Marine Operations

Project QHSE Plan

For

Santos Limited

to be conducted over

VIC/P44 prospect
Otway Basin, Australia

acquired by

M/V Western Trident

Job Number 9614

Revision History of the template

Rev No	Effective Date	Description	Prepared by (name)	Reviewed by (name)
03	Mar 30, 2006	Inserted section for pandemic flu ERP	M.Denkl B.Marley M.Gill	Martin Anderson
02	Sept 27, 2005	Updated for revised MS elements, added SQ items, renamed to Project Plan	A.Waller B.Marley	Martin Anderson
01	Dec 01 2004	First template prepared in Gatwick Marine 2004	Martin Kenny, Bernard Marley	Martin Anderson
Latest revision approved by (name): Martin Anderson				

Revision History of this Project QHSE Plan

Rev No	Effective Date	Description	Prepared by (name)	Reviewed by (name)
0.1	**Mar 22, 2007**	First Version	Vinh Ly	Vinh Ly
0.2				
1.0				
2.0				
Latest revision approved by Vessel Manager:			**Signed: Vinh Ly**	

Distribution List

Copy Number	Issued to Position
Master Copy	Supervision
Copy No. 1	WesternGeco Vessel Manager
Copy No. 2	Vessel Bridge
Copy No. 3	WesternGeco Regional/OFS Geomarket ERT Room in Kuala Lumpur, Malaysia
Copy No. 4	Guard Boats' Captains
Copy No. 5	Client Vessel Representative
Copy No. 6	Client Shore Representative
Copy No. 7	Marine Administrator

Table of Contents

1. Introduction

This Project QHSE Plan is designed to provide assurance in the implementation of the Schlumberger QHSE Management System on board the MV Western Trident. Along with the Crew QHSE Plan it forms the Site Specific Management Plan (SSMP).

- The structure of the generic SSMP is described in WesternGeco procedure: W2HSQ/P004: http://intouchsupport.com/intouch/methodinvokerpage.cfm?caseid=3800334

- This conforms to the OGP document 6.92/317 – May 2001, "HSE Aspects in a Contracting Environment for Geophysical Operations". http://www.ogp.org.uk/pubs/317.pdf

This **Project QHSE Plan** is prepared specifically for **Santos Ltd.** to acquire 3D data in block VIC/P44, Otway Basin, Australia by the **M/V Western Trident**, and contains the following detail:

1. Introduction
2. A brief Project Description
3. The MS Interfaces with Client and short term Contractors
4. Emergency Response Plan (ERP)
5. Hazard Analysis & Risk Control (for Job Specific risks)

The **Crew QHSE Plan** which was most recently reviewed is also available to the client and contains the following detail:

1. Statement of Fitness & Revision History
2. Introduction
3. Site (Vessel) Description
4. Description of the Schlumberger / WesternGeco Management System as implemented onboard the M/V Western Trident
5. Hazard Analysis & Risk Control (HARC) – Register & Major Risks
6. Remedial Work Plan (RWP)

1.1 Other key Reference materials

a) OFS QHSE Management System description: SMP-5685
http://www.hub.slb.com/index.cfm?id=id21268

b) QHSE Management Guide: Assessing the QHSE Management System and Developing a QHSE Improvement Plan: SMP-5684
http://www.hub.slb.com/Docs/qhse/CL/OFSqhseMSassessGuide.pdf

c) OFS QHSE Standard S007, Management System Audit
http://www.hub.slb.com/Docs/qhse/OR/OFSqhseStandards/ofsSTD007AUDIT.pdf

d) OFS QHSE Standard S020, Hazard Analysis and Risk Control
http://www.hub.slb.com/Docs/qhse/OR/OFSqhseStandards/ofsSTD020HARC.pdf

1.2 Responsibilities

Field Managers (Master & Party Manager) are responsible for the content of the Crew QHSE Plan, with the involvement of their crew, and have the responsibility for ongoing review.

The Vessel Manager is responsible for approving the Crew QHSE Plan and also preparing the Project QHSE Plan.

2. Project Description

2.1 General

WesternGeco has been contracted by Santos Ltd. to conduct a 3D seismic survey using the research vessel M/V Western Trident over Petroleum Title VIC/P44, Otway Basin, Australia. The programme will aim to acquire about 660 square kilometres of conventional 3D seismic data. The required field configuration is 8 x 5000m streamers with 100m separation at 8m depth, together with dual sources with volume of 3147 cu.in. at 7m depth.

The total program is divided into three racetracks. Mobilisation for the project is expected to begin on the 10th May '07. After mobilisation, the Trident will begin production in the racetrack closest to shore. The duration to acquire this first racetrack will be expected to be 2 weeks. The first racetrack should be finished before the whale migration season. After finishing the first racetrack, the Trident will move to acquire a nearby survey for Beach Petroleum. The rest of the Santos's program will be completed after Beach's survey.

2.2 Vessels

Seismic survey vessel

- **MV Western Trident – Call Sign 3FE09**

  The MV Western Trident is a purpose built seismic vessel and was delivered in 1999. She has successfully completed various seismic survey programs around the world and she has been working in the Asia Pacific region since 2002. A WesternGeco QHSE MS audit was done on 28th July 2006. An ISM audit was done on the 31st Aug 2006.

  Please refer to Crew QHSE Plan for vessel specifications.

Support vessel

- **MV OMS Pioneer – Call Sign VNW 5735**

  The OMS Pioneer has been chartered by WesternGeco to perform support vessel duties to MV Western Trident during the survey. This vessel was built in 1968 and registered in Australia and is operated by Offshore Marine Services (OMS).

The Subcontractors for this project are noted along with the MS Interfaces in Section 3.1 Subcontractors.

2.3 Area

The MV Western Trident will be acquiring the block VIC/P44 survey, a 3D marine seismic survey in Otway Basin, Australia for Santos Ltd. The survey is located approximately 20nm from shore, 40nm from Portland, Victoria and just over 130nm from Melbourne.

The centre coordinates of the prospect are approximate Lat 38° 40' S, Lon 142° 30' E.

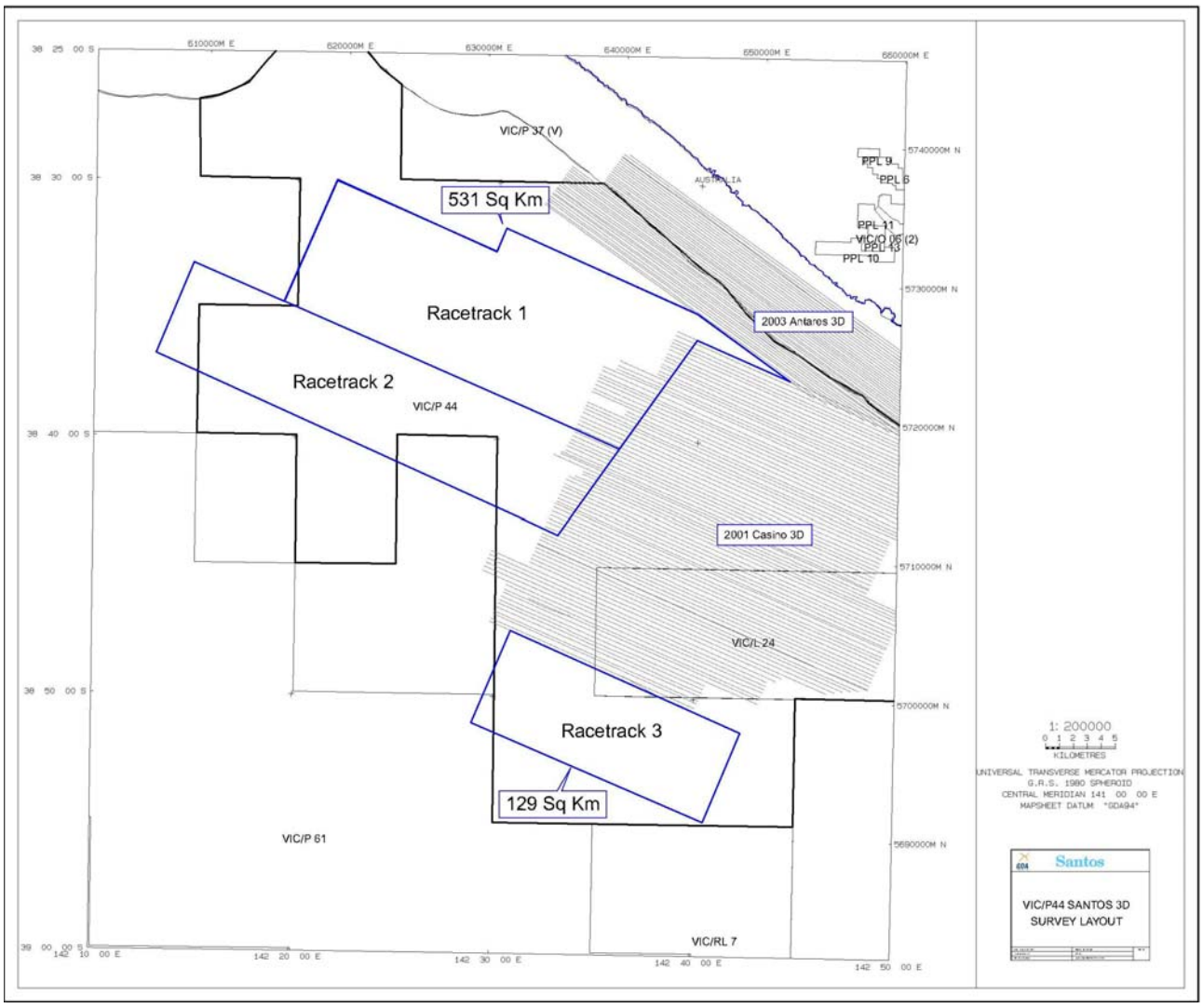


Figure 2.3.1 Map above shows the location of the Otway Basin 2007 3D survey..

