

**SACLANTCEN UNDERSEA RESEARCH  
CENTRE**

**RV LEONARDO**

**SHIPBOARD SAFETY MANAGEMENT  
SYSTEM**

**STANDARD OPERATING PROCEDURES**

**COPY N<sup>o</sup> 1**

## **1.2 OFFICE MAIN MANUAL INDEX**

<b>N°</b>	<b>TITLE</b>	<b>DATE</b>	<b>CHANGE N°</b>
<b>1.0</b>	<b>INTRODUCTION</b>		0
1.1	COVER PAGE		0
1.2	INDEX SHIPBOARD MAIN MANUAL		0
1.3	ABBREVIATIONS		0
1.4	DEFINITIONS		0
1.5	CONTROLLED CIRCULATION LIST		0
<b>2.0</b>	<b>MANAGEMENT INFORMATION</b>		0
2.1	PURPOSE OF THE MANAGEMENT SYSTEM		0
2.2	STRUCTURE OF THE DOCUMENTATION		0
2.3	SACLANTCEN MANAGEMENT INFORMATION		0
<b>3.0</b>	<b>SACLANTCEN OBJECTIVES AND POLICY</b>		0
3.1	SAFETY AND POLLUTION PREVENTION POLICY STATEMENT		0
3.2	DRUG AND ALCOHOL POLICY		0
<b>4.0</b>	<b>RESPONSIBILITIES AND AUTHORITY</b>		0
4.1	SHORE BASED SUPPORT PERSONNEL & DESIGNATED PERSON ASHORE		0
4.2	ORGANISATION CHART - SHIP / SHORE		0
4.3	SHIPBOARD JOB DESCRIPTIONS		0
	MASTER		0
	SENIOR ENGINEER		0
	BOSUN		0
	SENIOR SEAMAN (GENERAL DUTIES)		0
	COOK (GENERAL DUTIES)		0
<b>5.0</b>	<b>ARBITRATION</b>		0
5.1	ARBITRATION ON UNSOLVED PROBLEMS RELATED TO SAFETY AND POLLUTION PREVENTION		0
<b>6.0</b>	<b>MASTER'S RESPONSIBILITY AND AUTHORITY</b>		0
6.1	STATEMENT OF MASTER'S OVERRIDING AUTHORITY		0
6.2	IMPLEMENTATION AND MAINTENANCE OF THE SMS		0
<b>7.0</b>	<b>RESOURCES AND PERSONNEL</b>		0
7.1	ONBOARD MANNING LEVEL		0
7.2	SAFETY TRAINING FOR NEW CREW		0
7.3	ONBOARD TRAINING		0
7.4	APPLICABLE SAFETY RULES AND REGULATIONS		0

7.5	SAFETY COMMITTEE MEETINGS		0
<b>8.0</b>	<b>SHIPBOARD OPERATIONS</b>		0
8.1	WORK PERMITS		0
8.2	PERSONNEL SAFETY/PPE		0
<b>9.0</b>	<b>EMERGENCY PREPAREDNESS</b>		0
9.1	TRAINING PROGRAMME AND DRILLS		0
9.2	SOPEP		0
9.3	EMERGENCY PROCEDURES		0
<b>10.0</b>	<b>INCIDENTS</b>		0
10.1	REPORTING AND HANDLING OF INCIDENTS		0
<b>11.0</b>	<b>DOCUMENTATION</b>		
11.1	DOCUMENT CONTROL		0
11.2	AUTHORISATION OF CHANGE OF DOCUMENTS		0
11.3	MANDATORY RULES AND REGULATIONS		0
<b>12.0</b>	<b>VERIFICATION, REVIEW AND EVALUATION</b>		0
12.1	INTERNAL AUDITS		0
12.2	MASTERS REVIEW		0

### 1.3 ABBREVIATIONS

The following abbreviations may be used in this manual.

