be fully conversant with the use of such equipment.

Rescue: In the event of a safety incident it is likely that specialist assistance will be required from HM Coastguard. Experience to date indicates that it is appropriate to have the cliff rescue team in attendance for any situations where cliff top access is required. Likewise, in the event of marine side access a safety vessel should be in attendance.

Supervision: Operational supervision on difficult access sites is critical to the safe and timely completion of the work. Beach masters in such situations must be able to assess both the operational needs of the clean up on a day to day basis and the particular safety precautions and requirements. On extended operations the SRC may decide to nominate a specific person who will act as safety advisor/officer for all difficult access sites.

Notification: The SRC must be kept informed of the commencement and progress of clean-up activities at any difficult access site.

B.7 ANNEX 6 – HAZARDS ASSOCIATED WITH SPECIALIST CLEAN-UP EQUIPMENT AND MATERIALS

Dispersants: Materials used in clean-up operations are usually brought to site in and applied by spray to affected surfaces and areas. Dispersant is most likely to be applied on shoreline operations from knapsack sprayers, the beachguard super, or the WSL beach sprayer. Dispersants represent a range of hazards during use, which by adequate training, supervision and PPE

provision can be reduced to acceptable risk levels. The Institute of Petroleum recommends the following PPE for those involved with spraying operations:

- Full cover plastic overalls
- PVC gloves
- Close fitting face visor fitted to a safety helmet
- Chemical resistant safety footwear

If a safety helmet is not provided then protective eye-goggles should be worn along with a suitably close fitting mouth and nose mask. The PPE is designed to eliminate the contact of dispersant material with unprotected skin or eyes and to prevent inhalation of vapours or droplets. This should form the basis of standard PPE provision for all staff working on shoreline cleans up. In addition the simple precaution of ensuring that personnel always work up-wind of spraying operations should be adopted as a matter of routine.

All manufacturers and suppliers of dispersants and related material provide comprehensive hazard information with their products, and stockpile operators have carried out COSHH assessments.

Heat: A number of pieces of specialist equipment use heat, usually via steam, to raise the temperature of recovered oils in order to reduce the effective viscosity. Any equipment running at steam temperature must be adequately supervised and steps must be taken to ensure that workers are kept away from any equipment, which might represent a risk of burns or scalds.

Mechanical clean-up devices (mops): Mechanical mops present a number of hazards including machinery, oils, and heat. In addition to adequate operator training, there are two simple precautions, which will eliminate most risks. The first is to ensure that all moving parts are properly guarded or shrouded, and second ensure that all non-essential personnel are kept a safe distance from the mops. Where mechanical mops are in use then areas should be cordoned-off to prevent other personnel approaching the machinery out of curiosity or ignorance.

Argocats: These are specialist multi-wheeled vehicles for moving personnel and equipment across beaches and other similar surfaces with poor or uncertain load bearing characteristics. Particular care must be taken to ensure that all drivers of beach cats are familiar with the limitations of the vehicle, particularly in respect of suitable ground conditions and slope negotiation.

Information: All personnel on the beach should be appraised of these hazards and explained why they should therefore only operate with such material, or near such material, after appropriate training and with adequate supervision.

NB this is not an exhaustive list of hazards, but covers the most likely hazards to be encountered on beach clean-up from specialist equipment. Further advice and information on the equipment and techniques that may be deployed will be found in the MCA technical manual 'Oil Spill Clean-up Of The Coastline'

B.8 ANNEX 7 – HAZARDS ASSOCIATED WITH THE SPILL MATERIAL

General overview

Hazards for crude and refined products include both acute and chronic effects. Whilst the major concern continues to be exposure to Benzene there are a number of other components such as Naphtha which may also be present. Principle risks exist through the inhalation of vapours or skin and soft tissue contact. Conditions, which may result, include respiratory and dermatological reactions. (See Croner's 'Substances Hazardous to Health').

Weathering effects

Existing information indicates that most volatiles are driven off from refined products within the first few hours of the spill, and from crude products within 8 hours or so. This period may be extended where there are particularly calm cool conditions and the spill is contained such that it is unable spread to a thin film. Even so evidence is available that most if not all benzene has been volatilised and lost within a 24 hour period. As a consequence inhalation risks are usually considered to be negligible after the first 24 hours or so, leaving skin and soft tissue contact as the major hazard of concern.

NB Exposure to petroleum components such as Benzene may also be as a direct result of equipment used, and it may be impracticable to isolate the cause of any exposure.

This information should be taken as a general guide because of the wide formulation of both refined products and transported crudes - useful references include papers presented at the 1989 and 1993 Oil Spill Conferences and subsequently published in the proceedings-, and AS TMS Standards-, available via MCA. Local authority safety officers wishing to understand more fully the technical arguments involved are advised to obtain copies.

PPE

Therefore when dealing with spill material in the early stages of a spill, e.g. the first day, it will be necessary to provide PPE as described elsewhere and appropriate respiratory protective equipment (RPE). In addition there should be effective segregation of any affected areas so that only those staff with an operational reason to do so, e.g. beach assessment, are exposed to any potential risk.

References

- Eley, Morris, Hereth and Lewis 1989. Is overexposure to benzene likely during crude oil spill responses? Proceedings of the 1989 Oil Spill Conference, API, Washington DC., pp 127-129.
- Whipple, Glenn, Ocken, and Ott .1993. A program approach for site safety at oil spills. Proceedings of the 1993 Oil Spill Conference, API, Washington DC, pp 99-104.
- Standard guide for health and safety training of oil spill responders. F 1644-95, November 1995, American Society for Testing and Materials (ASTMS) Sub-committee F20.21.

Adequate staff information and PPE will provide appropriate controls for skin and soft tissue contact route, provided Beach masters are vigilant regarding both the behaviour of personnel on the beach and the use of PPE.

Monitoring issues

As discussed elsewhere in the STOp Note there may arise situations where monitoring of Benzene or VOC levels in air may be required. Where this is specifically required for occupational reasons then a personal monitoring device such as a portable photo-ionisation (PD) monitor should be employed to give both the Short Term Exposure Level (STEL) and the Time Weighted Average Exposure (TWA). Most types will provide up to 10 hours monitoring time and the ability to record period maxima and averages, and are intrinsically safe. The more sophisticated equipment also has the ability to store information for subsequent downloading to a PC running a spreadsheet such as Excel, and both visual and audible alarms.

PIDs would be particularly applicable in the earliest stages of spill response, or where elevated levels may be suspected. The change in the nature of any risk after 24 hours elapsed time from the spill, indicates that the wider routine use of PIDs in subsequent stages of a clean-up operation is not required.

If required, a more cost effective option for routine monitoring would be to use 8-hour Draeger tubes and personal monitors. This could be backed up by spot readings taken with more sensitive and accurate equipment.

Health surveillance

Chronic exposure to many components of crude and refined products results in known or assumed carcinogenic effects. However, given the likely exposure levels during most clean-up operations, where exposure would be negligible, health surveillance is not warranted. The exception to this would be where exposures are non-negligible which may include the first 24 hours after the spill, or where the oil has been confined and volatilisation has been delayed. In these circumstances, depending on exposure levels, health surveillance of staff may be warranted. In any event it is a sensible precaution to exclude any staff with a history of skin or respiratory disorders, including asthma, from working on contaminated beaches or directly with recovered oil, oiled beach material, or other contaminated material.

B.9 PRODUCTION INFORMATION SHEETS

- Kerosene
- Gasoline
- Lubricating Oil
- Crude Oil

KEROSENE



HARMFUL



FLAMMABLE

HAZARDS

EYES: Moderately irritant
SKIN: Moderately irritant
INHALATION: Respiratory irritant
INGESTION: Harmful if swallowed

APPEARANCE: Clear liquid
ODOUR: Mild

PERSONAL PROTECTIVE EQUIPMENT:

- Impervious gloves (PVC type)
- Respirator if vapour levels high (Organic vapour type)

HANDLING:

- Avoid contact with eyes and skin
- Keep away from sources of ignition

FIRST AID: Obtain Medical Assistance IMMEDIATELY

EYES - Flush with water for 15 minutes

SKIN - Wash contact areas thoroughly with soap and water

INHALATION - Remove to fresh air

INGESTION - Give water to drink. DO NOT induce vomiting

EMERGENCY CONTACTS:

Medical :
Fire :
Safety Officer :

GASOLINE

Hazards

EYES : Slightly irritant

SKIN : Moderately irritant

APPEARANCE: Clear liquid

ODOUR: Hydrocarbon

PERSONAL PROTECTIVE EQUIPMENT:

- Impervious gloves (PVC type)
- Respirator if vapour levels high (Organic vapour type)

