OPPORTUNITY MV18 B.V.

Registered Address: Van Heuven Goedhartlaan 13D, 1181 LE Amstelveen, the Netherlands
Dutch Chamber of Commerce Registration No.: 34261495

Annex 03: Ship Recycling Facility Plan and Ship Recycling Plan – Complementary Information to Block 11 of the *Notification Document for Transboundary Movements/Shipments of Waste*

According to the instructions for filling out Block 11 of the Notification Document for Transboundary Movements/Shipments of Waste, OPPORTUNITY MV18 B.V. hereby provides the M.A.R.S Europe A/S - Ship Recycling Facility Plan and Ship Recycling Plan.

The annex consists of:

- SRFP - Ship Recycling Facility Plan
- Ship Recycling Plan and attachments

OPPORTUNITY MV18 B.V.

_____
Name: Yu Nakaguchi
Title: Director

OPPORTUNITY MV18 B.V.

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Annex 03

SRFP &

SRP and attachments

M.A.R.S. Europe

Ship Recycling Facility Plan (SRFP)

The M.A.R.S. Europe Ship Recycling Facility Plan (SRFP) is an integrated part of the Environmental, Health and Safety management system.

The SRFP is made as a reference documents with links to relevant documents, and is structured in accordance with EU Regulation No 1257/2013 on ship recycling and amending Regulation

The SRFP is approved from EU in august 2018 where M.A.R.S. Europe was included on the EU-list of approved ship recycling facilities. It has since been updated.

The EHS Management system is a corporate system and is covering all activities for M.A.R.S. Europe and not only ship breaking. E.g. platform decommissioning is another activity.

Documents referred to in SRFP will be submitted upon request.

Article 13 Section 1	Elements	Compliance Yes/No/Partly	Comments	Reference documents	Reference to sections in reference document
a	it is authorised by its competent authorities to conduct ship recycling operations;	Yes	Environmental approval received in March 2018 Approved for EU-list of ship recycling facilities in August 2018 Approved for handling and temporary storage of NORM in July 2020	EHS-DEC-A101 Environmental Approval EHS-DEC-A105 Approval on EU list EHS-DEC-A107 NORM Approval	
b	it is designed, constructed and operated in a safe and environmentally sound manner;	Yes	M.A.R.S. Europe site is designed with the best available techniques for operation of ship recycling in a safe and environmentally sound manner, with membraned soil and a drainage system with shut-off valves covering the entire site. An Environment, Health, and Safety Management System has been developed and implemented in accordance with ISO 14001 and 45001. M.A.R.S. Europe EHS Management Manual is designed to be used as a reference and guide to M.A.R.S. Europe's policies and procedures for healthy, safe and environmentally sound operations.	EHS-PRO-366 Site Operations and Maintenance Plan EHS-PRO-367 Appendix for O&M Plan EHS-MAN-200 EHS Manual	Appendix B Procedure Plan
c	it operates from built structures;	Yes	The site is constructed with quay area (off-load) and hinterland area with membrane. Office, warehouse, and storage of hazardous waste are in built structures.	EHS-PLN-600 Layout of Buildings EHS-PLN-601 Waste Warehouse Plan EHS-PLN-603 Site Layout	
d	it establishes management and monitoring systems, procedures and techniques which have the purpose of preventing, reducing, minimizing, and to the extent practicable eliminating:				
d(i)	health risks to the workers concerned and to the population in the vicinity of the ship recycling facility, and	Yes	M.A.R.S. Europe implemented Hazard Identification and Risk Assessment to identify and correct those hazards within the workplace, which if left unchecked, could result in personal injury, or harm to the health of employees and visitors, or damage to equipment/structures. Work procedures and instructions includes e.g. Hot Work Permit, Cold Work Permit, Job Safety Analysis Program, Occupational Health and Working at Height. The population of the vicinity of the ship recycling facility is not expected to be affected by the project, see EIA Decision.	EHS-PRO-313 Hazard Identification and Risk Assessment EHS-FRM-500 Hot Work EHS-FRM-510 Cold Work EHS-FRM-505 JSA EHS-PRO-316 Occupational Health EHS-PRO-327 Working at Height	
d(ii)	adverse effects on the environment caused by ship recycling;	Yes	The adverse effects on the environment from the shipbreaking facility is described and assessed in the Environmental Approval. M.A.R.S. Europe has implemented procedures for conducting Environmental Aspect and Impact Identification and make an environmental aspect register. Work procedures and instructions includes e.g. Dust prevention and environmental monitoring.	EHS-DEC-A101 Environmental Approval EHS-RPT-701 Environmental Aspect Register EHS-PRO-321 Environmental Monitoring EHS-WIN-403 Dust Prevention	
e	it prepares a ship recycling facility plan;	Yes	The SRFP was submitted to the Municipality of Frederikshavn in July 2018	Current document and attached reference documents	
f	it prevents adverse effects on human health and the environment, including the demonstration of the control of any leakage, in particular in intertidal zones;	Yes	Prevention of leakages is described in Environmental Approval. M.A.R.S. Europe has procedures for preventing, handling, and reporting spill and leakages.	EHS-DEC-A101 Environmental Approval EHS-PRO-337 Incident Management Procedure EHS-PRO-309 Incident and injury Reporting EHS-PRO-351 Site Specific Emergency Response Plan EHS-PRO-321 Environmental Monitoring EHS-PRO-327 Hazardous Materials Response EHS-WIN-402 Use of Floating Booms	Section 2.2, p. 31
g	it ensures safe and environmentally sound management and storage of hazardous materials and waste, including:				
g(i)	the containment of all hazardous materials present on board during the entire ship recycling process so as to prevent any release of those materials into the environment; and in addition, the handling of hazardous materials, and of waste generated during the ship recycling process, only on impermeable floors with effective drainage systems;	Yes	In general waste will be handled in accordance with the IMO Resolution for ship recycling and Hong Kong resolution as well as municipality regulations. The site is constructed with quay area (off-load) and hinterland area with membrane. The entire site is covered with drainage systems. Storage of hazardous waste is located in built structures with concrete floors and spill trays.	EHS-PRO-306 Waste & Materials Management Plan EHS-PRO-307 Hazardous Materials Response EHS-PRO-305 Hazardous Materials – Right to Know EHS-PRO-315 Personal Protective Equipment EHS-PRO-336 Naturally Occurring Radioactive Material (NORM) EHS-PLN-601 Waste Warehouse Plan EHS-PRO-366 Site Operations and Maintenance Plan	