2.4 Navigational Hazards

2.4.1 Obstructions

The Otway Basin 2007 survey is located fairly close to the coast of Victoria and is situated in depths between 20 to 90m. No obstruction is identified in the survey area.

2.4.2 Shipping and Fishing Activity

The main shipping lane between ports in Western and Eastern Australia passed through the southern end of the prospect area. Some traffic is expected around the survey area. However, the interference caused by shipping activities is expected to be low based on experience in the area.

Some fishing activities are expected in the survey area. A fishing representative will liaise with fishing community to inform about the presence of the Western Trident and ensure the cooperation of fishing vessels.

The support vessels will be used to divert vessels away from the towed equipment and clear the area of any fishing gear and floating debris that may pose a hazard to towed equipment during the survey period.

2.5 Environmental Issues

2.5.1 Weather

Otway Basin is located on the northern edge of the westerly wind belt known as the Roaring Forties. Wind direction and speed depend on the position and movement of synoptic systems. In all seasons, winds often freshen to gale force from the north and northwest, ahead of approaching fronts. They then swing abruptly southwest behind the front at similar speeds and abate until they again freshen ahead of the next front. Wind speeds are typically in the range of 10-30 km/h, with maximum gusts reaching 100 km/h. Over the winter, their direction is predominantly from the west, especially when stronger winds occur.

Average annual rainfall along the coast ranges from approximately 500 to > 1,000 mm, being dependent mostly on proximity to major rainfall affecting features such as the Strzelecki Ranges and the Great Dividing Range.

Temperatures in the sub-surface waters of central Otway Basin range from about 13°C in August/September to 19ºC in summer, decreasing to 11-12ºC under the influence of the localized, nutrient rich, coastal upwelling that are known to occur in mid to late summer.

Several sources of weather information are available which include weather fax data and Coastal Radio Station broadcasts for weather prognosis/warnings. In addition to this the vessel is subscribed to the BUREAU OF METEOROLOGY SPECIAL SERVICES UNIT weather forecasting service, receiving regular, site-specific forecasts by email as part of this service.

More information on prevailing weather patterns is obtainable in the Australia Pilot Vol II, a copy of which is available onboard. The decision to recover equipment and proceed to shelter in the event of adverse weather ultimately lies with the Master of the Western Trident, in consultation with the Party Chief and client representative.

Another source of weather information, reported to be very accurate in it's forecasting by other seismic vessels in the WesternGeco fleet, can be found at the following website:
http://www.buoyweather.com/

InTouch has best practices and other resources that can help the preparation process. Some of them are listed here for reference.

Bad Weather Risk Mitigation For Marine Seismic Operations (#4118403)
Hurricane and Tropical Cyclone Preparedness (#3921792)

In all situations, the Master of MV Western Trident will ensure the endurance of that vessel in regards to adequate fuel supply and stability in assessing avoidance of a severe storm. Similarly, the planning must respect the right of each support vessel's master to make autonomous decisions regarding the safety of their ship and crew.

The cyclone alert procedures are on the next page.

WESTERN TRIDENT *VSWI:- M6TDT/W035* *DATE:- 08 October 2006*

CYCLONE ALERT PROCEDURES (Australia)

Distances in Nautical Miles

Wx Condition / Distance from Vessel Operations	> 1000	> 800&<1000	< 800&>500	< 500
Tropical Cyclone/Tropical Storm:- *Once a tropical low has intensified to the point where its max sustained wind's are above 35 knots it is classified as a Tropical Cyclone or Tropical Storm*	No Immediate action is required at this stage other than monotoring weather reports and plotting cyclone path	Monitor Cyclone Movement	1) Secure All Loose Items, 2) Monitor Cyclone Movement	1) Take Evasive Action 2) Take Decision to Recover Equipment 3)Move to Shelter
Tropical Low/Tropical Depression:- *Disturbances ranging from Diffuse, ill-defined low pressure areas all the way to well organized tropical depressions with wind speeds up to 35 knots having the potential to develop into Tropical Cyclones*	No Immediate action is required at this stage other than monotoring weather reports and plotting cyclone path and/or development of the Tropical Low	Monitor Development and movement of the Tropical Low	1) Behave as if this were already a Tropical Cyclone 2) Secure All Loose Items, 3) Monitor Tropical Low Movement	1) Take Evasive Action 2) Take Decision to Recover Equipment 3) Move to Shelter

The decision to recover equipment and to procede to shelter or take evasive action ultimately lies with the Master of Western Trident. However both Seismic & Maritime management teams on board should be involved in consultations prior to the decision being taken. The Client Rep on board and WG management ashore at the time should be kept fully informed of the developments of these discussions.

Guidance table only below for information.

Australian Cyclone Category	*Peak Gusts (Knots)*	*Central Pressure (hPa)*
1	*49 to 67*	*986 to 995*
2	*68 to 91*	*971 to 985*
3	*92 to 121*	*956 to 970*
4	*122 to 150*	*930 to 955*
5	*>= 151*	*<=929*

For the development of a Tropical Low into a Tropical Cyclone the key words are " Likely " = >50% chance of development or " Unlikely " = <50% chance of development. (80% of developing lows become cyclones) Likleyhood is determined from Wx Forecasts.

Master Shift 1 *Master Shift 2*

2.5.2 Tides and Currents

The tidal characteristics for Apollo Bay, Port Campbell and Warrnambool are summarised in the table below. The tide arrives at Apollo Bay one hour before it arrives at Port Campbell and Warrnambool.

The variation in the height of the tide and its time of arrival is due to a number of factors:

- the tidal wave approaches from the east reaching eastern Victoria first and Portland last;
- it is further slowed and refracted by Tasmania and enters Otway Basin from both sides;
- it is amplified by the shallow waters of the Otway Basin; and
- it decreases in height west of Cape Otway. (Short, 1996).

Location	Spring Tide Range (m)
Apollo Bay	1.3
Port Campbell	0.6
Warrnambool	0.5

The sea surface temperature ranges from approximately 12°C to 18°C. Concentrations of inorganic nitrogen in the surface waters are typically >0.1µg at/l and <1.0 µg at/l. Salinity ranges from 35.1 to 35.6 parts per thousand (Short, 1996; Kailola et al, 1993).

The currents are expected to be weak which resulted in low feather angles. The West Wind Drift that moves clockwise around the entire Southern Ocean is generally located too far south to impact the Victorian coastal waters. However, some of the cold water does reach the east and west areas of Otway Basin as sub-surface water. At the surface, Otway Basin receives water flowing east from South Australia; this is called Otway Basin Water. It is most dominant along the Victorian coast in winter and is characterized by low temperature (13°C) and higher salinity (Short, 1996). In addition to the Otway Basin currents, local winds exerted a force on the sea surface and produce local currents, particularly in times of strong winds. Along the Victorian coast, strong westerly winds are prominent. They reinforce the Otway Basin current and generate west to east coastal currents. (Short, 1996). Annual wind rose data for Cape Otway show the wind direction to be predominantly from the southwest to the northwest.

2.5.3 Barnacle Growth

Referring to the previous experience in the region, barnacle growth is not as a big concern in this area compared to the northwest shelf area. The experiences from the recent surveys in the northwest shelf area shows that barnacle growth can affect the operations significantly due to induced tension. The increase in tension affects the vessel speed and also puts more stress on equipment in the water, especially the bird communication line. The increase in tension can be very dangerous especially during bad weather periods.

The crew should take all the opportunities to clean barnacles when the weather permits. The client representatives onboard should also be informed regularly about the barnacle growth status. If the growth exceeds the cleaning efforts of the crew, a plan should be made to clean the streamers well before the barnacle induced tension can potentially break the streamers. The plan may include picking up the streamers for cleaning. However, picking up the spread should be only the last resort.

2.5.4 Spread of Marine Pest

The vessel mobilized to its present location in the Gippsland following a period of 12 days in dry dock in Singapore. Prior to that, the vessel was operating on the NW Shelf for ten months. As a result of this dry dock period, the trailing equipment was out of the water for 35 days and therefore there is no risk of the spread of marine organisms to southern waters.

2.5.5 Marine Animals

The Humpback whales and Southern Right whales migration season begins in May each year. It is unlikely that Humpback whales will be encountered in the area but the Southern Right whales will migrate to Logan Beach near Warrnambool from late May onwards. For this reason, the near shore portion of the survey will be acquired in early May and precautions will be in place for early arrivals. The Environmental Plan provided by Santos has comprehensive guidelines regarding the environmental issues including marine animals. These guidelines should be followed for the entire duration of the survey. The plan was submitted to the government and it is a legal requirement for all the vessels employed in the project to adhere to the plan.