HANDLING: *WARNING - CONTAINS BENZENE*

- Avoid contact with skin
- Avoid inhalation of vapours
- Keep away from sources of ignition

FIRST AID: Obtain Medical Assistance IMMEDIATELY

EYES - Flush with water for 15 minutes

SKIN - Wash contact areas thoroughly with soap and water

INHALATION - Remove to fresh air

INGESTION - Give water to drink. DO NOT induce vomiting

EMERGENCY CONTACTS:

Medical :

Fire :

Safety Officer :

LUBEOIL

Hazards

EYES : Slightly irritant
SKIN : Moderately irritant

APPEARANCE: Amber liquid
ODOUR: Mild

PERSONAL PROTECTIVE EQUIPMENT:

STANDARD PROTECTIVE EQUIPMENT

HANDLING:

NO SPECIAL PRECAUTIONS REQUIRED

FIRST AID: Obtain Medical Assistance IMMEDIATELY

EYES - Flush with water for 15 minutes

SKIN - Wash contact areas thoroughly with soap and water

INHALATION - Remove to fresh air

INGESTION - Give water to drink. DO NOT induce vomiting

EMERGENCY CONTACTS:

Medical :
Fire :
Safety Officer :

CRUDE OIL

HAZARDS

EYES: Moderately Irritant
SKIN: Moderately irritant
INHALATION: Respiratory irritant
INGESTION: Harmful if swallowed

APPEARANCE: Black liquid
ODOUR: Mild

PERSONAL PROTECTIVE EQUIPMENT:

- Chemical goggles
- Impervious gloves (PVC type)
- Respirator if vapour levels high (Organic vapour type)

HANDLING:- Avoid contact with eyes and skin
(PROLONGED MAY CAUSE SKIN CANCER)
- Keep away from sources of ignition

FIRST AID: Obtain Medical Assistance IMMEDIATELY
EYES - Flush with water for 15 minutes
SKIN - Wash contact areas thoroughly with soap and water
INHALATION - Remove to fresh air
INGESTION - Give water to drink. DO NOT induce vomiting

EMERGENCY CONTACTS:

Medical :
Fire :
Safety Officer :

Appendix C Draft Procedure for Dealing with Cetaceans during an Oil Spill

C.1 PROPOSED GUIDELINES FOR DEALING WITH CETACEANS IN THE EVENT
OF AN OIL SPILL IN THE MORAY FIRTH, SCOTLAND

Report to Talisman Energy (UK) Limited & Scottish Natural Heritage

Prepared by S.Gubbay & R.Earll

May, 1999



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PROPOSED GUIDELINES FOR DEALING WITH CETACEANS IN THE EVENT OF AN OIL SPILL IN THE MORAY FIRTH

PREFACE

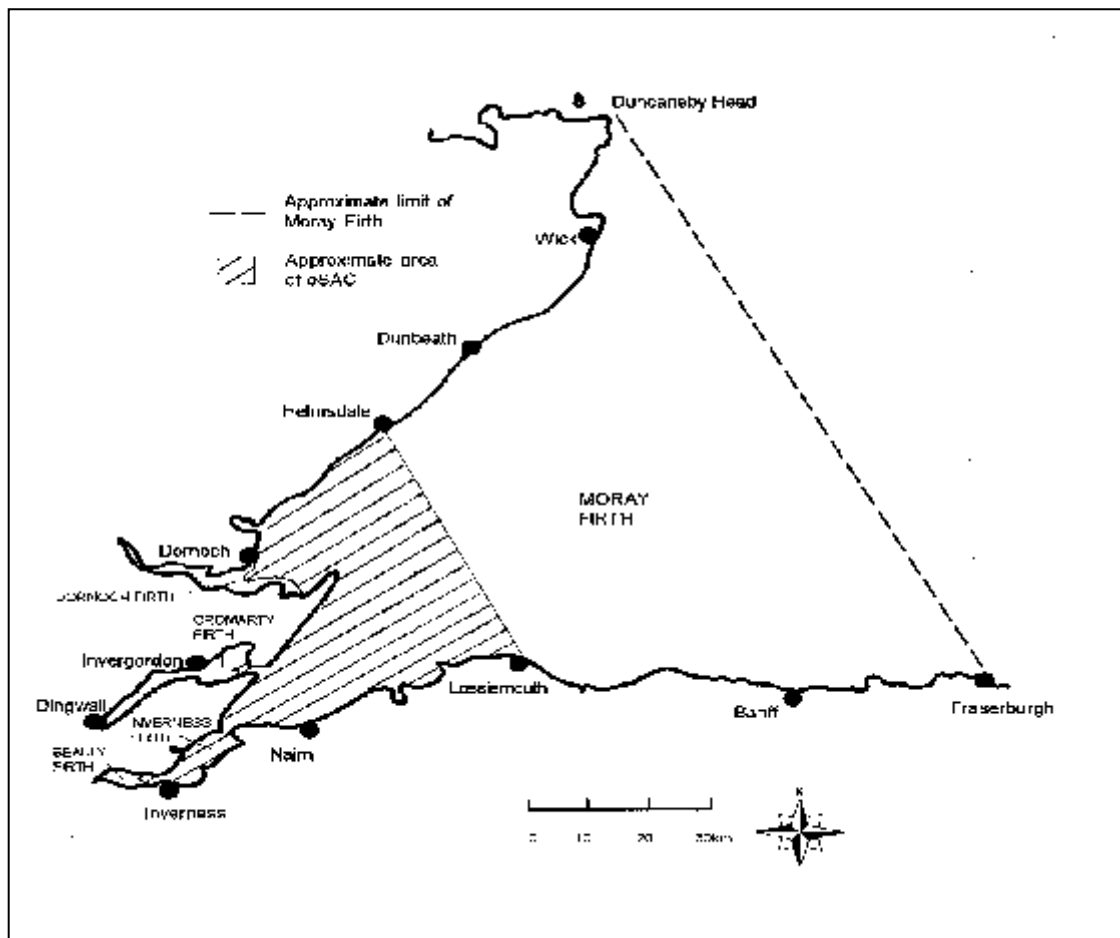
The following proposals are based on a literature review¹ on the effects of oil spills on cetaceans and on a workshop held in Inverness in May 1999. The review and workshop cover ways in which cetaceans might be addressed during the oil spill contingency planning process and the clean-up response. This document therefore provides the best current advice for dealing with cetaceans in the event of an oil spill in the Moray Firth. The guidance covers a range of scenarios involving cetaceans and oil, such as dealing with stranded cetaceans, cetaceans surrounded by oil in confined areas, and circumstances where cetaceans may need to be treated in locations which are also easily accessible to the general public.

The guidelines recognise that cetaceans are only one of a number of factors that need to be taken into account during the contingency planning process and oil spill clean-up response. It is hoped that they will provide a useful reference for those charged with developing Oil Spill Contingency Plans for the Moray Firth by highlighting issues that may need to be considered in such Plans. This is particularly important given that the Moray Firth is a focus for oil industry activity and shipping as well as being frequented by one of the few known resident populations of bottlenose dolphins in UK waters. It should be noted that the procedures of the National Contingency Plan will take precedence in the case that its use is invoked.

Under the "Habitats Directive", Council Directive 92/43/EEC, a large part of the inner Moray Firth has been proposed as a candidate Special Area of Conservation (cSAC) on account of the international importance of the resident bottlenose dolphin population (Figure C-1). The status of part of the Moray Firth as a cSAC ensures that all local and national authorities with responsibilities in the marine environment must exercise their duties to secure the favourable condition of the bottlenose dolphin population.

¹ Scottish Natural Heritage, 1999. The effects of oil spills on cetaceans : A literature Review. Review Series (unpublished). Final report expected in January 2000.

Figure C-1: The Moray Firth, including the area of the candidate Special Area of Conservation.



C.2 FORWARD PLANNING

Oil spill contingency plans should include up to date information on the occurrence and usage of the Moray Firth by cetaceans.

Main organisations with information about cetaceans in the Moray Firth:

- Scottish Natural Heritage
- Joint Nature Conservation Committee
- University of Aberdeen, Zoology Department
- Sea Mammal Research Unit
- Seawatch Foundation
- UK Mammal Society (Cetacean Group)

Useful references on cetacean sightings and distribution in the Moray Firth:

- Curran, S., Wilson, B. & Thompson, P. (1996) Recommendations for the sustainable management of the bottlenose dolphin population in the Moray Firth. Scottish Natural Heritage Review. No.56.
- Harding-Hill, R. (1993) The Moray Firth Review. Scottish Natural Heritage.
- Joint Nature Conservation Committee (1995) Coasts and seas of the United Kingdom. Region 3. North-east Scotland (Cape Wrath to St. Cyrus). JNCC.
- Wilson, B., Thompson, P.M. & Hammond, P.S. (1997) Habitat use by bottlenose dolphins: seasonal distribution and stratified movement patterns in the Moray Firth, Scotland. Journal of Applied Ecology. 34:1365-1374.