			M.A.R.S. Europe has procedures for handling of hazardous materials and waste.	EHS-PRO-367 Appendix for O&M Plan	Appendix C – Layout of installations in load in Appendix D – Layout of installations in hinterland Appendix E – Layout of installations at cleaning facility
g(ii)	that all waste generated from the ship recycling activity and their quantities are documented and are only transferred to waste management facilities, including waste recycling facilities, authorised to deal with their treatment without endangering human health and in an environmentally sound manner;	Yes	Hazardous materials and waste handling will be carried out with FORTUM WASTE SOLUTION A/S as subcontractor to M.A.R.S. and guarantor of operations in compliance to national and international rules and regulations, including terms of environmental approval. Fortum A/S is fully authorized/approved and is certified according to ISO 14001, ISO 45001 and Achilles. Documentation is attached. Relevant instructions related to the handling, packaging and labelling of waste by Fortum A/S is attached as well as a flowchart for the flow of hazardous waste from quay side to final disposal. Fortum uses subcontractor, RECOVER to handle asbestos, PCB and Lead. Attached is documentation from RECOVER. All handling by Fortum and RECOVER will be in accordance with national regulations. Non-hazardous waste will be handled by M.A.R.S. Employees and packed and transported by Fortum. Documentation for the authorization will be required and stored in M.A.R.S EHS system. Quantities of the different fractions of hazardous and non-hazardous waste will be registered and documented for each ship. All NORM and Mercy handling and transportation will be carried out by Semco Maritime A/S as subcontractor for M.A.R.S. and guarantor of operations in compliance to national and international rules and regulations, including terms of environmental approval. Fortum A/S is fully authorized/approved and is certified according to ISO 14001, ISO 45001 and ISO 9001. Semco is authorized to handle, store, pack, and transport NORM from their facility in Esbjerg. Semco has a dedicated fenced area at the M.A.R.S. site for temporary storage of NORM.	EHS-PRO-306 Waste & Materials Management Plan EHS-PRO-336 Naturally Occurring Radioactive Material (NORM) EHS-PRO-335 Labelling and Packaging, FORTUM EHS-PRO-336 Sorting, Handling and Packaging, FORTUM EHS-PRO-359 Waste Management, FORTUM EHS-PRO-363 NORM-handling flow chart EHS-PRO-365 Fortum Waste Flow EHS-DEC-A102 Fortum Certificates EHS-DEC-A103 Semco NORM approval EHS-DEC-A104 Environmental Approval, Semco	
h	it establishes and maintain an emergency preparedness and response plan; ensures rapid access for emergency response equipment, such as fire-fighting equipment and vehicles, ambulances and cranes, to the ship and all areas of the ship recycling facility;	Yes	M.A.R.S. Europe has identified and established emergency preparedness and response plans for the various facilities within the company. The plans cover facility specific and general emergency situations that have been identified and describe the response necessary to maintain control of the situation and to overcome any consequential Environmental, Health, & Safety impacts.	EHS-MAN-200 EHS Management System Manual EHS-PRO-337 Incident Management Procedure EHS-PRO-309 Incident and Injury Reporting EHS-PRO-351 Site Specific Emergency Response Plan EHS-PRO-307 Hazardous Materials Response	Section 4.7
i	it provides for worker safety and training, including ensuring the use of personal protective equipment for operations requiring such use;	Yes	All M.A.R.S. Europe personnel performing tasks and jobs that may impact on EHS risks will be competent. The competence requirements for the task or job will be defined in terms of the education, training and/or experience necessary to perform it. All legal requirements are met. M.A.R.S. Europe has procedures for e.g. Personal Protective Equipment, Hazardous Materials Response, Training, Onboarding and Competence requirements.	EHS-PRO-315 Personal Protective Equipment EHS-PRO-316 Occupational Health EHS-PRO-323 Competent Persons HRO-PRO-320 Training Procedure HRO-PRO-(308-319) Competence Requirements HRO-PRO-305 Training Matrix, Yard Workers HRO-PRO-304 Onboarding Procedure HRO-POL-101 Recruiting Strategy HRO-FRM-502 Employee Performance Plan HRO-FRM-509 Side-by-side training HRO-RPT-700 Competence Matrix, Yard Workers	
j	it establishes records on incidents, accidents, occupational diseases and chronic effects and, if requested by its competent authorities, reports any incidents, accidents, occupational diseases or chronic effects causing, or with the potential for causing, risks to workers' safety, human health and the environment;	Yes	Any non-conformance or incident with EHS significance is recorded and investigated, steps are taken to control any impact caused, and when appropriate and depending on seriousness or potential seriousness of the incident, corrective or preventive action is taken to prevent a recurrence. When necessary, Operating Procedures will be revised, or new procedures written.	EHS-PRO-337 Incident Management Procedure EHS-PRO-309 Incident and Injury Reporting EHS-PRO-321 Environmental Monitoring EHS-PRO-317 Root Cause Analysis	