The risk of injury to marine mammas as a result of sound emitted during seismic surveys is expected to be very low. Nevertheless, mitigation measures are commonly implemented, where feasible; to further reduce the level of risk.

Interference is usually expected from cetaceans, sharks and to a limited extent from sea snakes during small boat operations. Sharks are present in the survey location and may attack towed in-sea equipment. The FRB boat will not be launched (other than in an emergency) when sharks have been sighted. Procedures written to reduce the possibilities of shark attacks on equipment can be found on InTouch:
Best Practices – Shark attacks (#2043007)

2.5.6 Waste Management

The Western Trident has an onboard waste management plan that complies with MARPOL requirements. Burnable wastes and food scraps are burnt by onboard incinerator. Metal and other un-burnable wastes are stored and disposed ashore by registered companies. The Western Trident has a water treatment plant for to treat black water before discharging to the sea.

2.6 Timeshare

There is no time-sharing identified so far.

2.7 Interruption to Operations by Environmental Activists

WesternGeco considers the possibility of protests by environmental activists during Hazard and Risk assessment Workshops. Western Trident has in place a contingency plan for dealing with interruption to operations by third party pressure or direct action groups; Reference: "Guidelines and Procedures, Disruptive Action to Geophysical Survey Operations".

The Operations Manager is responsible for co-ordination with the Santos Survey Project Manager to establish and agree on response procedures in such situations.

The Master will ensure that all situations are controlled in accordance with Maritime Law, rules, and regulations, both national and international.

The Party Chief is responsible for the co-ordination of onboard seismic personnel and for direct liaison with onboard client representatives.

2.8 Job Book

The Job Book for this project is located in SuperVision under WesternGeco Job Number 9614 for Otway Basin 2007 3D. The technical set up parameters necessary for acquisition are contained in the Job Book: these will be reviewed at the onboard Mobilization Meeting between chiefs and client reps during the reconfiguration/transit phase.

The job book can be accessed at https://www.vessel.int.slb.com:181/active/vessels

3. Management System Interfaces

This section describes the QHSE Management System Interfaces to be implemented throughout the duration of the Contract. It addresses only the project specific interfaces and is complemented by the Crew QHSE Plan where the WesternGeco OFS QHSE-MS is described along with the long term MS Interfaces in use for the site/vessel.

The Crew QHSE Plan describes the complete OFS QHSE Management System including the OFS QHSE Standards.

3.1 Subcontractors

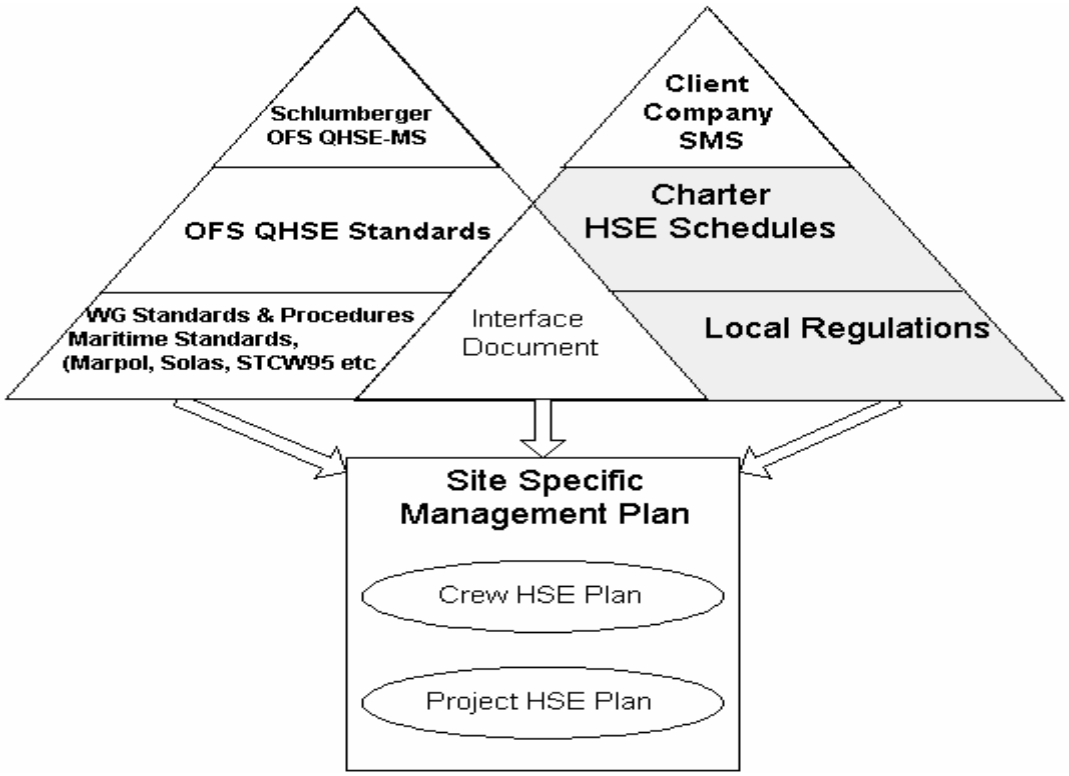
- **Offshore Marine Services** will provide the chase vessel OMS Pioneer and part of the maritime crew for the Western Trident.
- **Monson Agency Services** is the shore shipping and logistics company based in Perth and Melbourne, Australia
- **Frontier** will provide a paramedic sailing onboard the vessel for 24 hours medical support. The paramedic has been inducted and instructed on WesternGeco QHSE policies and safe working procedures.
- **International SOS** will provide the Medivac response organisation onshore in accordance with Schlumberger worldwide agreements.
- **Monsoon Manning Agency** will provide some technical repair technicians for the MV Western Trident. The Monsoon staffs have attended an induction seminar where they received instruction on Schlumberger OFS QHSE policies and safe working procedures. The Monsoon staff have the same BOSS/HUET training and certification as the WesternGeco personnel.

  Note: Bridging documents to connect the WesternGeco QHSE Management System to our regular subcontractors are contained in the Crew QHSE Plan.

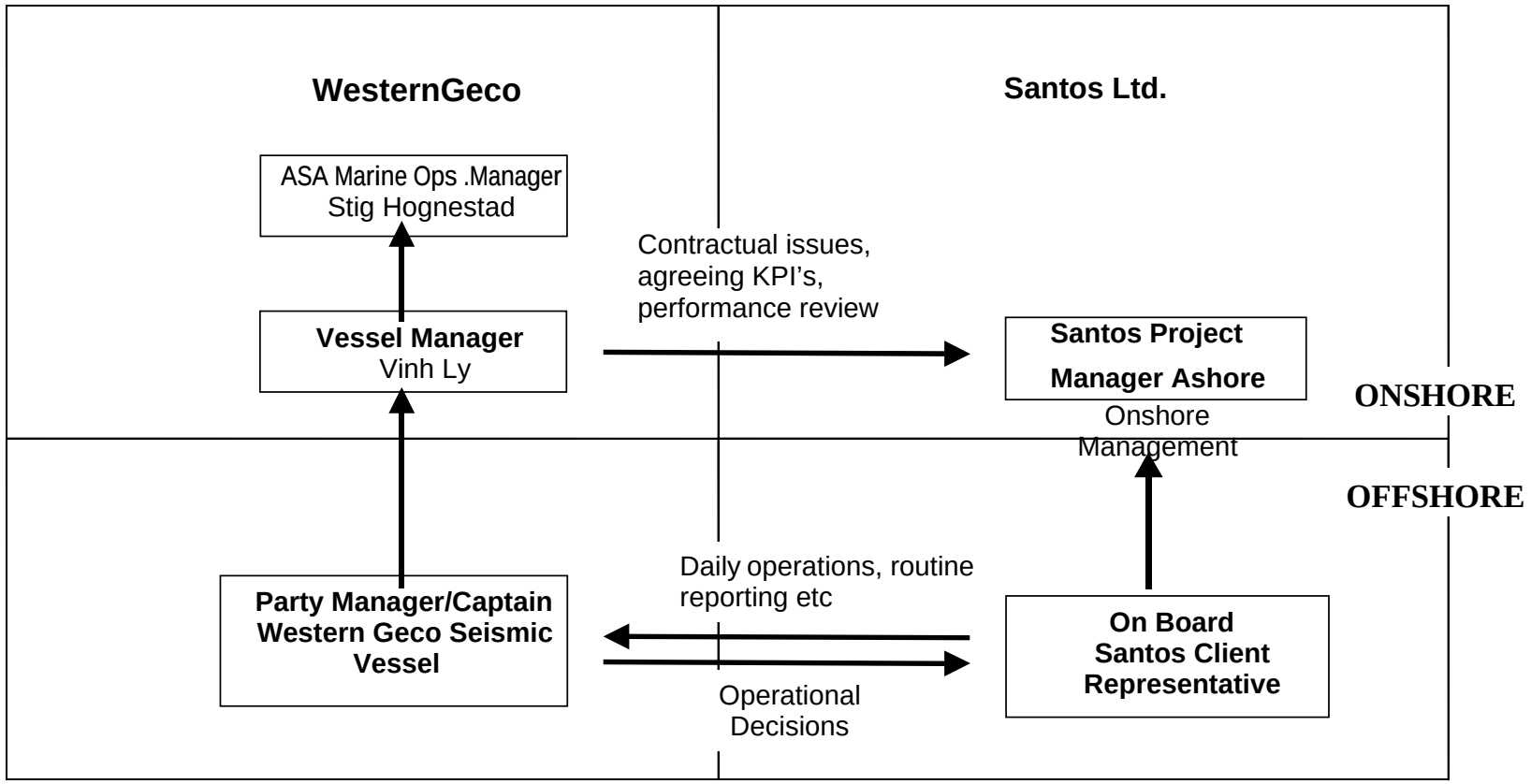
3.2 Interfaces and Contact Numbers

The complete list of contact numbers are in Section 4.6 Contact Numbers

3.2.1 Interface between WesternGeco and Client HSE-MS systems



3.2.2 Day to day Interfaces



3.3 Emergency Response Bridging Documents

Please refer to Appendix A: Santos Bridging Document.