Information relevant to the management of the cSAC for its bottlenose dolphins is available from:

- Scottish Natural Heritage
- Moray Firth Partnership

Useful references relevant to the cSAC:

- Scottish Natural Heritage, 1995. *Natura 2000*. A guide to the 1992 EC Habitats Directive in Scotland's marine environment.
- Scottish Natural Heritage, 1997. *Natura 2000*. European marine sites: an introduction to management.
- EN, SNH, EHS(DoE(NI)), CCW, JNCC & SAMS, 1998. *Natura 2000*. European marine Sites: Guidance relating to the statutory conservation objectives and operations which may cause deterioration or disturbance.
- The Conservation (Natural Habitats, &c.) Regulations 1994.

NB. Advice on the conservation objectives and list of operations which may cause disturbance to the dolphins or cause deterioration of their habitat is being prepared and a scheme of management for the cSAC is under development.

Location	Expertise	Organisations
L, S,	Cetacean conservation	Scottish Natural Heritage University of Aberdeen
S, UK	Cetacean conservation	Joint Nature Conservation Committee Sea Mammal Research Unit
L	Sightings network	Friends of Moray Firth Dolphins
L, S, UK	Welfare	Scottish Society for the Prevention of Cruelty to Animals British Divers Marine Life Rescue
S	Veterinary	SAC Veterinary Services

L - local to Moray Firth, S - bases in Scotland, UK - based in UK

The following actions which require forward planning are also recommended:

- Clarifying roles for an emergency sightings network
- Identification of good land-based sightings survey points
- Development of risk assessment methodology
- Availability of equipment (e.g. sonar buoys)
- Any training needs for personnel likely to be involved in spill response

There are a number of references about seeking specialist advice in these guidelines. As part of any forward planning, it will be essential for contingency planners to identify in advance those groups or individuals who are qualified and likely to be available to provide specialist advice in the event of an incident. Contingency plans should also aim to prioritise the listing of specialists so that key individuals and groups are contacted first. Contact and release arrangements for specialists will need to be agreed in advance. Voluntary groups (e.g. sightings networks, animal welfare groups) can also assist in any response involving cetaceans. Those groups with relevant expertise should be identified in advance and arrangements for their participation agreed.

The forward planning process needs to clearly identify how marine mammal specialists and others involved in dealing with cetaceans will be integrated into the oil pollution clean-up response, whether it be through the Shoreline/Marine Response Centre for Tier 3 oil spills or for Tier 2 spills, where a Response Centre may not be established.

C.3 IMMEDIATE RESPONSE

A tiered response is recommended depending on the size of the spill and the importance of the area for cetaceans (Box 1,). Notification and advice on implications for cetaceans will need to be sought for all spills within the cSAC.

BOX 1: Tiered Response

OIL

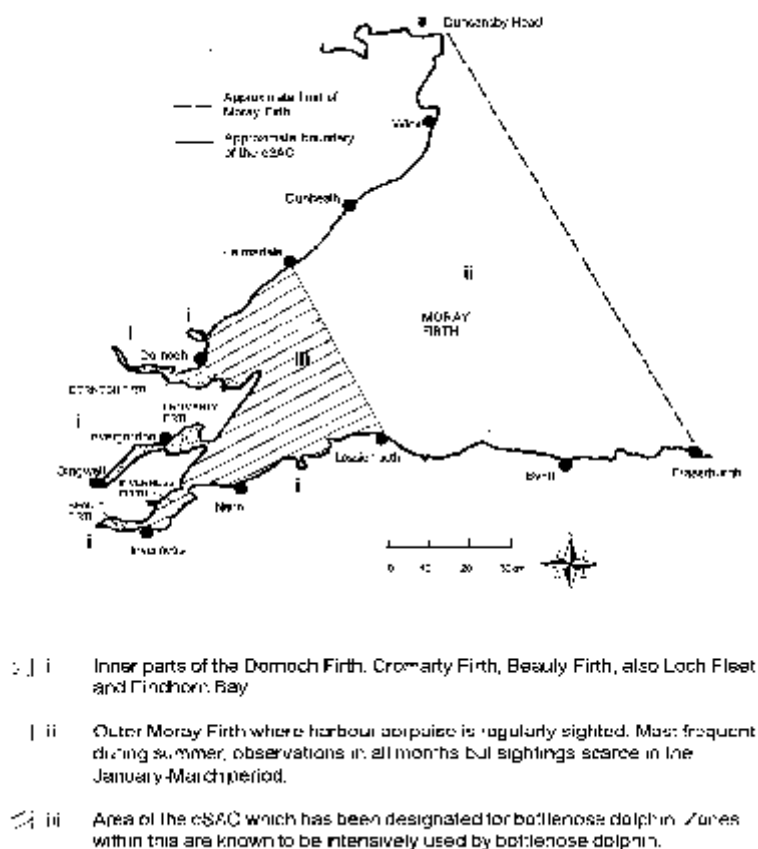
1. Small operational spills at jetties or terminals. Reported but managed and cleaned up by operator.
2. Medium sized spills, either at or in the vicinity of a facility, which cannot be handled by the facility operator alone. Personnel and equipment support will be required either from other port users or from a local or regional oil spill co-operative.
3. Large spills, either at or remote from a facility that are beyond the capability of local and regional resources. They will require the National Contingency Plan to be invoked and national resources to be mobilised.

CETACEANS

- I. Areas for which there have been occasional sightings of cetaceans (i.e. once or twice a year)
- II. Areas with regular sightings of cetaceans for the time of year (i.e. once or twice a month)
- III. Areas used intensively by cetaceans or which are designated for cetaceans.