SRFP	Elements	Compliance Yes/No/Partly	Comments	Reference Documents	Reference to sections in reference document
1	**Facility Management**				
1.1	Company Information	Yes	Information about the operator and ownership, see QMS-MAN-207 The operators experience is described in the attached track records. An Environmental, Health and Safety Management System, EHS, is developed and implemented. The Management System is according to ISO 14001 and ISO 45001. The EHS Management System Manual describes the Management System and the policies of M.A.R.S Europe. The organizational structure is described in the EHS Manual, section 4.1 and in organization diagram. M.A.R.S. Europe has determined which EHS legislation, regulations and any relevant codes of practice apply to its activities. The information is presented in a Register of Legal and other Requirements and a Register of Statutory Inspections. M.A.R.S. Europe sets annual EHS performance criteria and annual improvement objectives, consistent with the EHS policy, including the commitment to continual improvement, see EHS Manual System, section 3.3. and 5.	QMS-MAN-207 M.A.R.S. ownership QMS-RPT-714 Track record, M.A.R.S. Europe QMS-RPT-715 Track record, M.A.R.S. Inc. EHS-PRO-308 Legal and Other Requirements EHS-WIN-414 Statutory Inspections QMS-POL-100 M.A.R.S. Europe Strategy HRO-MAN-201 Organization Structure EHS-MAN-200 EHS Manual	Section 4.1, 3.3, 5
1.2	Training Program	Yes	All M.A.R.S. Europe personnel performing tasks and jobs that may impact on EHS risks will be competent. The competence requirements for the task or job will is defined in terms of the education, training and/or experience necessary to perform it. Systems for competence assurance applies to both initial recruitment and to selection for new activities. For each project, a project organization will be set op and responsibilities distributed.	HRO-PRO-320 Training Procedure HRO-PRO-(308-319) Competence Requirements HRO-PRO-305 Training Matrix, Yard Workers HRO-PRO-304 Onboarding Procedure HRO-POL-101 Recruiting Strategy HRO-FRM-502 Employee Performance Plan HRO-FRM-509 Side-by-side training HRO-RPT-700 Competence Matrix, Yard Workers	
1.3	Worker Management	Yes	Worker responsibilities are described in general in EHS Management System Manual, section 4.1. and specific in each procedure and work instruktion. For each project a project organization will be set op and responsibilities distributed.	EHS-MAN-200 EHS Manual	Section 4.1
1.4	Records Management	Yes	M.A.R.S. Europe maintains a system of records and records management. All documents and records are defined, identified, filed and stored securely so that they will not deteriorate and can be retrieved.	QMS-PRO-300 Controlled Document Formatting QMS-PRO-301 Control of Documents QMS-PRO-308 Document Control and Sharing Information EHS-MAN-200 EHS Manual	Section 1.2, 5.3
2	**Facility Operation**				
2.1	Facility information	Yes	M.A.R.S. Europe site is located at the Port of Frederikshavn in Northern Denmark. M.A.R.S. Europe site is designed with the best available techniques for operation of ship recycling in a safe and environmentally sound manner, with membraned soil and a drainage system with shut-off valves covering the entire site.	EHS-RPT-706 Facility Information	
2.2	Permits, licenses and certification	Yes	M.A.R.S. Europe have the following permits/approvals: - Environmental Approval - EU-list Approval - NORM Approval An Environment, Health, and Safety Management System and a Quality System has been developed and implemented in accordance with ISO 14001, ISO 45001, and ISO 9001. M.A.R.S. Europe expects to obtain the ISO certificates in Q1 2021.	EHS-DEC-A101 Environmental Approval EHS-DEC-A105 Approval on EU-list EHS-DEC-A107 NORM Approval	
2.3	Acceptability of ships	Yes	The process for ship recycling is dependent on the specific project, but the general process is described in flow diagrams. Ship Recycling Plans follows the Hong Kong International Convention, MEPC.196 and the method is approved by the municipality of Frederikshavn.	EHS-FRM-514 Ship Recycling Plan EHS-WIN-412 Guidance on completing the ship recycling plan EHS-PRO-362 Shipbreaking and Platform Decommissioning, Flow charts	
2.4	Ship Recycling Plan (SRP) development	Yes	See 2.3	EHS-FRM-514 Ship Recycling Plan	