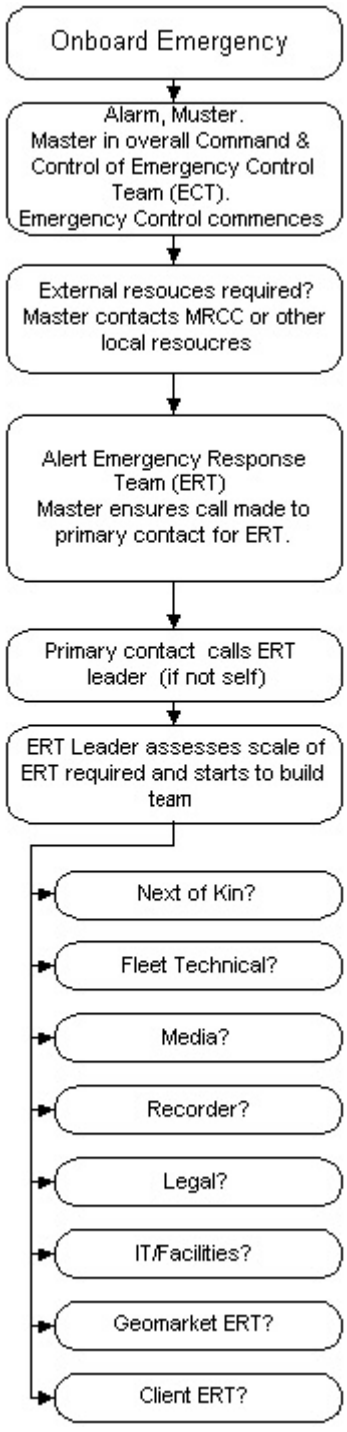
This document describes the interface for emergency response between WesternGeco and Santos involved in the seismic survey of the VIC/P44 prospect, Otway Basin, Australia.

The use of this document will ensure the following:

- That a clear and direct line of communication is set-up between the scene of the incident and the onshore emergency response teams.
- That there is a clear definition of the responsibility of each party to ensure that the responsible personnel have no confusion over their roles.
- To ensure that all parties agree and communicate in the event of an emergency as though they are all part of the same organization;
- That there is only one authorities source of information to the Authorities, media and relatives
- To ensure that the survey vessel's operating procedures and any Santos operating procedures are properly integrated for the duration of the project.

4. Emergency Response Procedure and Contact Numbers

4.1 Vessel Emergency – ERT call-out



Marine Rescue Coordination Centres/Local resources		
MRCC	**Contact Numbers**	
AusSAR Canberra	Telephone: +61 800 641 792	Radio Call sign

Primary Contact / ERT Leader		
Contact Name	**Tel Office**	**Tel Mobile**
Stig Hognestad	+60 3 2730 8822	+60 12 3871965
Vinh Ly	+61 8 9420 4668	+61 434 601159
Kiran Tuite	+60 3 2730 8861	+60 12 3065210
Robert Cummings	+60 3 2730 8809	+60 12 3998465

Shore side response

Contact number for all shored based ERT listed in 4.2

ERT Leader will normally contact team members who have best knowledge of the operation and most appropriate experience for the type of emergency.

An open line will be established as soon as practical between vessel and ERT room

Roles and responsibilities for each ERT member are described in procedure, together with checklists to assist

4.2 Emergency Response Contact Numbers

To initiate the call out of the **Emergency Response Team**, you need only to contact one person on the list below in the **Leader** group. That person will decide on the level of response that is required and assemble a team.

Team Leaders				
Name	Location	Office	Mobile	Home
Stig Hognestad	Kuala Lumpur	+60 3 2730 8822	+60 12 387 1965	N/A
Ranjit Pannu	Mumbai	+91 22 3911 4218	+91 98 218 33963	+60 12 3310944
Kiran Tuite	Kuala Lumpur	+60 3 2730 8861	+60 12 306 5210	+60 3 4260 4908
Vinh Quoc Ly	Perth	+61 8 9420 4668	+61 434 601159	N/A
Kumara Krishnasamy	Kuala Lumpur	+60 3 2730 8851	+60 12 383 2270	+60 12 385 9500

Loggers				
Name	Location	Office	Mobile	Home
Rob Cummings	Kuala Lumpur	+60 3 2730 8809	+60 12 399 8465	+60 3 2284 0239
Maizatul Mohd Ali	Kuala Lumpur	+60 3 2730 8801	+60 12 2823171	N/A

Media Contacts				
Name	Location	Office	Mobile	Home
Zaliza Zainuddin	Kuala Lumpur	+60 3 2169 4224	+60 12 323 1625	+60 3 5542 8015
Thomas Scoulios	Kuala Lumpur	+60 3 2730 8803	+60 12 383 1378	N/A
Denis Sweeney	Kuala Lumpur	+60 3 2730 8813	+60 12 210 5983	N/A
Rhonda Boone	Gatwick	+44 1293 557132	+44 7753 811209	+44 1737 279562

Maritime Contacts				
Name	Location	Office	Mobile	Home
Kjell-Arne Andresen	Oslo	+47 6678 8015	+47 9704 5052	+47 6712 1062
John Hattendorf	Kuala Lumpur	+60 3 2730 8848	+65 9661 7542	+60 3 2070 8245
Patrick Legh-Smith	Oslo	+47 6678 8044	+47 9340 6765	+47 6758 3401

Next of Kin Contacts				
Name	Location	Office	Mobile	Home
Lee Guan Ling	Gatwick	+44 1293 557519	+44 7717 346138	N/A
Earl Snyder	Kuala Lumpur	+60 3 2730 8862	+60 12 210 8600	N/A
Azrina Aziz	Kuala Lumpur	+60 3 2730 8862	+60 12 396 6518	N/A

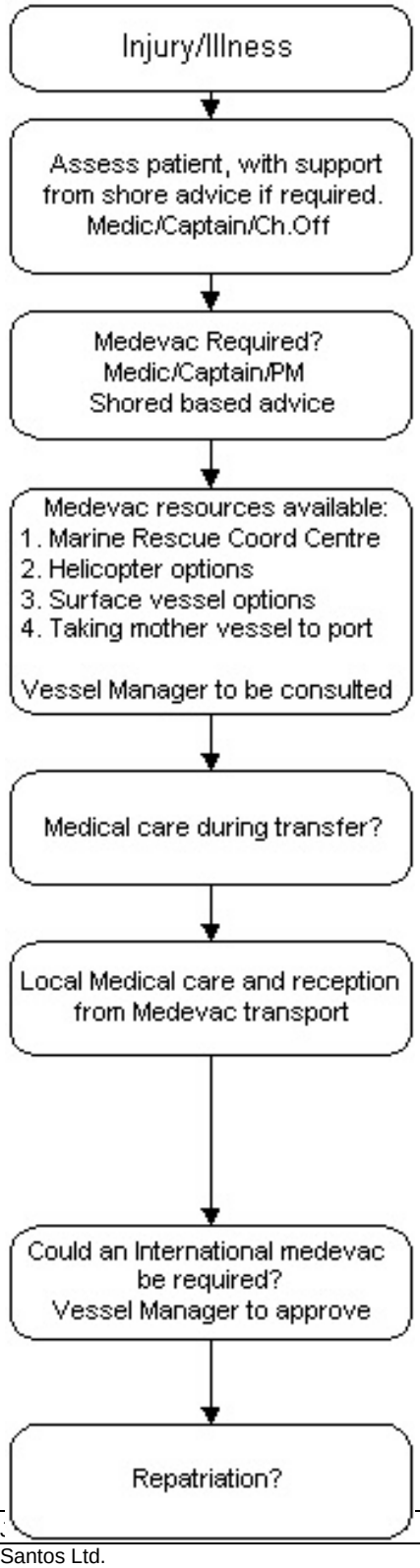
Global Contingency Rooms			
Name	Location	Office	Comments
ERT Room – Line 1	Kuala Lumpur	+60 3 2730 8806	Conference Room – Main Line
ERT Room – Line 2	Kuala Lumpur	+60 3 2715 6588	Conference Room – Video Conference
ERT Room - Fax	Kuala Lumpur	+60 3 2715 6588	Conference Room – Fax Line
Video Conference	Kuala Lumpur	+60 3 2715 2107	Conference Room
ERT Room - Line 1	Gatwick	+44 1293 557586	Conference Room
ERT Room - Line 2	Gatwick	+44 1293 557020	Logger
ERT Room - Line 3	Gatwick	+44 1293 556417	General
Next of Kin Fax	Gatwick	+44 1293 556770	
ERT - Room Fax	Gatwick	+44 1293 556996	
Video Conference	Gatwick	+44 1293 579970	
Video Conference	Oslo	+47 66 762612	
General Line	Oslo	+47 66 788479	Conference Room
Fleet Fax	Oslo	+47 66 788513	

Geomarket ERT Leader			
Name	Location	Office	Comments
Tony Bowman	Perth	+61 8 9420 4752 (Direct Line) +61 8 9322 3110 (Fax)	APG Geomarket
Geomarket Media Contacts			
Name	Location	Office	Comments
Tony Bowman	Perth	+61 8 9420 4752 (Direct Line) +61 8 9322 3110 (Fax)	APG Geomarket

Additional Resources to support ERT			
Name	Location	Office	Comments
Adrian Latimer	Montrouge	+33 1 4600 6213	Risk management
Pierre Bordage	Montrouge	+33 1 4600 6588	Risk Management
P&I Asia	Singapore	+65 6323 7732	P&I club contact
Panama Maritime Authority	Panama	+50 7 270 7525	Panama Administration
International SOS	Sydney	+ 61 293722400	International SOS Sydney call centre.