		Cetacean presence		
		i	ii	iii
Spill Size	1	N	A	A
	2	A	C	C
	3	C	C	C

N Notify
A Seek advice
C Call out



C.4 ASSESSING PRESENCE & RISK TO CETACEANS FOLLOWING A SPILL

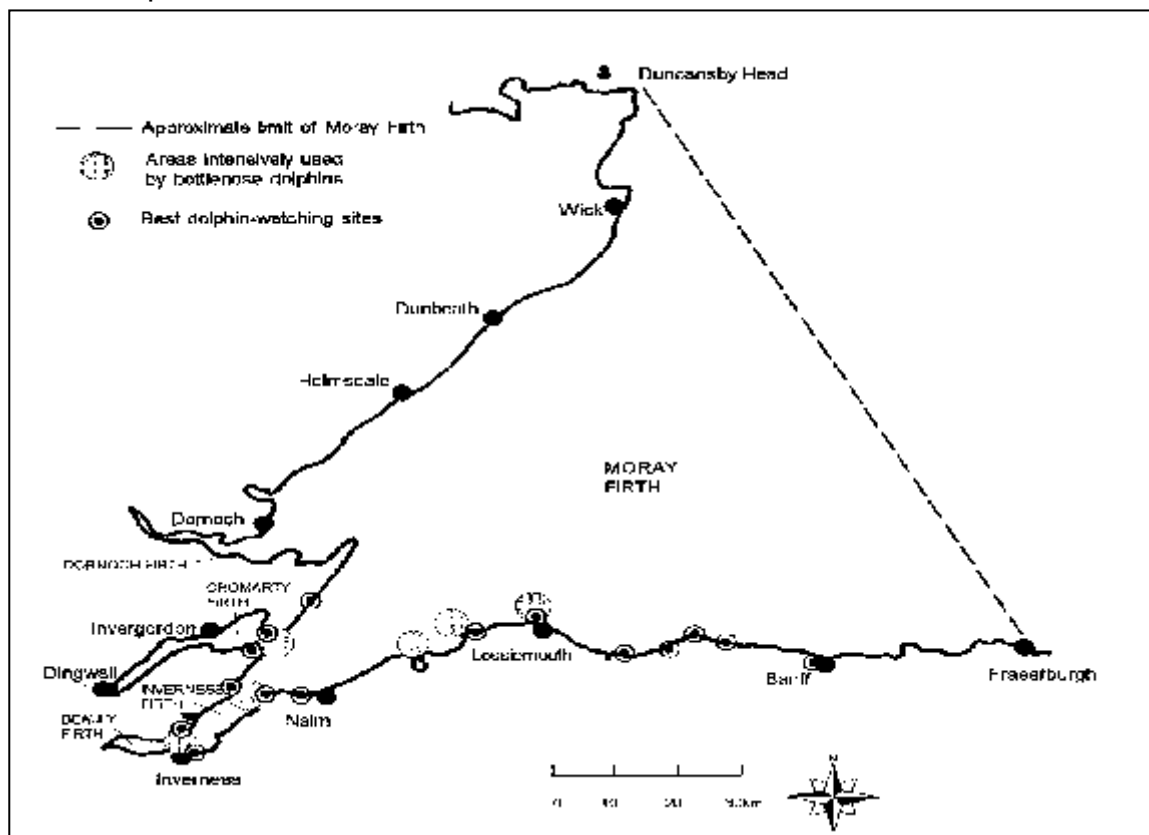
C.4.1 Reconnaissance

Areas where cetaceans are likely to be present, (e.g. because of time of year or known resident groups) and good look out points with easy access are shown in Figure C-2. A network of suitable sites for shore-based monitoring in the event of a spill needs to be identified (see Section 1). Early reconnaissance teams (land, aerial and water-based) investigating the nature of the incident should be requested to report any sightings of cetaceans. Dedicated cetacean reconnaissance teams are recommended for any spills in or likely to enter areas intensively used by cetaceans. Dedicated reconnaissance should only be carried out under the supervision and guidance of country agency staff or the marine mammal specialist(s) as poorly managed observation may miss the collection of some useful information and sea-based reconnaissance could cause unnecessary disturbance to the animals.

The contingency plan should clearly indicate how information gathered during reconnaissance will be conveyed to any clean-up teams and/or the Marine/Shoreline Response Centres. Remote methods, such as the deployment of sonar buoys or hydrophones in areas known to be well used by cetaceans should be considered. Sonar buoys are particularly useful to determine if cetaceans are present in an area when weather and sea conditions make sightings difficult. Hydrophones are already deployed in the area of the Kessock Bridge but may need to be switched on.

Information held by the clean-up teams and/or the Shoreline/Marine Response Centres on the spill (size, direction, condition etc.) should be passed to those assessing the risk to cetaceans. Good communication between cetacean reconnaissance and sightings teams and the clean-up teams and/or the Shoreline/Marine Response Centres is essential.

Figure C-2: Areas intensively used by bottlenose dolphin and recommended visitor look-out points



Cetacean sightings in the Moray Firth (F- frequent, R- regular, O-occasional, RA - Rare)

Bottlenose dolphin (F)	Killer whale (O)
Harbour porpoise (F)	Risso's dolphin (O)
White-beaked dolphin (R)	Common dolphin (O)
Minke whale (R)	Northern bottlenose whale (RA)
Atlantic white-side dolphin (O)	Humpback whale (RA)
Long-finned pilot whale (O)	

C.4.2 Sightings

Where sightings are made the species, numbers, direction of travel and any indications of condition of the animals should be recorded and information passed to marine mammal specialists to assess the risk to cetaceans. Standard recording forms used for sightings at sea may be available from the JNCC. Shore-based recording forms are available from the Sea Watch Foundation. Video footage will be useful if it can be obtained and may provide vital information for later determination of any effects of the spill on cetaceans. Rapid and intensive effort to collect data on any cetaceans in the area will be essential if such a determination is to be possible. If conditions allow, therefore, specialists survey teams should ideally be put together to go into the field to make a first-hand assessment. Dedicated aerial surveys will need to be undertaken in the case of large spills where cetaceans are likely to be present and thought to be at risk. The local land based dolphin sightings network

should be mobilised to provide sightings information. Good land-based vantage points which can be used by the sightings network are shown in Figure 2.

C.5 PUBLIC RELATIONS AND MEDIA ADVICE

C.5.1 Press Liaison

In the event of an oil spill in the Moray Firth, the media and general public will be seeking information about the presence of, and risk to cetaceans, and any actions being taken to minimise the risk or to treat affected animals. Where Marine/Shoreline Response Centres are established a primary press contact/office for the incident will be set up. It is recommended that a marine mammal specialist be appointed to liaise with the nominated press officer/press office and be available to give knowledgeable briefings on the subject. The principal message may be that no effective action can be taken and therefore knowledge of the issues will be all the more important in explaining the case in a situation where there can be considerable pressure to take action. Note that any comment needs to be fully integrated with other press briefings.

It will be helpful to have a pre-prepared press pack which could contain information on the importance of the area for cetaceans, policy and procedures for responding in the event of an oil spill, photographs of cetaceans, and vessel movement guidelines.

C.5.2 Press Briefings

For press briefings concerning cetacean issues during major incidents (Tier 3 spills), it is recommended that a panel with a range of expertise field questions rather than a single individual. Panel members could usefully comprise those with a background of the biology of the animals, animal welfare, conservation issues, the local conditions and the nature of the incident (e.g. SSPCA, BDMLR, SNH, Coastguard). Dealing with the press as a group will reduce time spent on this issue but is not always possible.

C.5.3 Public and Press on location

As far as possible the media should be directed to land based observation points as this will reduce the potential for disturbance to cetaceans and avoid the risk of conflict with clean-up operations at sea. If land-based observation is unlikely to result in satisfactory coverage for the media then a specific vessel should be designated to take press representations on location.

Control of craft, including media craft, in the air and on the water may be required as part of the health and safety aspects of dealing with an incident. This will also be necessary if actions are being taken to treat stranded cetaceans or to encourage cetaceans to move from contaminated areas (see also Sections 6.2 and 7.5).

While it is possible to establish an exclusion zone around an incident it will be difficult to do the same around cetaceans because of their mobility. It must be made clear that it is an offence to deliberately disturb cetaceans in UK waters. In order to minimise disturbance to the dolphins, the "Dolphin Space Programme" code of conduct must be adhered to by water users seeking to observe the dolphins in the area.

Where possible, press on location should be escorted by police and a press liaison officer.

C.6 DEALING WITH LIVING CETACEANS

C.6.1 Relocation of threatened cetaceans

Capture and removal of live, healthy, cetaceans away from the contaminated area is prohibited without licence under UK law. Although potentially feasible such action would be dangerous and is undesirable because of the likelihood of causing stress to healthy animals and therefore risk ill-effects on animals the action is trying to protect.

C.6.2 Keeping cetaceans away from oil spills

Vessels and booms placed around an oil slick are unlikely to deter cetaceans from entering the contaminated zone. This approach is therefore not considered to be a useful deployment of personnel and vessels dealing with cetacean concerns. Attaching marine mammal deterrents, such as “seal scarers” and other acoustic devices to booms might however be an option to consider.

The physical presence of boats and associated noise have been used to drive cetaceans into open water away from locations where they are at risk of becoming stranded. If safety considerations permit, this may be a useful option to consider in situations where spills are concentrated and under control, particularly in enclosed areas where cetaceans may be at risk of getting trapped, within or behind oil slicks (e.g. at the entrance to the Cromarty Firth and enclosed sections of the inner Moray Firth) .

It is an offence under Section 9(4) of the Wildlife & Countryside Act 1981 and Regulation 39(1) of the Habitats Regulations 1994 to “deliberately disturb” cetaceans. To do so would require a licence from Scottish Natural Heritage who are able to issue a licence for the purpose of “conservation” within only a few hours if the following information is provided:

- Name and address of proposed licence holder
- Name of agents or assistants
- Start and Finish date
- List of all the activities and methods proposed
- Areas in which the activities are to take place

Any such operation will be a major undertaking and must be tightly controlled with good communication during the operation if there is any chance of it succeeding. If used this approach will be most valuable if it can prevent cetaceans from inhaling the volatile fractions evaporating from the surface of the oil as it is these which present the most significant health risk to cetaceans following an oil spill. At the same time, for some species and in some locations, it must be weighed up against the risk of driving the cetaceans to strand themselves during such an operation.

The idea of playing cetacean or other sounds through hydrophones, as a deterrent or attractant, has been tried or considered as an option to encourage trapped or refloated animals to move out of an area. As very little is known about what is required to be successful with this technique and because background noise from vessel and aircraft traffic dealing with the spill might be considerable, the likelihood of success is difficult to gauge.

C.7 LIVE STRANDINGS

C.7.1 Treatment

Coastal watches and beach search parties should be asked to report any stranded animals. If live strandings are reported, specialist advice must be sought from Scottish Agricultural College Veterinary Services as soon as possible and the organisation/individuals leading the rescue effort should be clearly identified.

A variety of measures can be taken to treat and refloat live strandings. The likelihood of success will depend on the species, condition of the animal and speed of response. In-situ treatment is likely to be the only realistic option for large cetaceans. For small cetaceans rehabilitation may be an option. In some cases it may be necessary to hold animals in specially deployed temporary pools on site after administering first aid, until conditions are suitable for refloating. Clean release areas will need to be identified and the teams caring for the cetaceans given regular updates on the condition and location of the spill so treated animals are not released into contaminated areas. In other cases euthanasia may be the most humane action.