				EHS-WIN-412 Guidance on completing the ship recycling plan	
2.5	Vessel Arrival Management	Yes	See 2.3	EHS-FRM-514 Ship Recycling Plan EHS-WIN-412 Guidance on completing the ship recycling plan	
2.6	Ship recycling methodology	Yes	For each project a project specific method statement is developed. See 2.3	EHS-PRO-362 Shipbreaking and Platform Decommissioning, Flow charts	
2.7	Reporting upon completion	Yes	Upon completion of ship recycling a waste and environmental report is send to the client and the municipality	EHS-FRM-539 Environmental Accounting and Reporting EHS-FRM-540 Waste Accounting and Reporting	
3	**Worker safety and health compliance approach**				
3.1	Worker health and safety	Yes	M.A.R.S. Europe has implemented Hazard Identification and Risk Assessment to identify and correct those hazards within the workplace, which if left unchecked, could result in personal injury, or harm to the health of employees and visitors, or damage to equipment/structures. An occupational health procedure is established, and a Health and Safety organization is established.	EHS-PRO-352 Health and Safety Organization EHS-PRO-303 Stop Work Authority EHS-PRO-319 Lone Worker Policy EHS-PRO-316 Occupational health	
3.2	Key safety and health personnel	Yes	See 3.1		
3.3	Job hazard assessment	Yes	Job Safety Analyses for all tasks being performed on the site is prepared. All workers must understand and sign the JSA before commencement of the work task.	Task specific JSA's EHS-FRM-505 JSA Form EHS-PRO-314 Job Safety Analysis Program EHS-WIN-400 Job Safety Analysis Guidance	
3.4	Prevention of adverse effects to human health				
3.4.1	Safe-for-entry procedures	Yes	Process diagram for the confined space entry and related procedures/work instructions/forms is shown on page 21 in EHS-PRO-324 Confined Space	EHS-PRO-324 Confined Space EHS-WIN-405 Portable Gas Detection Monitors EHS-FRM-500 Hot Work EHS-FRM-510 Cold Work	
3.4.1.1	Safe-for-entry-criteria	Yes	See 3.4.1	EHS-PRO-324 Confined Space	
3.4.1.2	Competent person for Safe-for-entry determination	Yes		EHS-PRO-323 Competent Persons	
3.4.1.3	Safe-for-entry inspection and testing procedures	Yes		EHS-PRO-324 Confined Space	
3.4.1.4	Oxygen	Yes		EHS-PRO-324 Confined Space	
3.4.1.5	Flammable atmospheres	Yes		EHS-PRO-324 Confined Space	
3.4.1.6	Toxic, corrosive, irritant or fumigated atmospheres and residues	Yes		EHS-PRO-324 Confined Space	
3.4.1.7	Safe-for-entry determination by a competent person	Yes		EHS-PRO-324 Confined Space	
3.4.1.8	Safe-for-entry certificate, warning signs and labels	Yes	Safe of Entry Certificate (form) is attached in EHS-PRO-324	EHS-PRO-324 Confined Space	
3.4.1.9	Safe-for-entry operational measures	Yes		EHS-PRO-324 Confined Space	
3.4.2	Safe-for-hot-work-procedures	Yes		EHS-PRO-300 Hot Work Permitting EHS-PRO-323 Competent Persons EHS-PRO-324 Confined Space EHS-FRM-500 Hot Work	
3.4.2.1	Safe-for-hot-work criteria	Yes		EHS-PRO-324 Confined Space EHS-PRO-300 Hot Work Permitting	
3.4.2.2	Competent person for Safe-for-hot-work determination	Yes		EHS-PRO-324 Confined Space EHS-PRO-300 Hot Work Permitting	
3.4.2.3	Safe-for-hot-work inspection, testing and determination	Yes		EHS-PRO-324 Confined Space EHS-PRO-300 Hot Work Permitting	
3.4.2.4	Safe-for-hot-work certificate, warning signs and labels	Yes		EHS-PRO-324 Confined Space	
3.4.2.5	Safe-for-hot-work operational measures	Yes		EHS-PRO-324 Confined Space	
3.4.3	Welding, cutting, grinding, and heating	Yes		EHS-PRO-301 Welding and Flame Cutting EHS-PRO-300 Hot Work Permitting EHS-FFO-904 JSA Burning and Cutting EHS-PRO-358 Standard Operating Procedure - Cutting	
3.4.4	Drums, containers and pressure vessels	Yes		EHS-PRO-301 Welding and Flame Cutting	