4.3 Medical Evacuation *(Non Pandemic Flu)*

This is the medical evacuation from the vessel to the onshore medical facilities covering the duration of the survey.



Top Side Support		
Contact Name	**Office**	**Mobile**
Dr G. Cauchi	+33 1 3493 4109	+33 6 72832568
Dr A. Barbey	+33 1 4600 7122	+33 6 08011106
ISOS – Sydney	+61 2 93722400/468	
ISOS – Singapore	+65 338 7800	

Marine Rescue Coordination Centres - ASA		
MRCC	**Telephone**	**Fax**
AusSAR Canberra	+61 1 800 641 792	

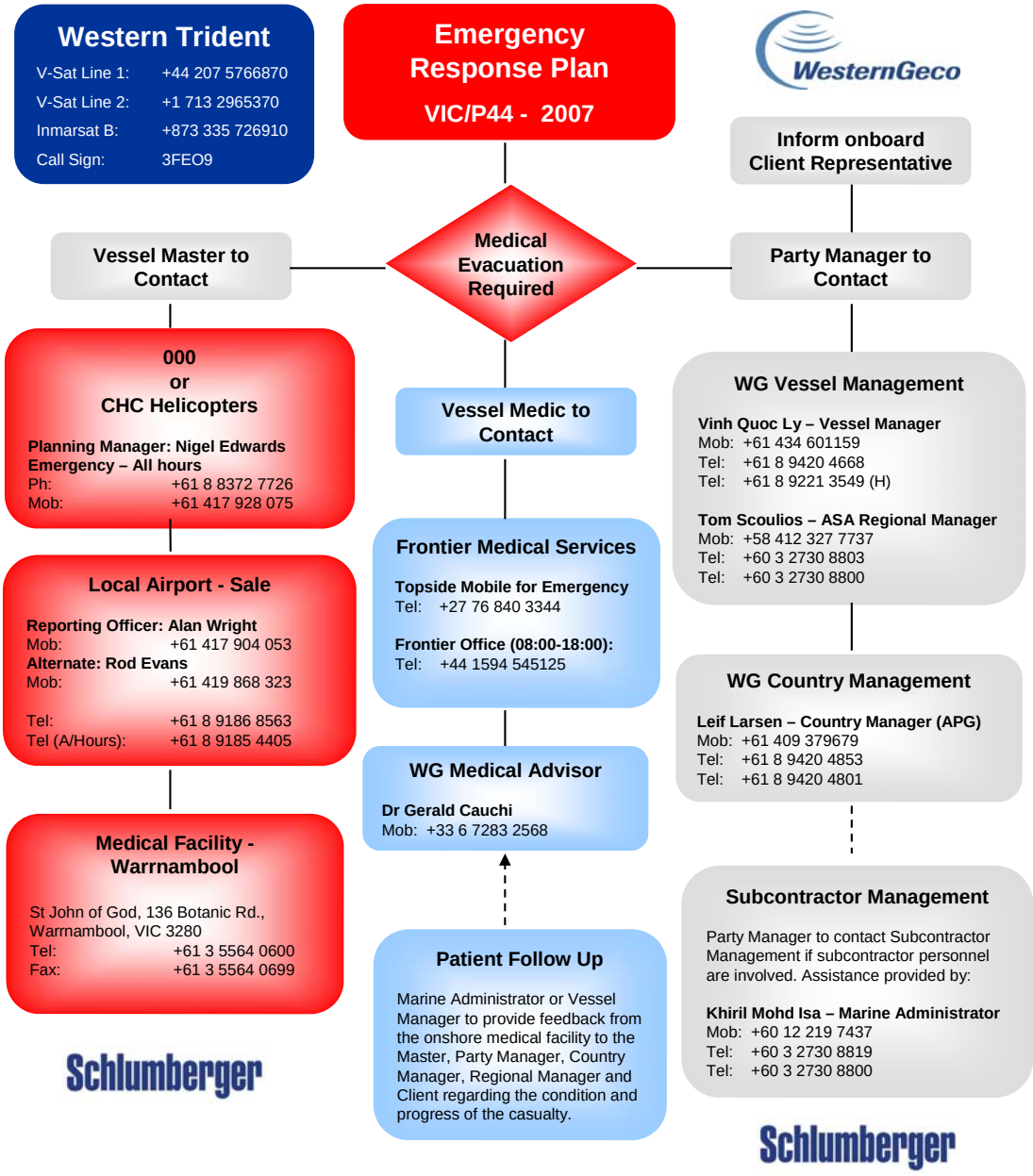
Helicopter / External Support vessel	
Metropolitan Ambulance Services	**000** providing medivac helicopters with onboard medic
CHC Helicopters	**Emergency – All hours** Nigel Edwards **Planning Manager** CHC Helicopters Tel +61 8 8372 7726 Mob +61 417 928075 Fax +61 8 8373 4519 nedwards@chcaustralia.com

Post-Medevac Care		
Local Hospital	**St John of God hospital**	**Tel:** +61 3 5564 0600 **Fax:** +61 3 5564 0699
Regional Hospital	Singapore General Hospital	+65 6222 3322
Marine Administrator	Nasreen Khairuddin	+ 60 3 2730 8838 + 60 12 2313112 (m)
Marine QHSE Coordinator	Robert Cummings	+60 3 2730 8809 +60 123998465(m)

International Medevac and Repatriation		
Contact Name	**Office**	**Mobile**
ISOS – Singapore	+65 338 7800	
Dr A. Barbey	+33 1 4600 7122	+33 6 08011106
Dr G. Cauchi	+33 1 3493 4109	+33 6 72832568

NOTE: Obligations regarding notifying clients and company, see separate flowchart in 4.5

Notification Flowchart:



FRONTIER MEDICAL

Topside Medical Support

WHAT IS IT?

The Topside Medical Support Service provides back up for Frontier Medical personnel in the diagnosis and management of ill or injured patients whenever this is required. Relevant situations include, but are not limited to:

- All evacuations
- Medical emergencies due to injury or illness
- Patients who are already under treatment but are not responding adequately to treatment or are getting worse.
- Difficult cases, eg difficulty in diagnosis or when the seriousness of the condition is in doubt

EMERGENCY CONTACT PROCEDURE

Call the FMS Topside mobile telephone:

+27 76 840 3344

In the event that your call is not answered immediately, it will automatically divert to a pager service.

Dictate a brief message to the operator, to be sent to the duty doctor's pager, stating:

- "Topside Support Service"
- Your Name
- Your location or vessel
- Your telephone number
- An additional, alternative number if necessary
- Whether the call is an emergency, urgent or routine

Ensure that the operator has recorded these details correctly

NON-URGENT CALLS

Requests for assistance with non-urgent cases will normally be initiated by e-mail by sending a Remote Site Consultation Record to topside@frontiermedical.co.uk. The duty topside doctor will reply by e-mail or telephone

If a reply is not received within an appropriate time, the topside doctor can be contacted on the topside number (+27 76 840 3344).

If e-mail is not available, the topside doctor can be called direct on this number, preferably between 0600 – 2000 hrs GMT

IN THE EVENT OF FAILED CONTACT

Contact the Frontier Office during office hours. Out of hours, contact either Judy Mason, Mark Hutchings, Phil Sharples or Bob Mark to assist.

Frontier Medical Office
UK office hours: 0800 – 1730 hrs
Telephone: + 44 1594 545 125

Judy Mason, Operations Manager
Mobile: + 44 7715 764 180
Home: + 44 1600 715 269

Mark Hutchings, Operations Director
Mobile: +44 7730 510531
Home: +44 1276 676723

Dr Phil Sharples, Medical Manager
Mobile: +44 7753 778271
Home: +44 1453 823932

Dr Bob Mark, Clinical Director
Mobile: +44 7730 694587
Pager (leave message): +44 7659 101928

January 2007

4.4 Avian Flu Emergency Response Plan

Schlumberger have prepared a generic Bird Flu emergency Response plan, upon which this document has been based so that each WesternGeco Marine Operations can interface to arrangements and risk assessments completed by the Geomarket within which the vessel is working. The following response levels have been defined:
Level "0" – There are no human cases of bird flu in the country/location. Preparation must start in order to be ready for levels 1and 2.

