Annexes to the Report of the investigation into the accident resulting in one fatality on-board the chemical tanker

STOLT SKUA

in the North Sea on 15 April 2012

Annex I	**Tank cleaning plan in use at the time of the accident**
Annex II	**Stolt Tankers BV – Tank Cleaning Manual (Prior to the accident)**
Annex III	**Stolt Tankers BV – Tank Cleaning Manual (Post accident)**
Annex IV	**Extract from Stolt Tankers BV "Ship Safety Manual": Section 7.1 Cargo Tanks and Enclosed Spaces**
Annex V	**Record of last "Enclosed Space Rescue" drill conducted on STOLT SKUA prior to the accident**
Annex VI	**Schedule on on-board drills for 2012: STOLT SKUA**

Annex I **Tank cleaning plan in use at the time of the accident**

Tank Cleaning Plan

Place: AT SEA, ENROUTE TO ANTWERP

Date: 2012 APR 15

Tanks	Cargo #	Cargo	Toxic Poison Flammable Corrosive	P/Cat.	US C.G.	SW WASH TIME: Ambient	SW WASH TIME: Warm	SW WASH TIME: Hot	FW mins.	Slop	Disposal Chart	Vent	Eject	Mop	Remarks Any additional cleaning procedures or cleaning disposal
1P/S & 3P/S	010	PYGAS	F AND T	Cat. Y	32	1.5 hr			10mins	SEA		yes			SINCE TANKS WERE INERTED AT THE DISCHARGE PORT, NO DILLUTION NEEDED. WE CAN PROCEED TO CLEANING. PREWASH HAD BEEN CARRIED OUT ALREADY.
7P/S & 10P/S	010	PYGAS	F AND T	Cat. Y	32	1.5 hr			10mins	SEA		yes			
2P/S & 5P/S	010	PYGAS	F AND T	Cat. Y	32	1.5 hr			10mins	SEA		yes			
6P/S & 7P/S	010	PYGAS	F AND T	Cat. Y	32	1.5 hr			10mins	SEA		yes			
8P/S & 9P/S	010	PYGAS	F AND T	Cat. Y	32	1.5 hr			10mins	SEA		yes			
				Total time SW wash		7.5		Total FW wash	50 mins						

NOTES:

> Always check all tank cleaning equipment for damage and hoses continuity test before washing.
> **WEAR PROTECTIVE CLOTHING ALL THE TIME DURING TANK CLEANING**
>
>
>

AFTER TANK WASHING :

> Ventilate the cargo tank as soon as possible
> Make sure that all associated valve, drain valve, stripping line, drop line, drain plugs are open.
> **NOBODY IS ALLOWED TO GO DOWN IN THE TANK ,UNTIL C/O ISSUE ' TANK ENTRY PERMIT . DRAEGER TUBES SHOULD BE USED TO CHECK IF THE TANKS ARE GAS FREE.**

DURING MOPPING

> **RESCUE HARNESS TO BE WORN ,DURING EJECTING/MOPPING OPERATION.**
> LOOKOUT TO BE POSTED / SAFETY EQUIPMENT ON STANDBY.
> PLS INCLUDE TANK INSPECTION SUCH AS CONDITION OF CARGO TANKS, MISSING BOLTS AND NUTS FROM HEATING COIL AND VISUAL APPEARANCE OF TANK.

ALWAYS CONSULT THE "MSDS" / NEVER COMPROMISE YOUR SAFETY.....

Prior to any tank cleaning operation, the following facts should be closely checked by the CHOFF or a responsible person.
To confirm that :

- ✓ Tank cleaning conference held.
- ✓ The tank cleaning hoses are correctly rigged & connected.
- ✓ The discharge hoses are correctly rigged and connected.
- N/A The assigned slop tank is available & has sufficient capacity.
- ✓ Has "GO" signal from the Bridge & Engine room.
- ✓ The tanks to be cleaned are empty.
- ✓ Has Personal protection during cleaning
- ✓ The "MSDS" is available.