				EHS-FFO-308 JSA Dismantling of pressured bottles	
3.4.5	Prevention of falling from heights and accidents caused by falling objects	Yes		EHS-PRO-327 Working at Height EHS-PRO-332 Scaffold and Ladder Safety EHS-WIN-408 Scaffold and Ladder Inspections EHS-WIN-407 Fall Protection Equipment Inspections	
3.4.6	Gear and equipment for rigging and materials handling	Yes		EHS-PRO-334 Cranes and Rigging (LAG) EHS-PRO-347 Overhead and Gantry Cranes EHS-WIN-410 Crane & Rigging Inspection and Color Coding (LAG) EHS-FRM-536 Crane Rigging Check List EHS-FRM-531 Lift Plan Check List EHS-FFO-905 JSA Crane Operation	
3.4.7	Housekeeping and illumination	Yes		EHS-PRO-316 Occupational Health	
3.4.8	Maintenance and decontamination of tools and equipment	Yes		EHS-WIN-408 Scaffold and Ladder Inspections EHS-WIN-407 Fall Protection Equipment Inspections EHS-WIN-409 Respiratory Protection Inspections EHS-FRM-542 EHS Test and Inspection Plan	
3.4.9	Health and sanitation	Yes		EHS-PRO-316 Occupational Health	
3.4.10	Personal protective equipment	Yes		EHS-PRO-315 Personal Protective Equipment EHS-PRO-333 Respiratory Protection	
3.4.11	Worker exposure and medical monitoring	Yes		EHS-PRO-302 Control of substances hazardous to health (COSHH) EHS-PRO-316 Occupational Health	
3.5	Emergency preparedness and response plan	Yes		EHS-PRO-351 Site Specific Emergency Response Plan EHS-PRO-307 Hazardous Materials Response	
3.6	Fire and explosion prevention, detection, and response	Yes		EHS-PRO-351 Site Specific Emergency Response Plan EHS-WIN-401 Collection of Fire Extinguishing Water	
4	**Environmental compliance approach**				
4.1	Environmental Monitoring	Yes	The environmental monitoring plan follows the terms from the environmental approval	EHS-PRO-321 Environmental monitoring	
4.2	Management of Hazardous Materials	Yes	The management of hazardous materials flow is described in the M.A.R.S. Europe Waste & Materials management plan. Hazardous materials and waste handling will be carried out with FORTUM WASTE SOLUTION A/S as subcontractor to M.A.R.S. and guarantor of operations in compliance to national and international rules and regulations, including terms of environmental approval. Fortum A/S is fully authorized/approved and is certified according to ISO 14001, ISO 45001 and Achilles. Documentation is attached. Relevant instructions related to the handling, packaging and labelling of waste by Fortum A/S is attached as well as a flowchart for the flow of hazardous waste from quay side to final disposal. Fortum uses subcontractor, RECOVER to handle asbestos, PCB and Lead. Attached is documentation from RECOVER. All handling by Fortum and RECOVER will be in accordance with national regulations. Non-hazardous waste will be handled by M.A.R.S. Employees and packed and transported by Fortum. Documentation for the authorization will be required and stored in M.A.R.S EHS system. Quantities of the different fractions of hazardous and non-hazardous waste will be registered and documented for each ship. All NORM and Mercy handling and transportation will be carried out by Semco Maritime A/S as subcontractor for M.A.R.S. and guarantor of operations in compliance to national and international rules and regulations, including terms of environmental approval. Fortum A/S is fully authorized/approved and is certified according to ISO 14001, ISO 45001 and ISO 9001. Semco is authorized to handle, store, pack, and transport NORM	EHS-PRO-306 Waste & Materials Management Plan EHS-PRO-336 Naturally Occurring Radioactive Material (NORM) EHS-PRO-335 Labelling and Packaging, FORTUM EHS-PRO-336 Sorting, Handling and Packaging, FORTUM EHS-PRO-359 Waste Management, FORTUM EHS-PRO-363 NORM-handling flow chart EHS-PRO-365 Fortum Waste Flow EHS-DEC-A102 Fortum Certificates EHS-DEC-A103 Semco NORM approval EHS-DEC-A104 Environmental Approval, Semco EHS-FRM-540 Waste Accounting and Reporting System	
4.2.1	Potentially containing Hazardous Materials				
4.2.2	Additional sampling and analysis				
4.2.3	Identification, marking and labelling and potential on-board locations				
4.2.4	Removal, handling, and remediation				
4.2.5	Storage and labelling after removal				
4.2.6	Treatment, transportation and disposal				