Level "1" – Bird flu cases in humans reported in the country but transmission is ONLY from animals to humans. Preparations must intensify in order to be ready for level 2. (February 2006 – China, Cambodia, Vietnam, Indonesia, Thailand and Turkey are at level 1).

Level "2" – At least one case of human-to-human transmission has been reported in the country/location. Other cases will surely appear in the days and weeks to come. The entire SLB Bird Flu response plan must be implemented. (February 2006 – No countries at level 2).

4.4.1. Preparing for a Pandemic

As more than 3 % of the commuter population comes from countries already at level 1, Emergency Response planning for all marine operations should cover all recommendations for both Level 0 and Level 1. The following paragraphs cover the key elements to implement this precautionary plan. The following paragraphs detail some of the activities that should take place to prepare for the possibility of a Level 2 situation occurring.

4.4.1.1. Flu Vaccination

All personnel have been strongly recommended to have the normal Flu Vaccination. Although this will not give any protection against infection from strains of avian flu, it is still considered very valuable for the following reasons

- As a frequent traveler, having a Flu Vaccine reduces the chance of showing symptoms of 'normal flu, and therefore reduce the risk of being falsely quarantined
- By reducing the likelihood of carrying normal flu, you reduce the chance of being the person to host a mutation of avian flu to a human-human strain
- By reducing the likelihood of catching normal flu, you reduce possibility of false alerts.

4.4.1.2. Equipment & Medicines

Although the onboard clinic is well equipped for all normally anticipated medical events, a complete review by company and external doctors has identified additional equipment that should be held in stock as a contingency against a possible global pandemic, and the chance of multiple crew becoming infected. This stock should be procured in Q1-Q2 2006, and stock levels maintained until further notice. In general this additional stock covers increased levels on consumables such as PPE (gloves, masks, aprons, eye protection), but also includes Ear Thermometers for both vessel and shore administration, and an Oxygen concentrator.
Amendments to the standard medicine inventory include additional stocks of analgesics and antibacterials, and also a stock of the anti-viral drug Tamiflu (Oseltamivir).
A table of these additional requirements can be found at InTouch content #4179224

4.4.1.3. Awareness Training

All marine field crew shall receive Avian Flu Level 1 training, and this shall be part of their standard 'Other Certifications' in the Quest QHSE training record.

4.4.1.4. Medic refresher training

Although all the Health Care Professionals working on WesternGeco vessels have the correct training to handle a possible flu pandemic, they should be encouraged to refresh their knowledge of associated medical topics. Particular attention should be given to resources available on the Medics Hub, including a detailed article on Pneumonia,
http://www.hub.slb.com/display/index.do?id=id2572085,
and the Schlumberger Treatment Protocols.

4.4.1.5. Resources and guidelines

Links to the most credible resources to monitor the latest news and advice can be found on the Schlumberger Avian Flu web page:
http://www.hub.slb.com/display/index.do?id=id2580678

4.4.1.6. Communicating Plans

A poster to raise awareness on avian flu in 9 languages is available at the Schlumberger Avian Flu web page listed in 1.4.1.4 and should be displayed at all sites.
The Schlumberger health Adviser Dr Alex Barbey issues a monthly health bulletin, and this includes any updates on the Avian Flu situation.
Personnel should be encouraged to use health information available through the company to inform family and friends and to reduce the impact of scare mongering by public media in some countries. A readily available presentation can be found at
http://www.hub.slb.com/Docs/qhse/RM/Bird_Flu_for_employees.ppt#1

4.4.1.7. Food Supplies and Handling

Although the risk of contaminated meat products being delivered onboard is minimized through responsible national and supply chain controls, basic food hygiene principles that should normally be in place for handling raw poultry must be reinforced. The H5N1 avian influenza virus is not transmitted to humans through properly cooked food. The key elements are:

- Poultry should be thoroughly cooked so that all parts reach at least 70 deg C
- Normal freezer temperature will not kill the H5N1 virus, so frozen poultry should be handled with the same precautions as fresh poultry
- Follow the Kitchen and Galley Hygiene Manual : W2HSQ/M003 Content ID: 3264992
- Remember the “5 Keys to safer food” tips from the WHO:
  - http://www.who.int/entity/foodsafety/publications/consumer/en/5keys_en.pdf

More advice and information can be found at the WHO site:
http://www.who.int/csr/disease/avian_influenza/foodrisk2005_11_03/en/index.html

4.4.1.8. Continuity of Operational and Technical Support

As part of the Level 0 & 1 preparation, Global Operations Support, the InTouch Engineer network and manufacturing/repair shall develop appropriate emergency response plans for Avian Flu in the country where the support is based. This shall include up to date contact lists for key personnel, the option to work from home with VPN and broadband connectivity taking into consideration needed computer resources and mobile phone as well as substitutes for key positions etc.
Operations will develop plans for maintaining continuity of key consumables such as fuel, water, food supplies etc during a pandemic outbreak when supply lines will most probably be interrupted.

4.4.2. Actions in case of Pandemic (Level 2)

Experts are predicting that it is possible that the H5N1 strain of Avian Flu could transmute into a new human strain of flu that would be markedly different from any recently circulating flu. Few, if

any people would have immunity to this virus, giving it the potential to spread widely, and hence becoming a pandemic.
Once a confirmed case of human-to-human transmission of Avian Flu derived virus has been confirmed by the WHO or CDC anywhere in the world, all Level 2 emergency response actions must be implemented. Detailed planning will continue in preparation for this theoretical possibility, and this section summarizes the key elements of the plan.
Unlike 'ordinary' flu, which tends to be seasonal, pandemic flu could occur at any time of the year. In the past hundred years there have been three episodes of pandemic flu. If a new pandemic should occur, in view of the global mobility of the population these days it could be only a matter of weeks or months from the first case until it is spread globally, as opposed to the 3 years that the last pandemic took to spread.
Experts are now advising that another pandemic is possible, but cannot say when it will happen. If it does occur, it may be in two or more waves several months apart, with each wave lasting two to four months.

4.4.2.1. Crew Planning

Depending on how and where the virus develops and spreads, Personnel and Staffing Managers will prepare a plan reflecting the global distribution of our Commuter population. In addition Operations Management and Logistics coordinators will need to carefully monitor the alert levels in each country of operations and in the countries used for transit. This will be done in close cooperation with the Geomarkets.

4.4.2.2. Screening of personnel before accessing vessel

At the appropriate time, a basic level screening process will be implemented to reduce the risk of introducing Pandemic flu to the field location. This will involve temperature screening of personnel before they board the vessel. Any person found to have an elevated temperature will undergo self quarantine at the nearest Schlumberger approved hotel for a period of 10 days. During this time the employee will fall under the supervision of the respective Geomarket in which the vessel is operating.
In general the number of movements of people to the field crew will be minimized, ideally to just once every 6 weeks with the objective of limiting exposure to possibly infected personnel.

4.4.3. Managing an outbreak of suspected Pandemic Flu onboard

Once the existence of a new strain of pandemic flu is confirmed, then clearly any case of suspected flu onboard a vessel will need to be treated very carefully to minimize the exposure to the remaining crew. Guidelines will be developed together with our medical providers to assist with the onboard response. Such guidelines will be published to the Medics Hub

4.4.3.1. Medical support and Medevac Plan

All suspected cases will involve close cooperation between the crew Health Care Professional (HCP), their Topside Support, the Schlumberger International Health Advisers, (Dr Barbey, Dr Cauchi), and the local Schlumberger appointed doctor if present in the local Geomarket. In many cases it must be assumed that Medevac will not be an option as local hospitals or transport providers will not be willing to accept external patients. However, this will need to be verified at project start-up and during the development of a pandemic. Evacuation should only occur with agreement from company health advisers, who have a full understanding of the facilities onboard, and the external options in the country of operations.
The use of anti-viral drug Tamiflu shall also be only with the approval of company health advisers.

4.4.3.2. Reporting Criteria

Reporting arrangements in the case of a pandemic will be developed, interfacing closely with the Geomarket emergency response plan. A specific morbidity report will be also in use to allow global monitoring of the fleet status through Quest.

4.4.3.3. Protecting Medical Carers

A critical part of the vessel specific response plan will be to ensure that a medical carer is available to supervise treatment of any patients who show flu like symptoms. Clearly a plan must be in place to cover the possibility of the HCP being taken ill, and so each vessel will have a back up plan with a second or third person being briefed on the key care strategies.