<b>ABS</b>	American Bureau of Shipping
<b>COSSH</b>	Control of Substances Hazardous to Health
<b>CRV</b>	Coastal Research Vessel
<b>DOC</b>	Document of compliance (Company ISM Certificate)
<b>DPA</b>	Designated Person Ashore
<b>EOP</b>	Emergency Operating Procedure
<b>H &amp; S</b>	Health and Safety
<b>IMO</b>	International Maritime Organization
<b>IMRS</b>	International Maritime Safety Rating System
<b>MSDS</b>	Material Safety Data Sheet
<b>MV</b>	Motor Vessel
<b>NATO</b>	North Atlantic Treaty Organization
<b>NCR</b>	Non Conformity Report
<b>PMS</b>	Planned Maintenance System
<b>PPE</b>	Personal Protective Equipment
<b>PTW</b>	Permit to Work
<b>RA</b>	Risk Assessment
<b>SMC</b>	Safety Management Certificate
<b>SMM</b>	Shipboard Main Manual
<b>SMS</b>	Safety Management System
<b>SMT</b>	Ship's Management Team
<b>SMO</b>	Ship Management Office, SACLANTCEN
<b>SOP</b>	Standard Operating Procedure
<b>SOPEP</b>	Shipboard Oil Pollution Emergency Plan

## 1.4 DEFINITIONS

### **Accidents**

Incidents involving injury or damage to life, the ship, it's scientific equipment, or the environment.

### **Administration**

The government of the state whose flag the ship is entitled to fly

### **Audit team**

Member(s) of an audit group, which are qualified to perform a safety management audit.

### **Company**

The Owner of the ship or any other organisation or person such as the Manager, or the Bareboat Charterer, who has assumed responsibility for operation of the ship from the Owner of the ship and who, on assuming such responsibility, has agreed to take on the duties and responsibilities imposed by the Code.

**In all cases the Company is NATO, SACLANTCEN Undersea Research Centre.**

### **Corrective Action**

Action taken to eliminate the causes of an existing nonconformity or other undesirable situation in order to prevent recurrence.

### **Designated Person Ashore**

The person ashore with direct access to the highest levels of management, who has the responsibility and the authority to monitor the safety and pollution prevention aspects of the operation of the ship, and to ensure that adequate resources and shore-based support are applied, as required.

### **Document of Compliance**

A document issued to a company showing compliance with the requirements of the ISM Code.

### **Hazardous Occurrences**

Situations, which could have led to an accident if they had developed further (i.e. near misses)

### **Incident**

An incident, is an undesired event that could or does result in loss. Incidents include accidents, non-

conformities, near misses, recommendations, and conditions of class and hazardous occurrences.

**Internal SMS Audit**

A systematic and independent verification process carried out by the Company as part of its management function to determine whether the SMS activities and related results comply with the SMS.

**International Safety Management Code**

The International Management Code for the Safe Operation of Ships and for Pollution Prevention, as adopted by IMO Resolution A.741(18), as may be amended by IMO.

**Key Personnel**

Those personnel in Shore-Based Management and Shipboard Management to whom authority and responsibility has been delegated in order to manage and control operations.

The key personnel in the Company shall include:

Head, SMO

CRV Superintendent

Key personnel in Shipboard Management are the Master and the Chief Engineer.

**Major Non-Conformity**

An identifiable deviation which poses a serious threat to personnel or ship safety, or a serious risk to the environment and requires immediate corrective action. In addition, the lack of an effective and systematic implementation of a requirement of the ISM Code is also considered as a major non-conformity.

**Objective Evidence**

Quantitative or qualitative information, records or statements of fact pertaining to safety, or to the existence and implementation of an SMS element which is based on observation, measurement or test and which can be verified.

**Observation**

A statement of fact made during a safety management audit, and sustained by objective evidence.

**Owners**

In all cases this shall be the SACLANT Undersea Research Centre acting on behalf of the North Atlantic Treaty Organization.

**Safety Management Audit**

A systematic and independent examination to determine whether the SMS activities and related results comply

with planned arrangements, and whether these arrangements are implemented effectively, and are suitable to achieve objectives.

**Safety Management Certificate**

A document issued to a ship, which signifies that the Company and its shipboard management operate in accordance with the approved SMS.

**1.5 CONTROLLED CIRCULATION LIST**

This document is a controlled item and will be verified and updated regularly. Three copies will be produced and will be kept in the following locations:

- 1 - Office (SMO)
- 2 - Ship (Bridge / Wheelhouse)
- 3 - Ship (Ship's Office)

## **2.0 MANAGEMENT INFORMATION**

### **2.1 PURPOSE**

The purpose of the Safety Management System is to ensure that conditions, activities and tasks, both ashore and afloat, which affect safety and environmental protection, are planned, organized, executed and checked in accordance with:

Shipboard Procedures and work instructions

Legislative and Company requirements

Mandatory rules and regulations

Applicable codes, guidelines and standards recommended by IMO, administrations, Classification Societies and the Maritime Industry.

### **2.2 STRUCTURE OF THE DOCUMENTATION**

This manual describes the procedures that SACLANTCEN has in place to uphold the safety and environmental protection policy. Against each Standard Operational Procedure for RV LEONARDO, the corresponding section of the ISM code to which the procedure refers is identified.