			from their facility in Esbjerg. Semco has a dedicated fenced area at the M.A.R.S. site for temporary storage of NORM. Quantities of the different fractions of hazardous and non-hazardous waste will be registered and documented for each ship, using the Waste Accounting system.		
4.3	Environmentally sound management of hazardous materials				
4.3.1	Asbestos and materials containing asbestos	Yes	Asbestos and materials containing asbestos will be cleaned and removed by authorized subcontractors, Recover. All employees working with cleaning and stripping in areas that have the risks of being infected with asbestos, mush have completed the course "Asbestos awareness"	EHS-PRO-329 Asbestos Awareness EHS-PRO-370 Asbestos, Recover	
4.3.2	PCBs and materials containing PCBs	Yes		EHS-PRO-306 Waste & Materials Management Plan RECOVER, handling of asbestos, PCB and lead	
4.3.3	Ozone-depleting substances (ODSs)	Yes		EHS-PRO-331 Ozone Depleting Substances (ODS)	
4.3.4	Paints and coatings	Yes		EHS-PRO-306 Waste & Materials Management Plan	
4.3.4.1	Anti-fouling compounds and systems (organotin compounds including tributyltin (TBT))				
4.3.4.2	Toxic and highly flammable paints				
4.3.5	Hazardous liquids, residues and sediments (such as oils, bilge, and ballast water)				
4.3.6	Heavy metals (lead, mercury, cadmium and hexavalent chromium)	Yes		EHS-PRO-342 Lead Awareness RECOVER, handling of asbestos, PCB and lead EHS-PRO-349 Mercury Awareness EHS-PRO-343 Cadmium Awareness EHS-PRO-348 Hexavalent Chromium Awareness	
4.3.7	Other Hazardous Materials			EHS-PRO-306 Waste & Materials Management Plan EHS-PRO-336 Naturally Occurring Radioactive Material (NORM)	
4.4	Prevention of adverse effects to the environment				
4.4.1	Spill prevention, control, and countermeasures	Yes	Prevention of leakages is described in Environmental Approval. M.A.R.S. Europe has procedures for preventing, handling, and reporting spill and leakages.	EHS-DEC-A101 Environmental Approval EHS-PRO-309 Incident and Injury Reporting EHS-PRO-337 Incident Management Procedure EHS-PRO-351 Site Specific Emergency Response Plan EHS-PRO-321 Environmental Monitoring EHS-PRO-307 Hazardous Materials Response EHS-WIN 402 Use of floating Booms	
4.4.2	Storm-water pollution prevention	Yes	A water treatment plant (quay area) and filtration system (hinterland) is constructed at the site. Water from quay areas, ship ramp area above drain, concrete area and tank is discharged to the recipient via sand trap, coalesces type oil separator, buffer tank, water treatment facility with heavy metal felling and measuring well. Water from hinterland areas is discharged to the recipient via filtration system, coalescence type oil separator and measuring well.	EHS-PRO-366 Site Operations and Maintenance Plan EHS-PRO-367 Appendix for O&M Plan EHS-PLN-603 Site Layout	
4.4.3	Debris prevention and control	Yes		EHS-PRO-351 Site Specific Emergency Response Plan EHS-WIN-403 Dust Prevention	
4.4.4	Incident and spills reporting procedures	Yes		EHS-PRO-351 Site Specific Emergency Response Plan EHS-PRO-309 Incident and Injury Reporting EHS-PRO-337 Incident Management Procedure EHS-PRO-307 Hazardous Materials Response	