PMAN/BOSUN [redacted] AB [redacted] AB [redacted] AB [redacted] OS [redacted] TRAINEE [redacted] C/O [redacted]

Annex II **Stolt Tankers BV – Tank Cleaning Manual (Prior to the accident)**

1.4 TANK CLEANING AND GAS-FREENG

STOLT-NIELSEN	*SAFETY AND QUALITY MANAGEMENT* **TANK CLEANING MANUAL** **STOLT-NIELSEN** **TANK CLEANING MANUAL**	*Appr. By:* **STJ**

Date: 2011-12-08

Rev. No: 7

In all cases the safety guidelines within the following documents must be strictly considered throughout any cleaning process.

STOLT SAFETY & MANAGEMENT MANUAL.
STOLT SPECIAL CARGOES HANDLING MANUAL
TANKER SAFETY GUIDE CHEMICALS.
ISGOTT
MARPOL AND SOLAS AS APPROPRIATE.
CODE OF SAFE WORKING PRACTICES FOR MERCHANT SEAMEN.

In all cases whenever a tank which has contained a previous low flash product (below 60°C) and is to be made ready to load another cargo, every precaution must be taken to avoid dangerous situation developing. The Master of the vessel has the final responsibility for ensuring that any operation is carried out with proper regard to the safety of all those on board and that measures are always taken to minimize risk.
Procedures described in chapter 1.5 of this manual as well as information and precautions derived from ISGOTT and the Tanker Safety Guide Chemicals must be strictly followed

Robust compliance with proper cleaning methods and use of only Company approved chemicals.

Smoking regulations are to be strictly enforced, with only the use of dedicated smoking rooms such as when alongside a terminal.

Whenever a tank cleaning or gas-freeing operation is being carried out then either the Chief Officer or Master must be in attendance throughout the operation.

All tank cleaning operations will include fresh water rinsing immediately after sea water cleaning has taken place.

Any gas-freeing operation must be performed in full compliance with the IBC code Chapter 8.5 requirements as well as safety procedures and precautions derived from SSM 7.25, ISGOTT guidelines chapter 11.4 for ALL Annex 1 petroleum products and Tanker Safety Guide chapter 7.7 for ALL Annex 2 chemicals.

It must be understood that the venting only method of preparing the tank for back loading has a greater risk then if the tank is washed under closed conditions for a short period first.

During the period when the gas freeing is being carried out, NO welding and/or burning operations are to be allowed anywhere on board the ship, regardless of the job and NO mechanical maintenance is to be allowed anywhere outside the engine room space.

Any portable equipment used in any area of the tank deck must be intrinsically safe and must have been tested, before any usage is allowed.

Any item of equipment which has the inherent ability to build up static electricity during its use must be properly grounded before using.

Venting of toxic or flammable gas during gas freeing should be performed only through the vessel's approved gas freeing outlets in compliance with IBC requirements and ship's P&A Manual procedures.

Only when the gas level within the tank has fallen to 25% LFL and the relevant TLV, can final ventilation be continued at tank deck level through the cargo tank hatches.

Only tanks to be ventilated are to have open hatches, and hatches only to be opened once either portable blowers or fixed system have been activated.

All deck houses and lockers within the tank deck area must be kept closed throughout the venting operation, so as to avoid any build up of flammable vapours within those spaces.

If the ship is anchored and there is no wind across the deck or is under way with a following wind then gas freeing must not be attempted until either an alteration of course is made to allow the wind to pass across the deck or, in the case of an anchored ship a breeze sufficient enough to remove any standing vapours away from the ship is experienced.

Annex III **Stolt Tankers BV – Tank Cleaning Manual (Post accident)**

STOLT-NIELSEN	*SAFETY AND QUALITY MANAGEMENT* **TANK CLEANING MANUAL** **STOLT-NIELSEN TANK CLEANING MANUAL ©**	*Appr. By:* **STJ**

Date: 2012-04-25

Rev. No: 8

In all cases the safety guidelines within the following documents must be strictly considered throughout any cleaning process.

STOLT SAFETY & MANAGEMENT MANUAL.
STOLT SPECIAL CARGOES HANDLING MANUAL
TANKER SAFETY GUIDE CHEMICALS.
ISGOTT
MARPOL AND SOLAS AS APPROPRIATE.
CODE OF SAFE WORKING PRACTICES FOR MERCHANT SEAMEN.