The words "he, his, she, hers" are entirely gender free where the context of these procedures and work procedures require.

Nothing in these instructions shall override any mandatory rules and regulations that may be required by the IMO, Administrations, Classification Societies and Maritime Industry. Where any such disagreement is noted it should be brought to the attention of SMO immediately.

### **2.3 SACLANTCEN MANAGEMENT INFORMATION**

SACLANTCEN Undersea Research Centre on behalf of the NATO nations operates RV LEONARDO. The senior manager is The Director, SACLANTCEN and The Head, Ship Management Office, operates the ship, on his behalf.

The postal address is:  
Head, Ship Management Office  
SACLANT Undersea Research Centre  
Viale S. Bartolomeo 400  
19138 La Spezia  
Italy

Tel: (+39) 0187 527 219  
Fax: (+39) 0187 524 163  
Email: [gobey@saclantc.nato.int](mailto:gobey@saclantc.nato.int)



### **3.0 SACLANTCEN OBJECTIVES AND POLICY**

#### **3.1 SAFETY AND POLLUTION PREVENTION POLICY STATEMENT**

It is NATO's policy (contained within Staff and Management Instructions (29-01)) to:

- Provide healthy and safe working conditions
- Maintain a safe and pollution-free operating practice
- Take into account applicable codes, guidelines and standards recommended by the International Maritime Organization, Administrations, Classification Societies, and Maritime Industry Organizations.

Objectives are to:

- Provide for safe practices in ship operation and a safe working environment.
- Establish safeguards against all identified risks.
- Continuously improve the safety management skills of personnel ashore and aboard RV LEONARDO.
- Be prepared for emergencies, related both to safety and environmental protection.

These objectives will be achieved by:

- Regular inspections and maintenance of equipment and reviews of procedures to ensure their compliance with experience gained, new technology, and alteration in public demands.
- Maintaining high standards of safety consciousness, personal discipline and individual accountability by adherence to a comprehensive and documented system of training.
- Actively promoting employee participation in measures aimed at improving safety and protecting the environment.
- Keeping all personnel fully informed of any known or potential hazards that may affect themselves, their colleagues, the ship or the environment by transmittal of pertinent documentation.
- Ensuring adherence at all times to the documented operating procedures by a system of internal verification of procedures and activities.
- Continuously reviewing all mandatory rules, regulations, industry codes and guidelines that are relevant to RV LEONARDO.

All employees are expected to comply with Safety and Pollution Prevention Regulations and Procedures at all times and to take the necessary precautions to protect

themselves, their colleagues, the ship, and the environment.

### **3.2 DRUG AND ALCOHOL POLICY**

SACLANTCEN is committed to maintaining a safe working environment for all employees, to ensure the safe operation of all SACLANTCEN vessels and to maintain safety policies in line with current standards. To this end SACLANTCEN operates a Drug and Alcohol Policy which is fully detailed in SACLANTCEN Instruction 70-99 and applies to RV LEONARDO. A copy of this instruction is contained at ANNEX A.

#### **4.0 RESPONSIBILITIES AND AUTHORITY**

##### **4.1 SHORE BASED SUPPORT PERSONNEL - DESIGNATED PERSON ASHORE**

The role of the Designated Person Ashore is to ensure overall conformity with the Safety Management System as defined in the Safety Management Manual. The designated Person Ashore has access to the highest management levels, to ensure the safe operation of the ship and to provide a direct link between SACLANTCEN and those on board.

SACLANTCEN has appointed The Head, Ship Management Office as the Designated Person Ashore.

The designated backup to the DPA is the RV Systems Manager / Superintendent.

The responsibility and authority of the DPA includes monitoring the safety and pollution prevention aspects of ship operation and ensuring that adequate resources and shore-based support are applied, as required. More specifically, the DPA is responsible for:

- Verifying the effective implementation and maintenance of the Company's SMS
- The control of SMS documentation
- Ensuring that shipboard and shore-based audits of the SMS are carried out
- Programming system review meetings and keeping records of these
- Ensuring the SMS is understood by sea and office personnel
- Identifying training requirements of shore-based personnel involved with the SMS
- Reporting directly to the Director, SACLANTCEN on significant issues within the SMS