Decisions on the best course of action must be taken by individuals with specialist expertise on this subject and any treatment or procedures under the guidance of individuals who are trained to deal with cetaceans in these circumstances.

C.7.2 Site management

The presence of cetaceans on the shore will elicit public interest. The attendance of the police at the scene is likely to be needed to keep the public away from animals being treated and enable veterinarians to do their work. There may also be a need to call out the fire brigade to assist with treatment of stranded animals (e.g. hosing down animals to keep them cool).

It is important to avoid over flying an area with stranded cetaceans (as this is known to cause further distress to weakened and disoriented animals undergoing treatment) and to control vessel traffic (see Section 4.3).

C.8 OIL SPILL COUNTER-MEASURES

C.8.1 Chemical dispersants

The effects of the use of dispersants on cetaceans are not known therefore a precautionary approach is recommended. It may be necessary to give a risk assessment to the Scottish Executive Rural Affairs Department whose approval is required before any spraying is undertaken. Dispersants are least

likely to be a problem in open sea environments. Spraying directly on to cetaceans should not be permitted and the observer present on craft undertaking dispersion should be notified of this. If there are likely to be significant numbers of cetaceans in an area to be sprayed then no spraying should be permitted.

C.8.2 Mechanical dispersal

Propeller action from standby vessels to disperse slicks could cause physical injury to nearby cetaceans if the animals are lethargic or suffering from other effects of inhaling volatiles. Operators should be alerted to look out for any such animals and propeller action should not be used if cetaceans are in the immediate vicinity.

C.8.3 In-situ burning

No information is available on the effects on cetaceans of in-situ burning of oil. In situ burning is not recommended in the Moray Firth.

C.8.4 Physical barriers

Deployment of physical barriers to contain oil are not likely to have any effects on cetaceans in the vicinity of an oil spill and are therefore not considered to be an issue of concern.

C.8.5 Disturbance

Vessel and air traffic noise will be detected by nearby cetaceans however this type of noise is likely to have short term effects so should not be a major issue during clean-up operations. Taking no action, in order to avoid noise disturbance, is likely to be more of a problem to wildlife in the long run (but see exception above for stranded cetaceans).

C.9 REPORTING & DEALING WITH CETACEAN CARCASSES

C.9.1 Strandings information

There are legal reporting requirements for dead stranded cetaceans. In Scotland, any stranded cetacean over 7.5m in length (excluding pilot or bottlenose whales) must be reported to the Receiver of Wreck. Post-mortem and tissue sampling of cetaceans should be carried out if possible but must only be undertaken by Scottish Agricultural College Veterinary Services. Their main consideration will be to try and identify the cause of death as well as record general information about the animal. Post-mortem identification may involve taking tissue samples for toxicology, skin for DNA analysis, teeth for ageing, gonads for reproductive condition, photographs to compare with existing identifiable individuals.

The carcasses of stranded cetaceans will need to be cordoned off to minimise the public health risk. If certain drugs are to be used to humanely kill cetaceans the police should be present to ensure the public are kept well away and it is also recommended that until the carcass is disposed of it should be guarded to prevent any risk of poisoning to scavenging animals.

C.9.2 Recovery

Cetacean carcasses are most likely to sink to the seabed however if any are observed floating in the water they should be recovered so that basic information about the animal is recorded and a post-mortem can be carried out (see section 8.1).

C.9.3 Pathology

Tests are available to determine whether hydrocarbons might be a contributory factor in the cause of death. They need to be carried out on fresh carcasses (within an hour of death) making it is very important for any strandings observed in the area to be reported as soon as possible.

Because of the need for a rapid response, the relatively few incidences of strandings, and the need to maintain standby sampling equipment (e.g. cryogenics), this type of testing has not been viable up to now and it may not be possible to locate equipment in time to be able to reach recently stranded animals and carry out such tests.

C.9.4 Disposal

Options for disposal of cetacean carcasses will depend on the size of the animal. Small animals (up to around 5.5m) will be disposed of by veterinary services following post-mortem examination in their laboratory. In the case of larger animals post-mortems are most likely to take place *in-situ*. Carcasses should not be buried in the intertidal zone. The local council Environmental Health Officer will need to be contacted to arrange disposal of the carcasses of large animals.

C.10 LONGER TERM CONSIDERATIONS

C.10.1 Information needs

Information collected prior to, during, and after an oil spill will improve understanding of how cetaceans are affected by oil. Regular monitoring is essential to understand natural patterns of change and distinguish these from any changes following unusual events such as an oil spill. It would be particularly useful to look for any changes in the behaviour of animals in the vicinity of a spill as well as pathology following a spill. Continued careful and consistent documentation of marine mammal strandings will be important as well as checking whether these were animals seen in the vicinity of the spill, and data on tissue hydrocarbon levels. This should be obtained from stranded animals wherever possible as background reference points so that pathological and toxicological findings in marine mammals recovered in or near a spill can be interpreted more meaningfully.

Follow up research programmes will need to be instigated in areas known to be important for cetaceans or where animals were seen near spills during the incident. This may include follow up observations of particular animals, changes in abundance and behaviour of cetaceans in the area, and analysis of archived tissues taken from stranded animals.

C.10.2 Dissemination of information

A briefing on the information collected and methods deployed to deal with cetaceans during an oil spill incident could usefully be passed to other organisations and groups via groups such as the Moray Firth Partnership and the Marine Animal Rescue Coalition once work in the affected locality has ceased. It will also be valuable for scientists undertaking studies to publish their findings and for those involved in any oil spill response involving cetaceans to pass on any lessons learnt to organisations in other parts of the world. This will help spread and improve knowledge on how cetaceans are affected by oil spills, what can be done to minimise the risk under incident scenarios, and what treatment is likely to be most successful for animals in poor health as a consequence of an oil spill incident.

Appendix D Waste Disposal

D.1 DRAFT SEPA WASTE DISPOSAL ADVISORY NOTE

OIL SPILLAGE

WASTE REGULATION ADVISORY NOTE No. _____

SUBJECT

Temporary keeping of oil following an accident or incident which occurs on water and when the oil arrives on land.

GUIDANCE

All oil is not necessarily special waste and an assessment will be carried out considering the source of the oil and the time it has been in the environment. If it is special waste the first movement to storage on the beach does not require a Special Waste Consignment Note. Oil collected on shores and beaches can be kept at the site using Waste Management Licence Exemption 41 which allows storage at the place of production and as the oil became waste when it was beached this is appropriate. If there is no beach then the closest available area will meet the exemption. The waste must be stored in containers or a secure place. A secure place would be an area with a suitable plastic liner which is manned by people undertaking the clear up.

To comply with the capacity limits of the exemption a large spill over an area can be accommodated by dividing the beach, etc. into areas a, b, c, d, etc., and each area can store to the exemption capacity limit.

As waste oil treatment or disposal facilities have a limited weekly input some Authorities have requested SEPA look at longer term temporary storage areas which exceed the capacity permitted by the Waste Management Licence Exemption.

In this case Authorities should identify an area or areas they consider suitable for longer term temporary storage and apply for Planning Permission. If Planning Permission is successful an application for a Waste Management Licence should then be made with full details of systems and technologies to be used to protect the environment detailed in the working plan. The necessary fee for keeping waste will accompany the application. SEPA will then evaluate the proposals and issue a WML with suitable conditions. A subsistence fee will only be payable if and when work starts to build the temporary storage area when an oil spill occurs.

Arrangements will be included in the Fees and Charges Scheme to permit the area to be restored and subject to no environmental harm being done the licence will return to being available if another spill occurs. The subsistence fee will be suspended.

If analysis of the oiled beach material shows it to be non-hazardous, then the material may be taken to any landfill licensed to accept non-hazardous wastes, provided the waste is not liquid. If analysis shows the waste to be hazardous, currently the only landfill site in Scotland which is permitted to take certain hazardous wastes is Avondale, again on the proviso that the waste is not in liquid form.

D.2 LIST OF FINAL DISPOSAL SITES FOR OILED BEACH MATERIAL

SCOTTISH SITES

There are no disposal sites for hazardous waste available in Scotland.