4.4.3.4. Treating multiple patients

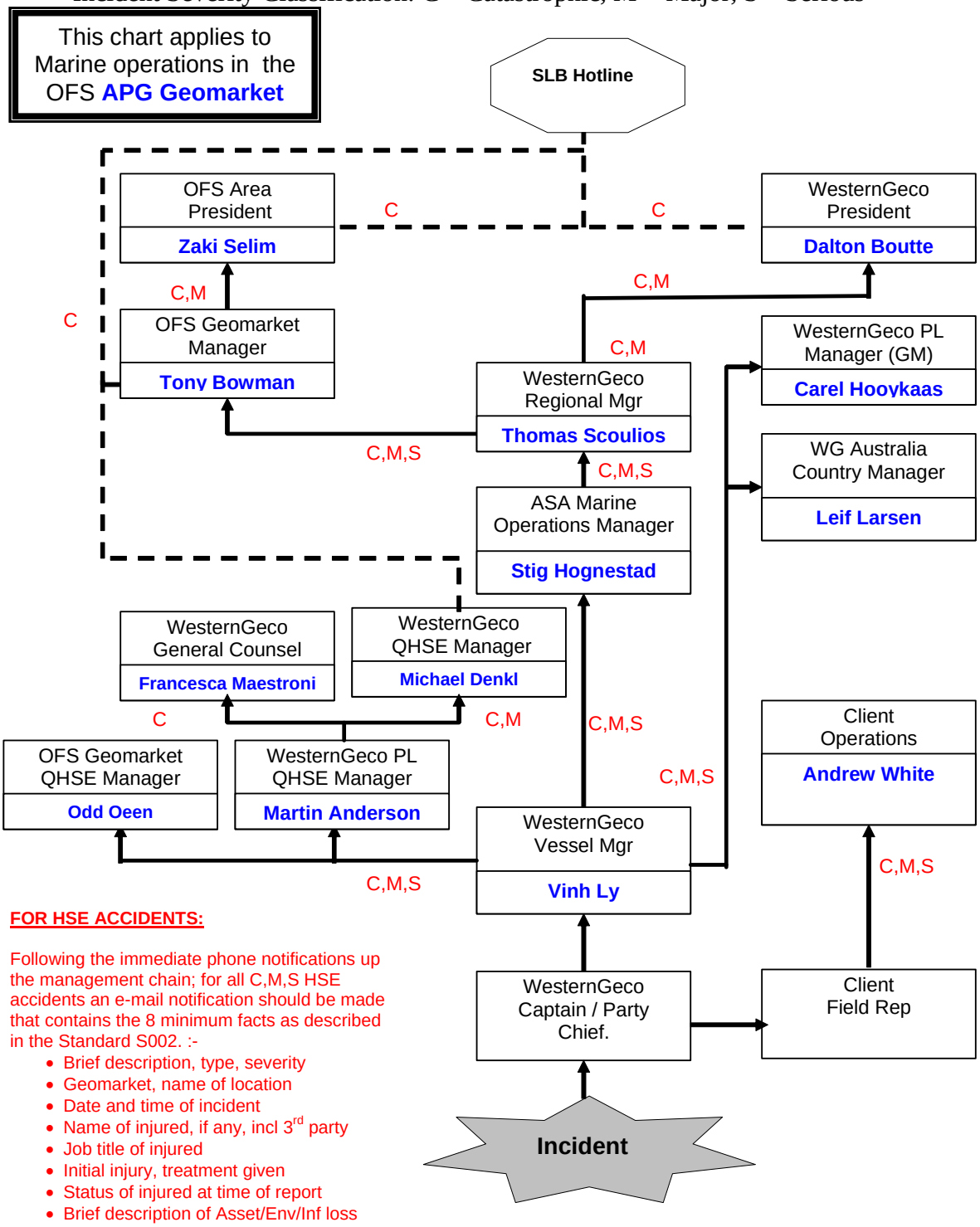
As part of the Level 0 and 1 preparations each crew shall develop a vessel specific plan on how they would handle multiple patients, with varying degrees of severity of symptoms. This plan shall take into account the location of the hospital, the way that the ventilation system is arranged, and the distribution of cabins across decks for optimum segregation of infected and non-infected personnel.

4.4.3.5. Shut-down Criteria

Unlike any other outbreak of illness onboard, quarantine or segregation of potential cases is crucial, and so the situation could rapidly develop where there are insufficient personnel to continue seismic or maritime operations safely. The vessel management team should therefore discuss and agree criteria and strategies for the suspension of seismic operations, or ultimately for the suspension of navigation of the vessel.

4.5 Accident Notification Flow Charts

Incident Severity Classification: C – Catastrophic, M - Major, S – Serious



This flowchart is based on OFS QHSE Standard S002, Appendix 1.

4.6 Contact Numbers

MV Western Trident Contacts

MV Western Trident Contacts	Office Hours		Out of Hours Contact Nos.
	Tel	Fax	
Vsat Link UK line Vsat Link USA line CDMA FRBile Inmarsat B Inmarsat C Call sign: **3 FEO 9** Vessel Bridge	+44 20 7576 6870 +1 713 296 5370 873-335 726 910 +1 713 296 5370	+44 20 7576 6870 +1 713 296 5370 873-335 726 911 +1 713 296 5370	(24 hour) (24 hour)
Captains: Paul Reid Terry Iles Email:Captain@trident.westerngeco.slb.com	+44 20 7576 6870 (VSAT UK line) +1 713 296 5370 (VSAT US line)	+44 20 7576 6870 (VSAT UK line) +1 713 296 5370 (VSAT US line)	(24 hour)
Party Managers: Ian Halfpenny Ekachat Insrikaew Email:Party_Chief@trident.westerngeco.slb.com	+44 20 7576 6870 (VSAT UK line) +1 713 296 5370 (VSAT US line)	+44 20 7576 6870 (VSAT UK line) +1 713 296 5370 (VSAT US line)	(24 hour)

4.6.1 WesternGeco Contacts

WesternGeco ASA Contacts	Office Hours		Out of Hours Contact Nos.
	Tel	Fax	
WesternGeco 11th Floor, East Wing Rohas Perkasa No. 8 Jalan Perak 50450 Kuala Lumpur	+60 3 2730 8800	+60 3 2715 6188	
Marine Department WesternGeco's Contingency Room	+60 3 2730 8846	+60 3 2715 6588	Contact Vessel Manager
Region Manager Thomas Scoulios Email: tscoulios@caracas.westerngeco.slb.com	+60 3 2730 8803	+60 3 2715 6188	Mobile: +60 12 383 1378
WG Country Manager, Australia Leif Larsen Email: larsen11@perth.westerngeco.slb.com	+61 8 9420 4853	+61 8 9420 4600	Mobile: +61 409 379679
Vessel Manager, Perth Vinh Ly Email: vly@kuala-lumpur.westerngeco.slb.com	+61 8 9420 4668	+61 8 9420 4600	Mobile: +61 434 601159
Marine Administrator (QHSE Supervisor) Robert Cummings Email: RCummings@kuala-lumpur.westerngeco.slb.com	+60 3 2730 8809	+60 3 2715 6188	Mobile: +60 12 399 8465
Marine Administrator (Support Vessel Supervisor) Khiril Mohd. Isa Email: khiril@kuala-lumpur.westerngeco.slb.com	+60 3 2730 8819	+60 3 271 56188	Mobile: +60 12 219 7437
Marine QHSE Manager Martin Anderson Email: anderson10@gatwick.westerngeco.slb.com	+44 1293 556884	+44 1293 556501	Mobile: +44 7710 082668
Marine Staffing Manager Lee Guan Ling Email: gllee@gatwick.westerngeco.slb.com	+44 1293 557519	+44 1293 556439	Mobile: +44 7717 346138
Geosupport Manager Kumaragurubaran Krishnasamy Email: kkrishnasamy@kuala-lumpur.westerngeco.slb.com	+60 3 2730 8851	+60 3 2715 6188	Mobile: +60 12 383 2270
Marine Navigation Supervisor Richard Grattan Email: rgrattan@kuala-lumpur.westerngeco.slb.com	+60 3 2730 8814	+60 3 2715 6188	Mobile: +60 12 383 3634

4.6.2 Client Contacts

The Primary Operational Contact (POC) for this seismic mobilisation and operation, unless specified otherwise will be:

Andrew White
Surveyor
Operations Geophysics

Santos Ltd
60 Flinders Street
Adelaide SA 5000
Ph: +61 8 8116 7260

4.6.3 Sub Contractor Contact Numbers

SUPPORT VESSELS CONTACT NUMBERS			OUT OF HOURS CONTACT NO
VESSEL	**TEL**	**FAX**	
Offshore Marine Services OMS Pioneer oms.pioneer@astmail.net 450300737@c.xantic.net (backup)	 +870 764 613 586 (Sat) +61438 525 332 (mobile) 450 300 737	 +870 764 613 587(vessel)	 24 hour Only while in port Inmarsat backup
Lady Roula (Fishing vessel) Vessel Mobile Phone Delmark Consulting P/L 300 Rosherville Road Swan Reach, Victoria Arno Blank	 +61 428 573773 +61 3 5156 2580	 +61 3 5156 2744	 +61 429 843 309

AUSTRALIAN MANNING AGENCY CONTACT NUMBERS			OUT OF HOURS CONTACT NO
COMPANY	**TEL**	**FAX**	
Offshore Marine Services **Contact:** Andrew Halley (DPA) Andrew Morgan Andrew.Morgan@omsau.com	 +61 8 6310 5600 +61 8 6310 5608	 +61 8 6310 5666 +61 8 6310 5666	 +61408164385 (Mobile) +61 417 091 789 (Mobile)

MANNING AGENCY CONTACT NUMBERS			OUT OF HOURS CONTACT NO.
MANNING AGENT IN SINGAPORE	**TEL**	**FAX**	
Monsoon Maritime Services Pte Ltd 137 Telok Ayer Street, #04-08 Singapore 068602 www.monsoonmaritime.com **Contact:** Capt. S.H. Teo (Ops Manager) operations@monsoonmaritime.com	+65 6327 8662 +65 6327 8662	+65 6327 8676 +65 6327 8676	 +65 98153577 (Mobile)