In all cases whenever a tank which has contained a previous low flash product (below 60°C) and is to be made ready to load another cargo, every precaution must be taken to avoid dangerous situation developing. The Master of the vessel has the final responsibility for ensuring that any operation is carried out with proper regard to the safety of all those on board and that measures are always taken to minimize risk.
Procedures described in chapter 1.5 of this manual as well as information and precautions derived from ISGOTT and the Tanker Safety Guide Chemicals must be strictly followed

Robust compliance with proper cleaning methods and use of only Company approved chemicals.

Smoking regulations are to be strictly enforced, with only the use of dedicated smoking rooms such as when alongside a terminal.

All tank cleaning operations will include fresh water rinsing immediately after sea water cleaning has taken place.

No gas-freeing operation is to be carried out unless Authorized by the Master.

Any gas-freeing operation must be performed in full compliance with the IBC code Chapter 8.5 requirements as well as safety procedures and precautions derived from SSM 7.25, ISGOTT guidelines chapter 11.4 for ALL Annex 1 petroleum products and Tanker Safety Guide chapter 7.7 for ALL Annex 2 chemicals.

It must be understood that the venting only method of preparing the tank for back loading has a greater risk then if the tank *is bottom flushed* under closed conditions first.

During the period when the gas freeing is being carried out, NO welding and/or burning operations are to be allowed anywhere on board the ship, regardless of the job and NO mechanical maintenance is to be allowed anywhere outside the engine room space.

Any portable equipment used in any area of the tank deck must be intrinsically safe and must have been tested, before any usage is allowed.

Any item of equipment which has the inherent ability to build up static electricity during its use must be properly grounded before using.

Venting of toxic or flammable gas during gas freeing should be performed only through the vessel's approved gas freeing outlets in compliance with IBC requirements and ship's P&A

Manual procedures.

Only when the gas level within the tank has fallen to 25% LFL and the relevant TLV, can final ventilation be continued at tank deck level through the cargo tank hatches.

Only tanks to be ventilated are to have open hatches, and hatches only to be opened once either portable blowers or fixed system have been activated.

All deck houses and lockers within the tank deck area must be kept closed throughout the venting operation, so as to avoid any build up of flammable vapours within those spaces.

If the ship is anchored and there is no wind across the deck or is under way with a following wind then gas freeing must not be attempted until either an alteration of course is made to allow the wind to pass across the deck or, in the case of an anchored ship a breeze sufficient enough to remove any standing vapours away from the ship is experienced.

Annex IV **Extract from Stolt Tankers BV "Ship Safety Manual": Section 7.1 Cargo Tanks and Enclosed Spaces**