#### **DPA CONTACT DETAILS**

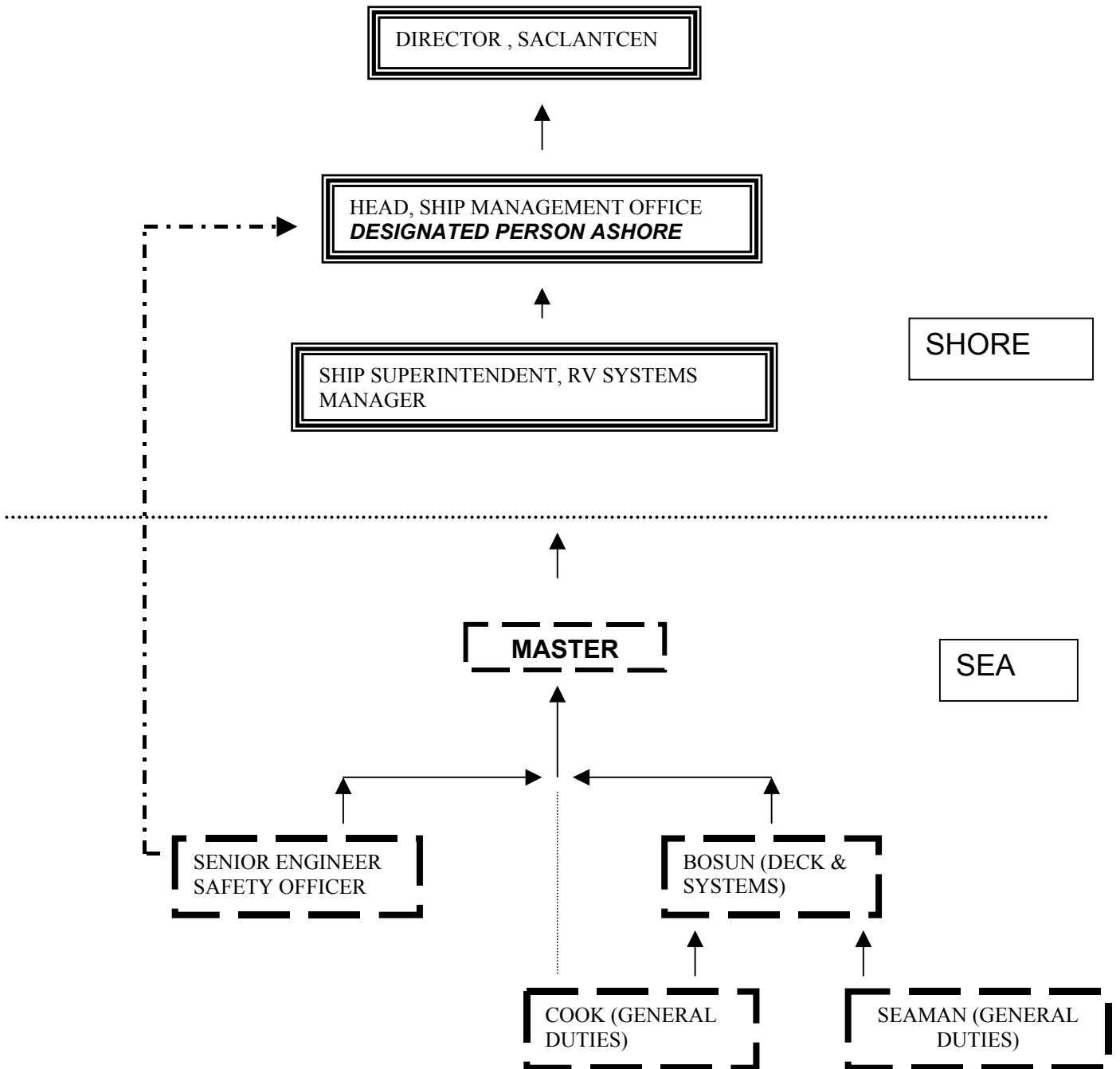
Head, Ship Management Office  
Viale San Bartolomeo 400,  
19138 La Spezia, Italy

Tel: 00 39 0187 527 219

Fax: 00 39 0187 524 163

Email: [gobey@saclantc.nato.int](mailto:gobey@saclantc.nato.int)

4.2 ORGANIZATION CHART - SHIP / SHORE



### 4.3 SHIPBOARD JOB DESCRIPTIONS

#### MASTER

##### A. GENERAL

The Master is responsible for the ship under his command according to national legislation, international conventions and regulations and any specific SACLANTCEN instructions that may be issued from time to time.

**The Master has the overriding authority and the responsibility to take whatever action he considers to be in the best interest for the safety of the crew, scientific staff, ship, scientific equipment and the marine environment.**

He is the head of the Shipboard Management Team (SMT).