ENGLISH SITES

In accordance with the Environment Agency's web-site the following landfill sites are available in England for the disposal of hazardous wastes:

- | | |
|--|--|
| 1) New Road,
Purton,
Winton,
Wiltshire
SN5 9HF | 5) Whitemoss Road South,
Skelmersdale,
Nr Wigan,
Lancashire |
| 2) Port Clearance Landfill
Huntsman Drive
Stockton on Tees
TS2 1NE | 6) Impetus Waste Management,
Teeside,
N. Yorks. |
| 3) Stamford Road,
King's Cliffe,
Northants,
NR9 5TD | 7) Integrated Waste Management
Ltd.,
Coleby Road,
West Halton,
Winterton,
North Lincolnshire,
DN15 9AP |
| 4) Eardswick Hall,
Eardswick Lane,
Minshull Vernon
Crewe
CW1 4RQ | 8) Grundon,
Wingmoor Farm,
Stoke Orchard Road,
Bishops Cleeve,
Cheltenham,
GL52 4DG |

Appendix E Oil Sampling

SCIENTIFIC, TECHNICAL AND OPERATIONAL ADVICE NOTE - **STOp 4/2001**

IMPORTANT

This 4/2001 STOp notice replaces STOp 2/98, please destroy your copy of STOp 2/98

ADVICE TO LOCAL AUTHORITIES ON THE COLLECTION AND HANDLING OF OIL SAMPLES

1. **Background**
2. **Sampling from the Sea and Shoreline**
3. **Size of Samples**
4. **Methods of Collecting Samples**
5. **Bottling, Sealing, Packaging and Boxing of Samples**
6. **Labelling and Addressing of Samples**
7. **Transportation of Samples**
8. **Handling of Samples for Bonn Agreement States**

Appendices

Appendix A: Oil Pollution Sample - Standard Label

Appendix B: Collection of Sample - Standard Form

Note: This document should be read in conjunction with:

- STOp 1/2001 - The Environment Group and Maritime pollution response in the UK.
- STOp 2/2001 - The Establishment, Management Structure, Roles and Responsibilities of a Shoreline Response Centre during a Maritime Pollution Incident in the United Kingdom.
- The National Contingency Plan for Marine Pollution from Shipping and Offshore Installations (NCP).

All extant MCA STOp notices may be found on the MCA web site: www.mcga.gov.uk and all enquiries regarding this and other MCA STOp notices should be directed to meor_meor@mcga.gov.uk.

E.1 BACKGROUND

Where an oil pollution incident is thought to have arisen from an illegal operational discharge an effort should be made to collect a sample of the pollutant and, if possible, matching samples from the suspect ship or other source for analysis, comparison, and possible subsequent use in legal proceedings. Samples of the pollutant may need to be taken from the sea or coastline. When beach pollution has occurred, local authorities or HM Coastguard would usually take the necessary samples. For advice on sampling at sea, contact the Counter Pollution Branch of the Maritime and Coastguard Agency (MCA) on 02380 329483. This notice sets out the procedures to be followed when collecting and handling oil samples.

The MCA's Enforcement Unit will collect evidence concerning pollution incidents from shipping at sea, upon which a decision will be made as to prosecute or not. In England, Wales and Northern Ireland the MCA will conduct prosecutions. In Scotland the case will be presented to the Procurator Fiscal for action.

If samples are likely to be used in connection with legal proceedings then the following procedures should be implemented:

In England and Wales

Although a single sealed sample of each type of pollutant is required by law, MCA would prefer three samples to be collected.

In Scotland

There is no longer a legal requirement for three sealed samples of each type of pollutant in Scotland but as in England MCA recommend three samples: one for analysis, a second to be handed to the owner or master of the suspect vessel for retention and any appropriate action, and the third for production in court, where the prosecution will be handled by the local Procurator Fiscal.

In Northern Ireland

Although the law in Northern Ireland concerning this matter is the same as that in England and Wales, the Director of Public Prosecutions, who is responsible for handling prosecutions in Northern Ireland has asked that for the sake of safety, three sealed samples of each type of pollutant should be provided on the same basis as in Scotland.

Responsibility for the collection of oil samples in Northern Ireland rests with Environment and Heritage Service, Department of the Environment (Northern Ireland).

Samples will usually be requested by a scientist/mariner in the MCA's Counter Pollution Branch or one of the Principal Counter Pollution and Salvage Officers as part of the response to a reported incident. Once a sample has been taken, agreement must be obtained from the Counter Pollution Branch before it is analysed.

Please remember that analysis of samples will only be carried out and paid for by the MCA if authorised by the Counter Pollution Branch.

Please note that organisations such as Ports and Harbours or the Environmental Regulator may be taking independent samples as part of their own individual responsibilities for oil spill response and pollution regulation. The analysis of the samples and the cost of analysis of such samples will be the responsibility of the organisation taking the sample and not the MCA.

E.2 SAMPLING FROM THE SEA & SHORELINE

When a large oil slick exists at sea or on a coastline, the number of samples that MCA may require is:

- Offshore spill – minimum of 1 sample / slick / day where possible,
- Onshore spill – representative samples from the shoreline, following discussion with Counter Pollution Branch.

Following an incident, attempts may be made to infer that not all the oil pollution came from one vessel, and that some of it may have come from other sources. Where therefore an oiled beach is being sampled, a careful and detailed examination of the beach should be made to determine the uniformity of the oil deposit and the extent to which it is polluted by more than one type of oil. In particular, if there are any tarry, semi-solid lumps or wet tarry patches, their presence should be recorded and some idea of their quantity and extent obtained. In addition, samples of such pollution should be retained and an attempt should be made to estimate costs expended on the clean-up of different oils.

In cases where samples have been taken at intervals along the beach, these should be clearly identified (see section 6 on labelling). It is desirable that samples of oil are taken in the area where the oil is first washed ashore. This is helpful since the fresher the oil the easier it is to identify by laboratory techniques.

E.3 SIZE OF SAMPLES

Modern analytical methods mean that very little original pollutant is required to carry out most analyses. However, a larger sample is likely to be more representative. Detailed analyses are often hampered by either contamination or the loss of the oil's lighter fractions. A larger undisturbed sample may consist of a weathered oil crust covering a less weathered (holding a greater percentage of lighter fractions) and therefore more valuable sample. The recommended minimum quantities required for a detailed programme of analyses are:

Unweathered oils that are liquid and substantially free of water	10ml
Oil exposed to seas surface and forming water-in-oil emulsion "chocolate mousse"	10ml

Overside water discharge where contravention of 100ppm or 15ppm is suspected	litre of discharge
Tarry lumps as found on beaches	10 grammes

A sample should not be withheld because the recommended quantity cannot be obtained, since much smaller samples can give useful results. In cases of pollution within UK territorial waters, when it is only necessary to prove that some oil has been discharged, a relatively small sample may be acceptable. Larger samples may be useful to carry out a range of tests to determine the most appropriate response/clean-up strategy. MCA can advise when and why such an approach is desirable

E.4 METHODS OF COLLECTING SAMPLES

When liquid samples are skimmed off the surface of the sea, care should be taken to ensure that the sample contains sufficient oil. Various techniques may be adopted to skim thin layers of oil from the waters' surface and consolidate using a bucket with a hole.

Care should be taken to minimise contamination of liquid samples by solid matter. Oil deposited on rocks or other impervious materials should be scraped off and placed directly into the sample container. Lumps of tarry or waxy pollutant should be placed directly into sample containers; no attempt should be made to heat or melt these samples to enable them to flow into a container. The sample container should be sealed as soon as possible to minimise evaporation of the higher fractions.

Oil adhering to seaweed, small pieces of wood, sand, plastic, material, cloth, vegetation or other debris should be dealt with by placing the complete specimen comprising oil and support material into the sample container.

E.5 BOTTLING, SEALING, PACKAGING AND BOXING OF SAMPLES

All samples should be securely packed and sealed, using screwtopped containers and UN approved fibreboard boxes to ensure safe carriage of the sample. These have been supplied to HM Coastguard Stations and MCA Marine Offices for use by MCA Staff. In consultation with CPB, MCA sampling bottles can be made available to local authorities.

As proof against unauthorised opening, the sample container should be sealed with wire and a lead or sealing wax seal. Alternatively, adhesive labels with a signature stuck on the bottle top in such a way that they have to be broken to open the bottle are acceptable.

The bottle should then be placed inside a plastic bag, which should be sealed with a further adhesive label in the same way as for the sample bottle to ensure that it is not tampered with.

If it is necessary to take an oil sample where one of the standard containers above is not available the receptacle should be of glass with a screw-cover and

a seal which would not be affected by the oil. Small (100ml) and medium (500ml) glass bottles are readily obtainable from chemists or hardware shops.

The use of closed metal receptacles or plastic jars is strongly discouraged as contact with metal or plastic can, in some cases, interfere with the analysis. Avoid the use of any metal tool made of nickel or vanadium based alloys, as these metals occur naturally in crude oils and refined products and their levels may assist in the identification of the oil source.