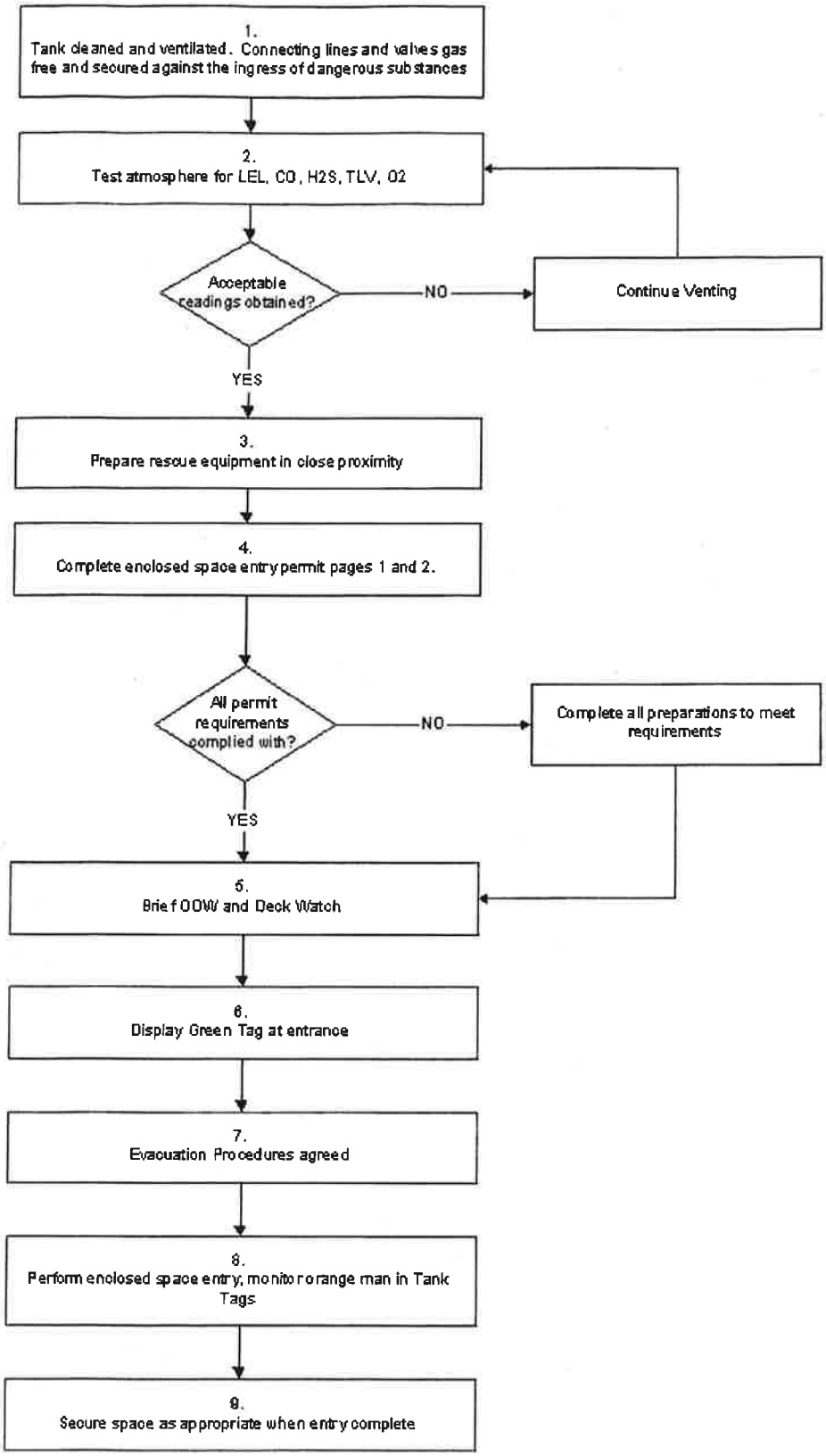
7.1 Cargo Tanks And Enclosed Spaces

Date : 2008-05-10
Rev. No .: 9
Approved by: PJR

The following (but not limited to) spaces are to be considered enclosed:

Cargo Tanks
Ballast Tanks
Bilge Spaces
Double Skins/ void spaces
Fuel/ Sludge Tanks
Fresh Water Tanks
Sewage Tanks
Boilers
Main Engine
Nitrogen and/or Inert Gas Spaces (unless fitted in machinery and working spaces with installed continuous oxygen monitoring systems)

Cargo Tank entry is a more common practice on chemical tankers than it is oil tankers, it is important to ensure this routine practice is conducted safely at all times and that adequate checks are conscientiously made and recorded.



Cargo Tank and Enclosed Space Procedure

1. Prior to any cargo tank entry, the tank must be thoroughly ventilated by means of forced draft fan, dry air system, or similar, such that toxic and flammable vapors are removed from the tank

All connecting lines and valves must be free of any toxic or flammable vapor/ liquid.

2. Forced ventilation must be stopped prior to taking the test of the atmosphere in the cargo tank, and tests must be taken at various levels to ensure an overall sample of the tank atmosphere. Personnel are reminded that certain gasses are lighter than air while others are heavier.

To enable a permit to be issued for entry into a cargo tank without breathing apparatus, the following atmosphere conditions must be present.

Oxygen	Min 20.5%	Max 21%
L.E.L		Max 0.0 %
CO		Max 0.0 PPM
H2S		Max 0.0 PPM

Prior to entry into a cargo tank which has contained toxic cargo, as defined by the IBC Code, vapour analysis tubes *or electronic vapour measuring devices must* be used in conjunction with the test to ensure no pockets of toxic vapour are present.