##### B. RESPONSIBILITIES

The Master is responsible for:

- Implementing the Safety and Pollution prevention policy of SACLANTCEN.
- Motivating the crew in the observation of that policy.
- Issuing orders and instructions in a clear and simple manner.
- Reviewing safety and pollution prevention activities.
- Regularly reviewing the SMS and recommending any necessary improvements.
- Reporting any defects or other matters which may have implications for safe operations or pollution risk and which may require the assistance of SACLANTCEN.
- Execution of the on-board training programme.
- Investigating and reporting of non-conformities, accidents, near-misses and hazardous situations to SACLANTCEN.
- Ensuring that all controlled documents on board are up to date and issued in accordance with SACLANTCEN instructions.
- Requesting assistance from SACLANTCEN as may be deemed necessary to ensure safe and pollution free operation of the ship.
- Ensuring that the vessel has valid certificates for the intended voyage.

**C. AUTHORITY**

The Master has the authority to:

- Request assistance from SACLANTCEN as he finds necessary.
- Assign special duties to the crew.
- Issue instructions and orders to crew in all matters, and to scientific staff in matters of safety relating to RV LEONARDO.

**D. DELEGATION**

The Master may delegate part of his authority to the Chief Engineer, Bosun, or other crew member. He may not, however, delegate responsibility for the following:

- Navigation
- Management and documentation of the SMS
- Implementation of corrective action for non conformances
- Implementation and control of shipboard activities relating to shipboard emergencies and environmental protection.

**SENIOR ENGINEER**

The Senior Engineer is responsible to the Master for:

- Ensuring safe and efficient operation and maintenance of all propulsion, power management, auxiliary and deck machinery and systems, electrical appliances, air conditioning, domestic installations, calorifiers, fittings and structures within and without the machinery spaces and such items as may be detailed by the Head SMO from time to time. This includes electronic control and alarm systems.
- Acting as the Safety Officer of the vessel and therefore will ensure that all international and SACLANTCEN regulations pertaining to safety are carried out.
- The overall configuration of the vessel and all her systems, equipment, drawings and documentation.
- Ensuring that the quiet state of the vessel is maintained.
- Ensuring that the quantities of bunkers, lubricating oils and water are sufficient to meet the present and planned requirements, with sufficient margin to allow for unforeseen occurrence.
- Ensuring that all planned maintenance and normal and emergency repair work is carried out properly. Ensuring that all work is planned for minimum disruption to the vessel's overall seagoing programme.
- The maximum reliability and availability of the plant for trials.
- Being on the Bridge whilst entering or leaving harbour, in confined waters and as specifically requested by the Master or dictated by the trials programme.
- Making regular inspections of machinery and machinery spaces so that at all times he is aware of the condition and operational capability of all items of machinery.
- Personally superintending the bunkering of the vessel taking care that the quantity and quality is as ordered and that no spills occur.
- Arranging all transfer of fuel oil/ lub oil/ ballast/ fresh water, checking his plans with the Master prior to actioning.
- Preparing all orders for spare gear and spare gear inventory lists and ensuring spares are stored properly.
- Maintaining all engine room records as required by Head SMO, the PMS and the Classification Society.
- Maximizing efficiency of machinery and equipment.

- Ensuring that any repair work being undertaken under contract is being carried out in a satisfactory manner.
- Dealing with the administration and upkeep of certification and survey requirements of both hull and machinery.
- Identifying potential ship hazards associated with engine operations and advising the Master accordingly.
- Developing the specifications for annual dry-docking in conjunction with the Systems Manager / Superintendent.



**BOSUN**

Under the general supervision of the Master, will:

- Take charge of all seamanship and deck operations onboard including repair and maintenance of deck systems and equipment, working as necessary with the Senior Engineer.
- Deploy, recover and stow all embarked scientific apparatus.
- Handle cranes, winches, A-frame, anchors, wire ropes and workboat in a safe and seamanlike manner.
- Assist with the loading and unloading of scientific equipment.
- Take charge of all deck-related maintenance and repair in accordance with the PMS schedules and Class requirements.
- Keep watch on the bridge when underway including the operation of all navigation equipment (DGPS, radars, echosounders, radio communications etc).
- Ensure the care, maintenance and cleanliness of all operational compartments in the vessel including bridge, laboratory and scientific spaces.
- Assist with the handling of underwater sound sources in accordance with SACLANTCEN Instructions.
- Be required to perform above duties both at sea and in harbour.
- Perform other related duties at sea and in harbour as required.