When boxing the sealed samples for transport, the Peters and May (Dangerous Goods) Ltd, packing instructions should be followed, to ensure the integrity of the package for transport under Dangerous Goods regulations. Vermiculite should be used to surround the sample(s) in the box for added protection and to absorb any possible seepage. Make sure that the dangerous goods documentation is completed.

Whenever possible, samples should be stored in refrigerators or cold rooms at less than 5 degrees C in the dark. These precautions are particularly important for samples containing water or sediment, but less so for bulk oil samples.

When ordering sample bottles it is important to consider the following:

- Wide necked bottles make sampling easier.
- Sample security can be achieved with locking cap seal.
- Ensure that no components of the bottle can interfere with analysis, e.g. waxed cap inserts.

E.6 LABELLING AND ADDRESSING OF SAMPLES

Care should be taken to ensure that every sample bottle is not only suitably sealed but also clearly labelled before being submitted to the MCA for analysis. It is important that a sample is positively identified, particularly where more than one is taken during an incident. It is of vital importance to maintain continuity in the chain of evidence. MCA recommend that each sample is labelled *and* is accompanied by more detailed information set out on a standard proforma. The form accompanying each container should therefore provide the following details: -

- | | | | |
|----|------------------------|-------|----------|
| a. | An identifying number: | year | 2 digits |
| | | month | 2 digits |
| | | day | 2 digits |

and the initials of the official in charge of taking the samples.

For example 02/04/17/JS = Sample taken on 17th April 2002 by John Smith

- b. Description of samples.
- c. Position from which sample was taken, grid reference if possible.
- d. Date and time of sampling.

- e. Purpose for which sample was taken.
- f. If known, suspected source, e.g. name of tanker or ship.
- g. Whether or not dispersants have been used and, if known, their type and make.
- h. Method of sampling (description of sampling device and any possible contamination).
- i. Name, address and contact details of person taking the samples and of anyone witnessing the taking of it.

If possible the following information would also be helpful:

- j. Wind direction and velocity.
- k. Air and water temperature.
- l. Sample descriptions, i.e. viscosity, colour and contaminants.
- m. Description of the oil spill, i.e. distribution and consistency.

An example of the recommended oil pollution sample standard label can be found in Appendix A. The recommended sample form is at Appendix B.

To assist with any subsequent investigations it is important that a letter is sent to MCA quite independently of the sample (but a copy should be sent with the samples), setting out details a. to m., where available.

E.7 TRANSPORTATION OF SAMPLES

If a sample needs to be analysed the Counter Pollution Branch will contact their contractor to arrange for the sample to be collected by courier and analysed.

Please ensure that samples are labelled correctly and securely packed in UN approved boxes to avoid breakage. It is important that the standard proforma described in section 6 should also be included with the sample along with all carriage documentation. To facilitate sample transportation, clear information on the number of samples to be collected, the location they need to be collected from and a contact name and phone number must be given to Counter Pollution Branch.

E.8 HANDLING OF SAMPLES FOR BONN AGREEMENT STATES

In cases where samples are taken at the request of a contracting member of the Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil, the BONN Agreement, the Counter Pollution Branch would be the focal point for processing the samples for either analysis or onward transmission to the requesting member state. The results of such tests would not be made public until the contracting party involved was informed.

Appendix A: Oil Pollution Sample - Standard Label

OIL POLLUTION SAMPLE - STANDARD LABEL

ID No. Date/Time Location) Name and
Address of
sample
(Grid Ref) person taking

.....
**For continuity of evidence: Please complete
clearly Sample passed to:**

Date Name Address
Signature

.....
.....
.....
.....
.....

ID No. Date/Time Location) Name and
Address of
sample
(Grid Ref) person taking

.....
**For continuity of evidence: Please complete
clearly Sample passed to:**

Date Name Address
Signature

.....
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.....
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OIL POLLUTION SAMPLE - STANDARD LABEL

ID No. Date/Time Location) Name and
Address of
sample
(Grid Ref) person taking

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**For continuity of evidence: Please complete
clearly Sample passed to:**

Date Name Address
Signature

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OIL POLLUTION SAMPLE - STANDARD LABEL

ID No. Date/Time Location) Name and
Address of
sample
(Grid Ref) person taking

.....
**For continuity of evidence: Please complete
clearly Sample passed to:**

Date Name Address
Signature

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OIL POLLUTION SAMPLE - STANDARD LABEL

Appendix B: Oil Pollution Sample – Standard Form

Collection of oil samples - This form to be completed by person taking sample If in doubt please refer to MCA STOp Notice on sampling. Remember to complete sample jar label and sign		
A	ID Number - YY /MM/DD - with initials of person taking sample	
B	Sample description	
C	Location of sample - OS Grid Ref or Lat/Long if possible	
D	Date and time of sample collection	
E	Purpose for which sample was taken	
F	If known, suspected source	
G	Were dispersants used?	
H	Method of sampling (device?)	
I	Name, address, e-mail address & Tel No of person taking sample and any witnesses	
If possible the following information would also be helpful		
J	Wind speed and direction	
K	Air and Sea Temperature	
L	Sample description, viscosity, colour, any contaminants?	
M	Description of the oil spill, distribution and consistency	
Original form to be kept with sample - please send copy of the form to the Counter Pollution Branch of the MCA - Bay 1/11, Spring Place, 105 Commercial Road, Southampton, SO15 1EG Tel:023 8032 9485		

Appendix F Amendment Procedure

F.1 AMENDMENT PROCEDURE

An oil spill contingency plan is valid for 5 years and has to be revised before the fifth anniversary of its approval. In order to secure approval for the revised plan before it lapses, the process of review should commence a year before the original plan is due to expire. As in the initial approval process, the plan is re-issued to statutory consultees prior to submitting to the MCA for re-approval.

However, if during this five year period changes occur within the operational area of the plan, revisions must be made to the document within three months of these changes occurring. Any change that has a significant impact upon the effectiveness of the plan, i.e. a change in Response Strategy, will require the relevant statutory bodies to review the document before its submittal to the MCA. The plan should also be reviewed following any incident and/or exercise that required its use.

The Harbourmaster is responsible for maintenance and review of the plan.

Therefore, Talisman, Nigg Energy Park or Highland Deephaven must notify PoCF of any such changes immediately that they become known in order that any relevant consultation may take place within the period allowed.

The contact list database will be maintained by PoCF, and addressees and authorities are requested to include the Harbour Master, PoCF on the distribution of any changes to their contacts. PoCF will update the contact list every three months and issue an updated version if required.

A record of changes will be maintained in Appendix 6B following, together with the current list of effective pages. This will be updated as changes are made.

F.2 LIST OF EFFECTIVE PAGES

Version	Pages	Effective Date
Original	1-189	October 1999
Revision 1	1-5; 10-13; 24-86; 91-92; 94-103; 106-119; 123-132.	August 2001
Revision 2	1-5; 9-11; 13-14; 25; 28-31; 34-42; 44-46; 48-50; 52; 56; 59-60; 64; 71; 92; 94-119; 123-132; 180-196.	October 2003
Revision 3	2-5; 10-27; 31; 36-42; 48-50; 53-55; 59-61; 96-97; 116-124; 126; 129-133; 178-179; 190-191; 198-205	April 2006
Revision 4	92-95, 101, 109,110, 116-124, 190-191, 192-194.	November 2007
Revision 5	2, 99-108, 120-123, 126, 191.	December 2009
Revision 6	All pages review and Nov 2011 resubmission	December 2012

Appendix G MCA: Forms and Reports

G.1 PORTS & HARBOURS ANNUAL RETURN FORM



OPRC Annual Return

Name of Port, Harbour or Oil Handling Facility:	Cromarty Firth Port Authority.		
Annual Return Period:		to	
Plan Approval date:			(5 year life span of plans)
Summary of Incidents: (include date, source, type and quantity of pollution)			
Summary of Exercises: (include date and type of exercise conducted)			
Pollution Training Undertaken (include date, MCA Level, Name & certificate No.)			
Summary of Amendments: (include date, amendment No., & item(s) changed)			
Signed:		Print:	
Position:		Date:	

G.2 POST EXERCISE/INCIDENT REPORT

Post Exercise/Incident Report

Name of Port / Harbour / Oil Handling Facility: CROMARTY FIRTH PORT AUTHORITY

Level of exercise (Tier 1, 2 or 3) and details of any other participating ports / harbours / oil handling facilities if joint equipment deployment exercise:

Level:

Date of exercise/Incident:

Time of exercise/Incident:

Location of exercise/Incident:

Name of exercise co-ordinator:

Name of personnel participating in exercise/Incident and role played:

List of equipment deployed:

Name of any other organisations / authorities participating in exercise/Incident:

Details of amendments to be made to the Contingency Plan resulting from this exercise/Incident:
(in addition to this form the revision list should be updated and the appropriate pages within the plan amended and issued to all plan holders)

I can confirm that the details on this form provide a realistic summary of the exercise/Incident carried out. Any action points resulting from this exercise have been dealt with accordingly, the relevant documents updated and copies provided to the appropriate bodies for their attention.