The TLV for tanks which have last contained an IBC classed toxic cargo must be tested to ensure the atmosphere is in the safe range. It must be noted that in certain cases where an equivalent test tube is used *(i.e. cross referenced),* the reading will only indicate the presence of the toxic gas. In this case, the tank must be vented until the reading becomes zero *and Tank Entry Permit endorsed as "no toxic gas detected".* TLV values can normally be found in such publications as the USCG Chemical Data Guide for Bulk Shipment by Water.

For certain toxic cargoes where neither short term tubes nor electronic means of test for toxic vapours are internationally available, then breathing apparatus shall be used for tank entry. *This applies for the first and every subsequent entry into particular tank until it has been loaded with another cargo.*

Approved Tester: This is a person who may verify the tank atmosphere, has been trained in the use of gas testing equipment and is thoroughly conversant with the Entry Permit. This approval will be ship specific and subject to regular retest. In keeping with the risk factor of this operation, only officers and petty officers can be approved testers.

Any person with authorization to be responsible for an enclosed space entry, can not also be the approved tester of that enclosed space.

Ensuring that the officer authorizing the tank entry is separate from the approved person conducting the tests creates an opportunity for cross-checks to be made where considered necessary.

Each ship should have as a minimum the following test equipment onboard

- 2 portable 4 gas detectors
- 2 personal 4 gas detectors
- 2 Hand pumps for use with detection tubes.

For additional protection against volatile organic compounds (VOC's) personal 5 gas (PID) detector may also be used when supplied. These may also be used as a substitute for certain short term Draeger Gas Detection Tubes.

3. Rescue and resuscitation equipment must be easily available and ready for use.

4. Verification of the above atmosphere tests must be recorded in the relevant Entry Permit. Entry Permits may be made for multi cargo tank entries, however, tanks which are not entered and worked within four hours of the initial test must be retested and a new permit issued. It is therefore advisable to only test smaller groups of tanks at one time, e.g. only test as many tanks as can be worked in a four hour period.

The validity of an entry permit will not exceed one working day. A normal working day being defined as 0800-2000 and 2000-0800. This will allow for major maintenance work to be carried out without the necessity of a full retest as each re entry, provided all the above conditions are complied with. Due to operational requirements, cargo tanks may have to be entered for cleaning, testing, and inspection purposes, at times which may require an overlap of the work day hours. This is permitted, provided the close-out time for the permit is correctly documented, and all other requirements are complied with.

Authorisation: The Master will at all times be ultimately responsible for authorization for entry into enclosed spaces and will be kept informed when this procedure is to take place. In order to maintain safety

standards for enclosed space entry, the Chief Engineer, the Chief Officer and the First Engineer can be alternates to sign the entry permit in place of the Master.

5. The Duty Deck officer and the deck watch are to be informed that tank entry is in progress.

6. Cargo tanks shall be marked as follows:

Entry tagged red	Unsafe for entry
Entry tagged green	Tested and safe for entry, all conditions of permit met
Entry tagged yellow	Tank inerted and unsafe for entry. Normally used as required by shore terminal

Any cargo tank which is shut down or does not have a tag should be considered unsafe for entry. All tags to be strictly controlled by the Chief Officer.

7. Unforeseen difficulties or hazards develop, the work in the space should be stopped and the space evacuated so the situation can be reassessed. Permits should be withdrawn and only reissued, with any appropriate revisions, after the situation has been reassessed.

If any personnel feel in any way adversely affected they should give the pre-arranged signal to the tank lookout and immediately leave the space. Should an emergency occur then the emergency alarm must be sounded. Under no circumstances should the tank lookout enter the space before help has arrived and the situation has been evaluated.

8. Each person entering the tank must hand their orange "man in tank" tag to the tank lookout. These tags will be used to record the number of persons in the tank and their names.

One person of the entry team to carry means of continuously testing the atmosphere using a 4 gas portable monitor. Remainder of team may use personal oxygen monitors if available onboard.

No entry is to be made into a cargo tank by any shore personnel unless given specific permission by the Chief Officer and accompanied by a trained member of the ship staff.