AGENTS CONTACT NUMBERS IN MELBOURNE			OUT OF HOURS CONTACT NO.
SHIPPING AGENT	**TEL**	FAX	

Monson Agencies Australia Pty Ltd (Head Office) Suite 1, 1 High Street (Po Box 1558) FREMANTLE WA 6160 http://www.monson.com.au/ **Contact** Andrew Allin fremantle@monson.com.au	+61 8 9335 0000 +61 8 9335 0007	+61 8 9335 0055 +61 8 9335 0055	 +61 417 904 794 (Mobile)

AGENTS CONTACT NUMBERS IN FREMANTLE			OUT OF HOURS CONTACT NO.
SHIPPING AGENT	**TEL**	FAX	
Monson Agencies Australia Pty Ltd (Head Office) Suite 1, 1 High Street (Po Box 1558) FREMANTLE WA 6160 http://www.monson.com.au/ **Contact** Andrew Allin fremantle@monson.com.au	+61 8 9335 0000 +61 8 9335 0007	+61 8 9335 0055 +61 8 9335 0055	 +61 417 904 794 (Mobile)

INTERNATIONAL SOS CONTACT NUMBERS			OUT OF HOURS CONTACT NO.
INTERNATIONAL SOS	**TEL**	**FAX**	
International SOS, Sydney **International SOS, Singapore**	+61 293722400/468 +65 63387800	+61 293722406 +65 63387611	+61 293722400 +65 63387800

4.6.4 Helicopter Contacts

HELICOPTER CONTACT NUMBERS			OUT OF HOURS CONTACT NO
COMPANY	**TEL**	**FAX**	
CHC Helicopters (Australia) Lou Kambanaros Contract Support Manager CHC Helicopters (Australia) 45 Greenhill Rd Wayville S.A. 5034 lkambanaros@chcaustralia.com **Planning Manager (all hours, emergency contact)** Nigel Edwards	+ 61 8 8372 7757 + 61 8 8372 7726	+ 61 8 8373 4519 + 61 8 8373 4519	+ 61 400 585 991 + 61 417 928 075

4.6.5 Local Emergency Contact Numbers

Emergency Response Numbers			
Contact	**Title**	**Name**	**Phone Number**
Emergency Services		Police	+61 3 51442244 / 000
		Fire	000
		Ambulance	133009 / 000

5 Project Hazard Analysis and Risk Control (HARC)

5.1 Top 10 Risks

The complete Hazard Analysis & Risk Control Register is contained in Section 4 of the Crew Plan and identifies all the Major generic risks that have been assessed for the Vessel. The summary table of the HARCs created for these risks is listed below.

The MV Western Trident Top 10 Risks for 2005.

1) Small boat operations
2) Supply runs at sea.
3) Robustness of in-sea equipment
4) Propulsion-loss / Black-out / Fire
5) Stepping Handling Lifting
6) Adverse weather.
7) Crane operations and related activities.
8) Maintenance of Equipment (use of tools, failure after maintenance)
9) Travel to and from vessel, Helicopter operations.
10) Ship-yard activities and port calls

Methods to reduce Risk;

1) Comply with WesternGeco 2006 QHSE Plan.
2) The 'Take 5 for Injury Prevention' Toolkit:
3) Personal Commitment means Responsibility & Accountability - Individuals to acknowledge responsibility
4) Toolbox meeting, Task Hazard Analysis - All tasks to be planned
5) Stand Back 5x5 - Engage your mind before your hands
6) Observation - SIPP Commentary form
7) Intervention - Do something to stop an unsafe action.
8) Measures to reduce Top 10 - All Departmental Chiefs yearly objective to include

    i. Hazard Control
    ii. Review/create HARC or JSA's per trip including.
    iii. Focal points - department presentations, one in Q1 and Q2.
    iv. Familiarisation - Seismic Safety Induction check sheet for new crew reviewed by department Chiefs end Q1.
    v. Tool Box Meeting – To be logged in seismic departments electronic log.
    vi. Planning - Minimise number of offshore supply runs.

5.2 HARC Listing

The following are the HARC catalogue listing for the M/V Western Trident. Details of this HARC can be downloaded from InTouch system at intouchsupport.com – Western Trident Vessel Reference Page.

1	HARC TDT-001-Crane & Lifting Operations.doc
2	HARC TDT-002-Stepping, Handling & Lifting.doc
3	HARC TDT-003-Launch and recovery of Work boat no 2.doc
4	HARC TDT-004-Tailbuoy deployment.doc
5	HARC TDT-005-Streamer deployment.doc
6	HARC TDT-006-Miniwing deployment-recovery.doc
7	HARC TDT-007- Monowing deployment.doc
8	HARC TDT-008-gundeployment-recovery.doc
9	HARC TDT-009-In-sea transferring lead-in.doc
10	HARC TDT-010- Bunkering at sea.doc
11	HARC TDT-011-Helicopter operation.doc
12	HARC TDT-012- Weather.doc
13	HARC TDT-013-Working Aloft Nav Mast.doc
14	HARC TDT-014-MWA handling.doc
15	HARC TDT-015-Instrument Room Power Failure.doc
16	HARC TDT-016-Data Security.doc
17	HARC TDT 017-Reel transfer from B deck to Crane Deck.doc
18	HARC TDT-018-Techno deployment.doc
19	HARC TDT-019- Record Form Yokaharma deployment.doc
20	HARC TDT-020-Record Form TX Valve Replacement.dot
21	HARC TDT-021- mooring lines 4 resupply .doc
22	HARC TDT-022- Streamer recovery and deployment during rough weather.doc
23	HARC TDT-023-Section change.doc
24	HARC TDT-024-Insert a tire frame between two aluminum wheels.
25	HARC TDT-025-Mass transfer of solid streamer
26	HARC TDT-026-Port calls
27	HARC TDT-027 small boat transfer.doc
28	HARC TDT-028-hotwork D deck.doc
29	HARC TDT-029-Staggering streamers.doc
30	HARC TDT-030-Working with Lithium Batteries.doc
31	HARC TDT-031-Changing a Lead-in.doc
32	HARC TDT-032 Reversing of Solid cable.doc
33	HARC TDT-033-Removal of Floating Debris & Fish Trap Clearing with small boats.doc
34	HARC TDT-034-close pass and undershoot.doc
35	HARC TDT-035-operations close to oil field installations.doc
36	HARC TDT-036-Ensuring robustness of insea equipment.doc
37	HARC TDT-037-operation in shallow water.doc
38	HARC TDT-038-Section change using work-boat.doc
39	HARC TDT-039-Use of power tools.doc
40	HARC_TDT_040- Propulsion Loss1.doc
41	HARC_TDT_041- Fire on board.doc
42	HARC_TDT_042- small yokohama fender deployment.doc
43	HARC_TDT-043 Piracy.doc

44	HARC_TDT_044_Environmental Risk Assessment.doc
45	HARC TDT-045-Confined Space Entry.doc
46	HARC TDT-046-SEA SNAKE BITE
47	HARC-TDT-047-operation_and small boat ops in very cold weather.doc
48	HARC-TDT-048-small boat ops in heavy fog areas.doc
49	HARC-TDT-049 HP hose replcement.doc
50	HARC-TDT-050 HP hose inspection.doc
51	HARC-TDT-051 Sakhalin crew change.doc
52	HARC_TDT-052 Use of CMV for personnel transfer.doc
53	HARC TDT-053-Sakhalin streamer stacking and wing change out.doc
54	HARC TDT-054-Winch Operations
55	HARC TDT-055 Using workboat to change equipment within 150m of mini-wing.doc
56	HARC TDT-056-transit with streamers deployed.doc
57	HARC TDT-057 Passing Over Known Subsurface Obstructions
59	HARC TDT-059 Hot Work In The Close Vicinity Of Solid Streamers While In Port. Hot Work In General.
60	HARC TDT-060 Dry-Docking - Singapore
61	HARC TDT-061-R01-Close passing platform within 500m

The HARCs above are color-coded depending on which department the task belongs to.

Deck Dept	
Engine Dept	
Acquisition Dept	
Handling Dept	
Position Dept	
QC / OBP Dept	

5.3 Project Specific HARCs

All the available HARCs cover the operations type expected in the Otway Basin 2007 survey. The following list includes all the HARCs which are most applicable for this specific project. The actual HARCs themselves can be found in the **Crew QHSE Plan** HARC Register.

HARC TDT-001-R02-Crane & Lifting Operations
HARC TDT-010- Bunkering at sea
HARC TDT-011-Helicopter operation
HARC TDT-012- Weather
HARC TDT-022- Streamer recovery and deployment during rough weather
HARC TDT-035-operations close to oil feild installations
HARC TDT-040- Propulsion Loss
HARC TDT-041- Fire on board
HARC TDT-047A-Small boat operation on very cold weather
HARC TDT-047B-operation and small boat ops in very cold weather
HARC TDT-061-R01-Close passing platform within 500m

6. Appendices

Appendix A: Santos Bridging Document

Appendix B: OMS Bridging Document

Appendix C: Environmental Plan

Appendix D: MV Trident and Support Vessel Specifications