**COOK / GENERAL DUTIES**

Responsible to the Master for:

- Provision of and preparation of food onboard.
- Maintaining domestic cleanliness and hygiene in the galley, mess and all accommodation areas.
- Scheduling meal times in accordance with vessels mode of operation.
- Agreeing menus with Captain
- Ensuring food presentation is to a high standard and that all health and hygiene rules are adhered to.
- Recording number of crew and scientist's meals served. Listing visitor's meals and prepare monthly statements.
- Catering stores ordering, inventory and stowage.
- Allocating cabins onboard under instruction of the Master.
- Arranging laundry for cabin accommodation.
- Reporting any defects in domestic systems to the Master and Senior Engineer.

**SEAMAN (GENERAL DUTIES)**

Under the general supervision of the Bosun, will:

- Perform seamanship operations on board including repair and maintenance of deck equipment.
- Deploy, recover and stow all embarked scientific apparatus.
- Operate and maintain winches, cranes, anchors and wire ropes in a safe and seamanlike manner.
- Assist with the loading and unloading of scientific equipment.
- Assist with the Machinery routine maintenance and repair.
- Keep watch on the bridge when underway including the operation of all navigation equipment (DGPS, radars, echosounders, radio communications etc).
- Assist with the maintenance and cleanliness of all compartments in the vessel as directed.
- Assist with the handling of underwater sound sources in accordance with SACLANTCEN instructions and the relevant SOP.
- Be required to perform above duties both at sea and in harbour.
- Perform other related duties at sea and in harbour as required.

**SAFETY OFFICER**

The Ship's Safety Officer shall:

- Investigate all complaints from crewmembers and embarked scientific personnel about health, safety and environmental matters and report his findings to the Health, Safety and Environment Committee.
- Investigate every near miss and actual incident reported to the Health, Safety and Environment Committee.
- Report to the Health, Safety and Environment Committee any deficiencies in the implementation of the SMS relating to health, safety and environment protection.
- Make routine inspections of accommodation, storage, machinery and workspaces at intervals that shall not exceed three months.
- Maintain appropriate records of safety related matters.

**5.1 ARBITRATION ON UNSOLVED PROBLEMS RELATED TO SAFETY  
AND POLLUTION PREVENTION**

Every employee has the opportunity to request that a problem related to safety and pollution prevention, which is not dealt with satisfactorily by the SMS, is brought to the attention of the Director for a decision.

The Designated person ashore provides a link between the Company and all personnel onboard RV LEONARDO.

If the SMS is not sufficient in dealing with a problem regarding safety and pollution prevention, every person in RV LEONARDO can contact the DPA directly and can request that the matter is brought to the attention of the Director.

The Director will make the final decision.

**The name and contact details of the DPA are posted in the Messroom in RV LEONARDO.**

## **6.0 MASTERS RESPONSIBILITY AND AUTHORITY**

### **6.1 STATEMENT OF MASTER'S OVERRIDING AUTHORITY**

The Master is responsible for the ship under his command according to national legislation, international conventions and regulations and any specific SACLANTCEN instructions that may be issued from time to time.

**The Master has the overriding authority and the responsibility to take whatever action he considers to be in the best interest for the safety of the crew, scientific staff, ship, scientific equipment and the marine environment.**

He is the head of the Shipboard Management Team (SMT).

### **6.2 IMPLEMENTATION AND MAINTENANCE OF THE SMS**

The Master is responsible for the implementation of the SMS on board RV LEONARDO and ensuring that all records pertaining to the SMS are available.

The SMO, SACLANTCEN are responsible for the upkeep and maintenance of the SMS.

## **7.0 RESOURCES AND PERSONNEL**

### **7.1 ONBOARD MANNING LEVEL**

SACLANTCEN has reviewed the safe manning requirements for RV LEONARDO and for normal seagoing operations this is currently set at five suitably qualified personnel as detailed at section 4.3. In exceptional circumstances this may be reduced at the discretion of the Master and with permission from SMO provided that Flag State legislation is complied with.

### **7.2 SAFETY TRAINING FOR NEW CREW AND SCIENTISTS**

The Master shall ensure that:

- All personnel sailing in RV LEONARDO who would not be constantly supervised by a member of the ship's staff are briefed in what to do and where to go in an emergency in accordance with RV LEONARDO emergency procedures.
- All crewmembers are familiar with the operation of portable and fixed Fire-Fighting Equipment, Life Saving Appliances, Procedures and systems in force in accordance with RV LEONARDO emergency procedures.
- The training needs of crewmembers are identified and that such training is conducted.
- Records of all training activity are maintained in the appropriate training book.