Duty Officer as appropriate to be informed that tank entry is in progress

Chief Officer has verified the entry permit.

7.1.1 Not in Use

7.1.2 Entry into spaces other than cargo tanks.

Date : 2002-12-18
Rev. No .: 9
Approved by: PJR

Entry into enclosed spaces other than cargo tanks, should be treated with the same extreme caution as on other ship types, and familiarity with practice in cargo tanks should not allow any sense of complacency. In particular one permit will be used for each space. Preparation for entry, including the pre-positioning of rescue equipment, should be positively attended to.)

Cofferdams, ballast tanks, peak tanks, fuel or lub oil tanks, fresh water tanks, duct keel not continuously open to a pumproom, void spaces, access trunks, or any other enclosed spaces should not be entered unless all the procedures for cargo tank entry are strictly observed

Rescue and resuscitation equipment will also be required to be placed close to the entrance of the space to be entered.

The principal danger in such spaces is that rusting has depleted the oxygen content of the atmosphere to the point that it cannot support life. However it is also possible that cargo, cargo vapor, or inert gas has leaked into them and the atmosphere should be checked for oxygen as well as other contaminants, before entry.

The Master and the Chief Engineer must always be kept informed, as appropriate, that these entries are to take place, and a full risk assessment carried out.

7.1.3 Ballast Pumprooms/Open duct keels

Date : 2008-07-10
Rev. No .: 11
Approved by: PJR

Prior to initial entry into a ballast pumproom or duct keel open to the pumproom, the requirements *for controlled entry* must be met and that at least two complete air changes have taken place *by use of fixed extraction fan. Due to the fact that most of the pump rooms are adjacent to the cargo tanks which may contain hazardous cargo atmosphere has to be checked prior to entry and Specific Pump Room Entry Permit (RFM Form SR3) to be issued.*

Subsequent entries may only be made during the validity of the permit when it has been ascertained that the fixed extraction fan/s are, in fact, working. The pumproom must be evacuated if the fixed fan/s stop.

7.1.4 Tank Entry for Chemical Spraying

Date : 2002-12-18
Rev. No .: 9
Approved by: PJR

Entering a cargo tank to spray bulkheads with chemicals is a regular feature of parcel tanker trading when preparing tanks for loading. As person/persons involved may be in a toxic atmosphere and in close contact with the chemical itself, they must take full protective measures and strictly observe the entry procedures. The operation should be supervised by the Chief Officer. Night spraying should be carried out under the strictest supervision. The Chief Officer will attend each tank to be sprayed during the hours of darkness. He will ensure that the tank is adequately lit, and that all safety equipment is in place. During the hours of darkness if the spraying has to be done at sea, then additionally the ship must be stable. No spraying is to be done if the weather conditions will endanger the life of the person entering the tank.

Additional requirements for tank entry for spraying:

Personnel assisting sprayer to suitably protected against cleaning chemicals.

Safety watch to be in radio contact with OOW.

Person entering tank to carry out full B. A. user check for leaks, air bottle content, operation of low level alarm. He is to agree on safety signals to be used.

The person Entering the tank must allow sufficient air supply to safely exit the tank, bearing in mind he will be slower than normal because of the weight of the protective clothing and the B.A. set.

If the safety person thinks the person in the tank is in any danger, full Emergency Response measures must be activated to affect a rescue.

Rescue equipment must be ready for use and close to the tanks being worked. One standby person must be ready with full protective gear and B.A. set to assist in an emergency. The rescue equipment to include hoisting and breathing gear. This equipment is to be used for rescue only and not for any other work.

For further operational procedures and approved chemicals for spraying, see TCM 2.32.

7.1.5 Entering Non Gas Free Tanks

Date : 2002-12-18
Rev. No .: 9
Approved by: PJR

For emergency repairs and exceptional operational reasons, it may at times be necessary to enter untested, doubtful, or non gas free tanks.

This may only be carried out with permission of the Master and under direct supervision of the Chief Officer.

All the precautions mentioned in Entry for Chemical Spraying must be observed.