Authorised by (name in block capitals):

Position / Job Title:

Signature:

Date:

Appendix H Memorandum of Understanding between the Marine and Coastguard Agency and the Scottish Environment Protection Agency on Counter Pollution Response

H.1.1 Introduction

- 1) The Department of the Environment, Transport and the Region's executive agency the Maritime and Coastguard Agency (MCA), exercises the Government's statutory responsibilities for responding to major oil and chemical pollution incidents from shipping at sea that threaten UK interests. The MCA maintains the National Contingency Plan for Marine Pollution from Shipping and Offshore Installations (NCP) and the resources to support it.
- 2) The Scottish Environment Protection Agency (SEPA) is a non-departmental public body responsible for the protection of the environment in Scotland and is accountable to the Secretary of State for Scotland. SEPA is responsible for licensing discharges to inland waters and coastal waters, most emissions to air and the carriage and disposal of waste, and has a duty of care to conserve the environment. SEPA also takes enforcement action against persons breaching licence conditions or illegally polluting the environment and can refer cases to the Procurator Fiscal for prosecution. In the case of marine pollution, SEPA is concerned with discharges to coastal waters arising from land-based sources and with the storage, transfer and disposal of waste arising from marine pollution.

H.1.2 Major Spills from Ships: Role of MCA

- 3) The MCA has lead responsibility for dealing with oil and chemical spills from ships where these threaten to cause pollution in UK waters or on the UK shoreline. In the event of a major pollution incident from a shipping casualty at sea, the MCA will activate the National Contingency Plan (NCP) and deal with the spillage. The response will normally be through a combination of aerial dispersant spraying and mechanical recovery operations at sea. The MCA will deploy appropriate staff and equipment to the scene of the incident.
- 4) In the event that coastal local authorities in Scotland are unable to cope with a major incident causing exceptional pollution, MCA would, if requested and agreed, set up a Shoreline Response Centre to co-ordinate joint local authority and MCA resources and provide beach clean-up equipment and other resources free of charge. Further information is contained in the NCP.
- 5) The MCA will control counter pollution operations at sea from a Marine Response Centre (MRC). The harbour master will lead on oil spill response within his harbour limit and has statutory responsibilities to do so in accordance with the Merchant Shipping (Oil Pollution Preparedness, Response and Cooperation Convention) Regulations 1998. Advice on environmental matters, as they relate to the proposed operational response will be sought from SEPA, Scottish Natural Heritage (SNH) and the Scottish Executive Rural Affairs Department (SEERAD).

H.1.3 Major Spills from Ships: Role of SEPA

- 6) SEPA is concerned with the impact of spills in the marine environment and the shore, investigation of the incident and taking enforcement action and with the actions to store, transport and dispose of waste and contaminated

materials. SEPA will advise on the storage of oily waste close to the shore, will issue waste consignment notes for movement of special waste to treatment and disposal sites, and will advise on suitable disposal routes. SEPA will also be able to advise on the impacts of spills and at-sea operations as far as these affect licensed sites such as marine fish farms.

- 7) In a Shoreline Response Centre, SEPA will be represented on the technical and environment teams as described in the relevant STOp Note.

H.1.4 Discharges Entering Tidal Waters from Riverine or Land Based Source

- 8) SEPA is responsible for the monitoring of and remedial action resulting from all discharges from land based sources in Scotland. Such discharges can only be made with the consent of SEPA. SEPA will consider enforcement action against those who discharge without consent, including accidental releases. SEPA may take samples and other evidence to support such enforcement action and can reclaim the costs of undertaking remedial action from those responsible.

H.1.5 Offshore Installations: Operator Role

- 9) In accordance with the Merchant Shipping (Oil Pollution Preparedness Response and Co-operation Convention) Regulations 1998, operators of offshore installations are responsible for preparing and submitting oil spill response contingency plans via the Department of Trade and Industry's (DTi's) Oil and Gas Office to MCA's counter pollution officers who will recommend acceptance or otherwise to DTi. In a spill which calls for a response beyond that available from the industry, the MCA's resources will be mobilised.
- 10) For the purposes of this MOU a spill from an offshore installation will be treated as a spill from a ship.

H.1.6 Reporting Procedures

- 11) Reports of spillages of oil and chemicals into the sea must be reported to HM Coastguard who maintain a 24 hour radio watch and can also be contacted by dialling 999. HM Coastguard will alert the MCA counter pollution officers, who are on call 24 hours a day. MCA will pass confirmed pollution reports (POLREPS) to SEPA using the contact arrangements shown in Annex A. MCA reporting arrangements are at Annex B.
- 12) All reports of spillages of oil or chemicals on land or into rivers, estuaries and the sea should be reported to SEPA using the contact arrangements shown at Annex A.

H.1.7 Contingency Planning

- 13) SEPA and MCA will make equipment and resources available subject to operational requirements. MCA holds stockpiles of beach cleaning equipment at Southampton and Inverness, At-Sea oil recovery equipment at Milford Haven and Dundee, aerial surveillance and dispersant spraying aircraft at Inverness and Coventry and stockpiles of oil dispersant at

strategic locations throughout the UK. An indication of MCA equipment is at Annex C. details of hire charges for equipment are obtainable from MCA.

- 14) SEPA will contribute to local plans by advising on protecting vulnerable estuaries, identifying priority sites, sensitivity analyses and booming plans.
- 15) Joint exercises will be held periodically to exercise the contingency planning arrangements. Both Agencies will share expertise and exchange information on Research and Development projects.

H.1.8 Prosecution of Offenders

- 16) The relevant legislation is the Merchant Shipping Act 1995 and secondary legislation made under that Act and the Control of Pollution Act (1974) as amended. Action generally under both Acts can only be brought by the Procurator Fiscal, although in the case of the Merchant Shipping Act 1995 use can be made of provisions giving jurisdiction to any court where the defendant is for the time being.
- 17) The organisation responsible for taking the lead role in a pollution incident will normally be the one responsible for passing the papers through to the Procurator Fiscal for consideration of prosecution. For offences from offshore installations DTi will take the lead, for ships in harbours it will be the harbour authority or MCA if the harbour authority declines to act. For discharges from land based operations or from a riverine source, the lead will be taken by SEPA under the Control of Pollution Act 1974 (as amended).

H.1.9 Review Arrangements

- 18) Changes to this Memorandum may be initiated by either party at any time and will be agreed in writing.

Signed for the Maritime and Coastguard
Protection Agency

Signed for Scottish Environment
Agency

Position:
Director of Maritime Operations
Date

Position:
Chief Executive Officer
Date

H.2 ANNEX A - CONTACTING SEPA STAFF

- 1) Routine contact during office hours should use the contact details shown on the following page.
- 2) Emergency contact out of office hours should use the numbers provided.

SCOTTISH ENVIRONMENT PROTECTION AGENCY
Out of Hours Telephone Numbers

0800 807060

H.3 ANNEX B - CONTACTING MCA COUNTER POLLUTION STAFF

- 1) Reports of pollution should be directed to the MCA via the nearest Coastguard station. HM Coastguard have their own contact routes and have all the on-call details for counter pollution staff.
- 2) Routine calls for advice during office hours should be made to the following:-

Operational staff: for at-sea contingency planning, advice on operational matters and methods of at-sea response.

Tel: 02380 329407

Tel: 02380 329448

Scientific staff: for Local Authority contingency planning and scientific and technical advice on clean-up techniques on the shoreline and in-shore waters.

Tel: 02380 329411

Administrative staff: for residential courses, finance and invoicing, hire of counter pollution equipment, legislative queries and investigation and prosecution of polluters.

Tel: 02380 329484 (use of stockpile equipment, compensation claims)

Tel: 02380 329483 (residential course bookings, invoices)

Tel: 02380 329481 (counter pollution related contracts, international agreements, NCP, MCA counter pollution policy)

- 3) The Marine Emergency Information Room can be contacted by telephone on 02380 329445 and by facsimile on 02380 329446. The telex number is 47655 MEORG.

H.4 ANNEX C

MCA Counter Pollution at Sea equipment, including salvage and chemical response equipment and shoreline clean up equipment, is stored at three locations: Barnsley, Bristol and Dundee.

Aircraft resources based at Coventry, 2 x Lockheed Electra (dispersant spraying) and 2 x Cessna 406 (surveillance). Inverness can be utilised as a forward base but no dedicated MCA aircraft is based there.