### **7.3 ONBOARD TRAINING**

A training programme is to be established to cover the situations listed in section 9.1 of this manual. The aim of this training is to enable the crew to deal effectively and swiftly with any emergency situation which may develop. The Safety Officer is to maintain a master training log where all drills and exercises are recorded and a future training programme is formulated. The detail of all training is to be recorded along with any recommendations for further individual development.

### **7.4 APPLICABLE SAFETY RULES AND REGULATIONS**

The SOLAS training manual is provided onboard in accordance with Regulations 18(2) and 51, Chapter III of the SOLAS Convention. It is specific to RV LEONARDO and incorporates all the lifesaving and firefighting appliances onboard, where they are located and instruction in their proper use. Copies of the manual

shall be available to all members of the crew and the Master is responsible for ensuring that the contents are read and understood by all.

#### **7.5 SAFETY COMMITTEE MEETINGS**

The Master shall form a Health, Safety and Environment Committee. He shall assume the role of Chairman and the Senior Engineer shall assume the role of Shipboard Safety Officer.

All remaining members of the crew will serve on the Committee.

The purpose of the Safety Committee is to ensure that the highest standards of safety consciousness are maintained and to provide a forum for revision of the SMS.

The Committee shall normally meet once per month. If a serious accident, incident or near miss incident occurs the Committee shall meet as soon as possible to take action to prevent recurrence.

The Senior Engineer will take minutes of all meetings and copies should be placed in the Safety Committee file and also sent to SMO.

All meetings are to be structured and have an agenda.

The following shall be included:

- Those present
- Minutes of previous meeting and actions completed since last meeting.
- New issues. If possible action plans should be formulated, along with an agreed timescale for implementation.
- Safety training completed.
- Revision of the SMS.
- Date of next meeting.



## **8.0 SHIPBOARD OPERATIONS**

All operations referred to in this section are covered in detail by the relevant SOP. SOPs are to be considered the mandatory instructions for conducting any shipboard operation and are contained in Volume 2 of this manual.

### **8.1 WORK PERMITS**

There are certain procedures and work practices that require systems to be shut down, men to work in potentially hazardous situations, or involve interference with the operation of the vessel. All these situations are clearly identified in the relevant SOP and will require a work permit to be issued. The Safety Officer will issue work permits only when he is satisfied that all necessary safety precautions (Code of Safe Working Practices for Merchant Seamen) have been taken in accordance with the SOP.

Details of work permits are to be recorded in a log which should be inspected at regular intervals by the Safety Management Committee.

### **8.2 PERSONNEL SAFETY / PERSONAL PROTECTION EQUIPMENT**

SACLANTCEN is committed to promoting a safe work environment for all personnel and to ensure the safe operation of its vessels.

Personnel safety is paramount and no activity should be undertaken unless an approved SOP is used or a detailed risk analysis has taken place.

Where necessary, the correct personal protection equipment will be listed in the SOP. The wearing of personal protection equipment is **mandatory**.

## **9.0 EMERGENCY PREPAREDNESS**

### **9.1 TRAINING PROGRAMME AND DRILLS**

The Safety Officer, under the direction of the Master shall draw up a schedule of Emergency Drills and Exercises for all crewmembers. In drawing up the schedule reference should be made to the requirements of SOLAS, MARPOL and any Flag State legislation regarding the frequency of drills.

The schedule of drills and exercises shall include training and practice in dealing with the following:

- Fire in all compartments onboard.
- Use of fixed and portable firefighting systems.
- Rescue from enclosed space.
- Personnel injury and first aid.
- Flooding.
- Grounding.
- Collision.
- Abandoning ship.
- Directional Control failure.
- Power failure.
- Main propulsion failure.
- Man overboard.
- Oil pollution.

### **9.2 SOPEP**

Under the requirements of MARPOL, Chapter IV, Regulation 26, RV LEONARDO is not required to carry on board a Shipboard Oil Pollution Prevention Plan or equipment. However, any operation involving the transfer of fuel or oil should only be undertaken in accordance with the relevant SOP and under the direct supervision of the Senior Engineer.

### **9.3 EMERGENCY PROCEDURES**

Emergency Procedures are designed as Aide-Memoir's to assist personnel in the correct actions to be taken in the event of emergency. They detail the actions to be taken to ensure safety of life and the ship and to prevent the emergency from escalating. Emergency procedures for RV LEONARDO are in Volume three of this

manual. They should be kept on the Bridge at all times when the vessel is at sea in an easily accessible position.