Annex V **Record of last "Enclosed Space Rescue" drill conducted on STOLT SKUA prior to the accident**

STOLT-NIELSEN	*SAFETY AND QUALITY MANAGEMENT* EMERGENCY PREPAREDNESS & SAFETY TRAINING SHIP REPORTING FORMS MANUAL	Page : 1/1 Form : SR 14 Date: 2009-05-01 Rev.No.: 3e Appr.By.: PJR Release: 14

M/T Stolt SKUA MASTER: **R. De Rueda** DATE: **2012/02/26**

The following safety awareness training drill(s) were carried out this day in accordance with SSM 6.0

Week number: **8**

NAME OF DRILL(S) CARRIED OUT

Fire Drill: Fire in the Pumproom w/ Enclosed space rescue & Helicopter Ops, Abandonship Drill, Security Drill: Search plan, Tabletop: CPR.

DESCRIPTION OF EVENTS:

Fire Drill: Fire in the pumproom w/ Enclosed space rescue & Helicopter Operations.

1015 - General alarm sounded. Master announced fire in the pumproom.

1017 - All crew proceeded to emergency station for mustering, Deck Onscene coordinator reported one man missing, AB Prisidinti last seen entering pumproom. Deck OSC advised fire teams to dress up and assemble part of support team and medical team for enclosed space rescue.

1018 - Mobile tech, isolated power supply, confirmed fire pump running.

- Part of support team closed all appropriate vents & prepared fire hoses to be used for fire fighting, Fire teams dressed up and ready to fight fire (BA pressure 210b).

1019 - Deck Fire Response Team first on the scene to fight fire, Engine Fire Response on support and boundary cooling.

1022 - Fire is out. Deck Onscene coordinator and fire response team found AB Prisidinti lying unconcious but with pulse and breathing.

1023 - Pumproom hatch opened, enclosed space rescue equipment rigged down ready for hoisting, medical team prepared stretcher, bridge advised a medical helicopter lift will come and support team prepare 1P cargo tank area for Medical lift. Engine Fire response team on Standby at pickup site with fire axes and bolt cutter.

1024 - Victim recovered from pumproom, medical team applied first aid and put to stretcher. Fire response team carried victim to pickup area.

- bridge simulated ship to helicopter communications and maneuver.

1030 - Drill completed. Start securing equipments preparing for next drill.

Abandonship Drill:

1040 - General alarm sounded. Master announced abandonship drill and proceed to boat stations.

1042 - All crew proceeded to boat stations for mustering. All crew accounted and re-familiarized with their duties. Fall preventers rigged, sea painter rigged. Both Lifeboat Engine Tested and Steering Tested.

1045 - Both lifeboat swung out & lowered to embarkation deck from stowed position. Rollers and block tested, Remote control wire and limit switch and all found in good condition and functioning well.

1050 - Both lifeboat secured. Completed abandon ship drill. Proceed to the bridge for next drill.

Security Drill: Search Plan

1050-1115 - Search plan seminar discussed by chief officer regarding the importance of a ship search plan, all officers and crew reviewed their duties as search plan required, also security duties and crew team work challenged given possible scenarios scenarios that may arise and how to respond. How to conduct an effective ship search reviewed.

Tabletop: CPR

1115-1140 - CPR by J3/O Renido

PERSONNEL ATTENDING DRILL(S):

All officers and crew

CRITIQUE OF DRILL:

One crew entered the fire scene No fireman outfit

SIGNATURE OF DRILL ASSESSOR: F.A. Aguilar RANK: 2/O

A copy of this form will be presented to the next monthly meeting of the Safety Committee for comment.
The original copy should be placed in file S13 for the inspection of Flag State Inspectors, Auditors and Vetting Inspectors.

SIGNATURE OF SAFETY OFFICER: SIGNATURE OF MASTER

Annex VI **Schedule on on-board drills for 2012: STOLT SKUA**

Suggested Drill Scenario Plan 2012

ABANDON SHIP = TWICE A MONTH
FIRE DRILLS = TWICE A MONTH, SCENARIO DECIDED BY SMT
SECURITY DRILL = QUARTERLY AS PER REQUIRED

WEEK #	SCENARIOS		
1	Starting Emer. Machinery		
2	Armed hijack/Terrorism	Security/Piracy	Stowaways
3	L'raft/First Aid/Gen LSA	Serious injury	*MOB/ SAR*
4	*SECURITY DRILL Bomb threat/ Suspected package*	Cargo spill with pollution of sea	Toxic release at sea
5	Steering gear failure		
6	Starting Emer. Machinery	Towing operation	Collision
7	*MOB / SAR*	Distress signals	Line throwing apparatus
8	CPR Resusitation	Enclosed space rescue	*SECURITY DRILL SEARCH PLAN*
9	Use of portable extinguishers	Accomodation zero vis BA SAR	
10	Structural failure	Shifting of cargo	Toxic release in port
11	Starting Emer. Machinery	*MOB/ SAR*	Lifeboat launch / survival suits etc
12	L'raft/First Aid/Gen LSA	*SECURITY DRILL RAISING SECURITY LEVEL*	Machinery space casualty/ *Serious injury*
13		Break away from jetty/berth	Vapour control training
14	Heavy weather / Damage	Jettisoning of cargo	Helicopter operations
15	Starting Emer. Machinery	*MOB/ SAR*	
16	Bridge control failure/ Main engine failure	Electrical failure	SECURITY DRILL : Hostage Situation/ Illegal Immigrants
17	CPR Resusitation	Enlcosed space rescue	
18	Stranding Grounding	Flooding	Toxic release at sea
19	Steering gear failure	*MOB/ SAR*	
20	Starting Emer. Machinery		*SECURITY DRILL: SEARCH PLAN*
21	L'raft/First Aid/Gen LSA	Serious injury	
22		Distress signals	Line throwing apparatus
23	Use of portable extinguishers	*MOB/ SAR*	
24	*SECURITY DRILL : RAISING SECURITY LEVEL*	Cargo spill on deck	Toxic release in port
25	Starting Emer. Machinery		Lifeboat launch / survival suits etc
26	CPR Resusitation	Enclosed space rescue	

WEEK#	SCENARIOS		
27	*MOB/ SAR*	Cargo spill with pollution of sea	Toxic release at sea
28	L'raft/First Aid/Gen LSA	Serious injury	*SECURITY DRILL : MISSING CREW/ RESPONSE TO MAYDAY*
29	Starting Emer. Machinery		
30	Armed hijack/Terrorism	Security/Piracy	Stowaways
31	*MOB/ SAR*	Break away from jetty/berth	Vapour control training
32	Steering gear failure	*SECURITY DRILL : SEARCH PLAN*	
33	CPR Resusitation	Enclosed space rescue	
34	Starting Emer. Machinery		*Toxic release in port*
35	Structural failure	Shifting of cargo	*MOB/ SAR*
36	*SECURITY DRILL: RAISING SECURITY LEVEL*	Distress signals	Line throwing apparatus
37	L'raft/First Aid/Gen LSA	Serious injury	Machinery space casualty
38	Use of portable extinguishers		Lifeboat launch / survival suits etc
39	Starting Emer. Machinery	*MOB/ SAR*	*Helicopter operations*
40	Heavy weather / Damage	Jettisoning of cargo	*SECURITY DRILL: SMALL CRAFT/ SWIMMER ATTACK*
41	Accomodation zero vis BA SAR		
42	Stranding Grounding	Flooding	Toxic release at sea
43	CPR Resusitation	Enclosed space rescue	*MOB/ SAR*
44	Starting Emer. Machinery	Towing operation/ *Collision*	*SECURITY DRILL: SEARCH PLAN*
45	Bridge control failure	Electrical failure	Main engine failure
46	Steering gear failure		
47	L'raft/First Aid/Gen LSA	Serious injury	*MOB/ SAR*
48	*SECURITY DRILL: RAISING SECURITY LEVEL*	Cargo spill on deck	Toxic release in port
49	Starting Emer. Machinery		
50		Distress signals	Line throwing apparatus
51	Use of portable extinguishers	*MOB/ SAR*	Lifeboat launch / survival suits etc
52	CPR Resusitation	Enclosed space rescue	*SECURITY DRILL: BOMB THREAT/ SUSPECTED PACKAGE*