## **10.0 INCIDENTS**

### **10.1 REPORTING AND HANDLING OF INCIDENTS**

***In order continually to improve safety and identify potential risks it is vital that all incidents involving safety are reported without fear of retribution.***

SACLANTCEN is committed to maintaining a safe workplace and in support of this any employee who is involved in, or witnesses an incident, accident, hazardous occurrence or non-conformity in or involving the ship, or any person onboard, shall verbally report the matter to the Safety Officer.

The Safety Officer shall use all relevant information to complete an incident form which shall be given to the Master for onward transmission to the DPA.

The Safety Officer shall take whatever action is necessary to correct the situation, at least in the short term. This action is to be recorded on the Incident report form.

On receipt of the incident form the DPA will determine the best course of action and propose corrective actions. The Master will then implement the corrective action. After a suitable period of time the corrective action will be discussed at the Safety Management Committee to determine its effectiveness.

## **11.0 MAINTENANCE OF THE SHIP AND EQUIPMENT**

SACLANTCEN has established procedures (PMS) to ensure RV LEONARDO is maintained in accordance with relevant rules and regulations and is available as required to support scientific work at sea.

Inspections are held at appropriate intervals and a system for reporting non-conformances and corrective actions has been established.

SACLANTCEN, through the use of EOPs has established procedures to identify equipment, the sudden operational failure of which may result in a hazardous situation.

### **11.1 DESCRIPTION OF THE MAINTENANCE SYSTEM**

The PMS is a computerised system consisting of a proprietary software package which incorporates the Classification Society survey cycle requirements. Maintenance work shall be kept to the schedule and the required records shall be properly maintained. The frequencies quoted in the PMS are to be treated as the minimum requirement and every effort should be made to identify equipment that through heavy use requires further maintenance to prevent catastrophic failure. Only suitably qualified and competent shipboard personnel shall carry out maintenance and repair work.

### **11.2 MAINTENANCE REPORTS FROM THE VESSEL**

Maintenance reports from the vessel shall be made in accordance with the PMS. All maintenance and defect reports are to be passed to the Ship Systems Manager/ Superintendent, SMO, SACLANTCEN.

## **12.0 DOCUMENTATION**

### **12.1 DOCUMENT CONTROL**

The purpose of the Document Control System is to assist all personnel to identify relevant documentation, to maintain correct records, and to ensure the Safety Management System is kept up to date and that all parts reflect the latest change status.

SACLANTCEN has developed a procedure to control all documents relevant to the SMS and to ensure that valid documents are available at all authorized locations. The documentation carried onboard is entirely specific for RV LEONARDO and encompasses the requirements of the ISM Code.

The SMS is organized so that personnel can easily refer to relevant procedures for the satisfactory performance of their duties.

### **12.2 AUTHORIZATION OF CHANGE OF DOCUMENTS**

The SMS is a controlled documentary system and changes can only be authorized by Head, SMO, SACLANTCEN.

All copies of the SMS are clearly labelled with Issue Number and Change State. When a change is authorized, all copies of the SMS are to be updated and the change recorded on the list of effective pages at the back of each manual.

The Master copies of all documents in the SMS are to be kept in SMO, SACLANTCEN.

### **12.3 MANDATORY RULES AND REGULATIONS**

There is a requirement to carry on board certain other publications which detail mandatory rules and regulations. These publications shall be considered part of the SMS and shall include, but not be limited to:

- The SOLAS Training manual
- MARPOL Regulations

### **13.0 VERIFICATION, REVIEW AND EVALUATION**

In order for the SMS to operate efficiently and to reflect accurately the operation of RV LEONARDO it is necessary to implement a system of verification, review and evaluation. RV LEONARDO is the only vessel operated directly by SACLANTCEN and therefore the size of the Ship Management Department does not support a large internal audit team.

#### **13.1 INTERNAL AUDITS**

An annual internal audit of the SMS will be conducted by the Ship Systems Manager / Superintendent. He will report his findings to Head, SMO and record the audit results and recommendations in the SMS. Guidelines for the conduct of the audit are held by SMO.

#### **13.2 MASTERS REVIEW**

The Master shall carry out a review of the SMS annually or at any lesser interval as directed by Head, SMO. The review is to be realistic and determine whether the policies in force are both practical and appropriate. The review will normally be conducted in December during a planned maintenance period. The review is to be formally recorded and the results forwarded to Head, SMO.