FPSO Cidade de Niteroi MV18

01	Issued for Information	25-04-2025	Cecilie Nedergaard	
00	Issued for Information	09-04-2025	Cecilie Nedergaard	
Rev.	**Reason for Issue**	**Issue Date**	**Prepared**	**Company's Review**

COMPANY	**CONTRACT DATE**	**07 March 2025**
	DOCUMENT TITLE:	
	Ship Recycling Plan	
ORIGINATOR	**WBS:**	**N/A**
	ORIGINATOR CONTRACT NO.:	**0019**
		Page: 1 of 6

Summary of information on Ship and Ship Recycling Facility

This Ship Recycling Plan was developed in accordance with the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (the Convention). ANNEX 2 RESOLUTION MEPC.196(62).

Table 1 Ship information

Name of ship	FPSO CIDADE DE NITEROI MV18
Distinctive number of letters	N/A
Port of registry	Bahamas
Light weight	48446.8
IMO number	8500123
Name address of shipowner	OPPORTUNITY MV18 B.V.
Owner identification number	
Telephone number	
E-mail address	

Table 2 Ship Recycling Facility information

Name of Ship Recycling Facility	Modern American Recycling Services Europe
Distinctive Recycling Company Identity No.	DK39610922
Full address of Ship Recycling Facility	Sandholm 55h, 9900 Frederikshavn, Denmark
Primary contact person	Kim Thygesen
Telephone number	+45 53 36 51 79
E-mail address	information@marsrecyclers.com
Name, address and contact information of ownership company	Modern American Recycling Services Inc. Headquarters Rig Decommissioning 499 Powhatten Court Gibson LA 70356 Office: +1 985-631-6212 Mail: information@marsrecyclers.com
Working language(s)	English, Danish

Table 3 Project schedule for ship recycling

Date of ship arrival at Ship Recycling Facility	Start January 2026
Date of commencement of ship recycling	Mid January 2026
Date of completion of ship recycling	June 2027
Date of completion of sale/disposal of all components	August 2027

25-04-2025

(Date)

(Signature of Ship Recycling Facility owner/operator)

See the following for more detailed information; ANNEX 2, RESOLUTION MEPC.196(62), Adopted on 15 July 2011, 2011 GUIDELINES FOR THE DEVELOPMENT OF THE SHIP RECYCLING PLAN.

Table 4 DEFINITIONS, "The ship" means the particular ship, which a Ship Recycling Facility is going to recycle, and for which an SRP is required

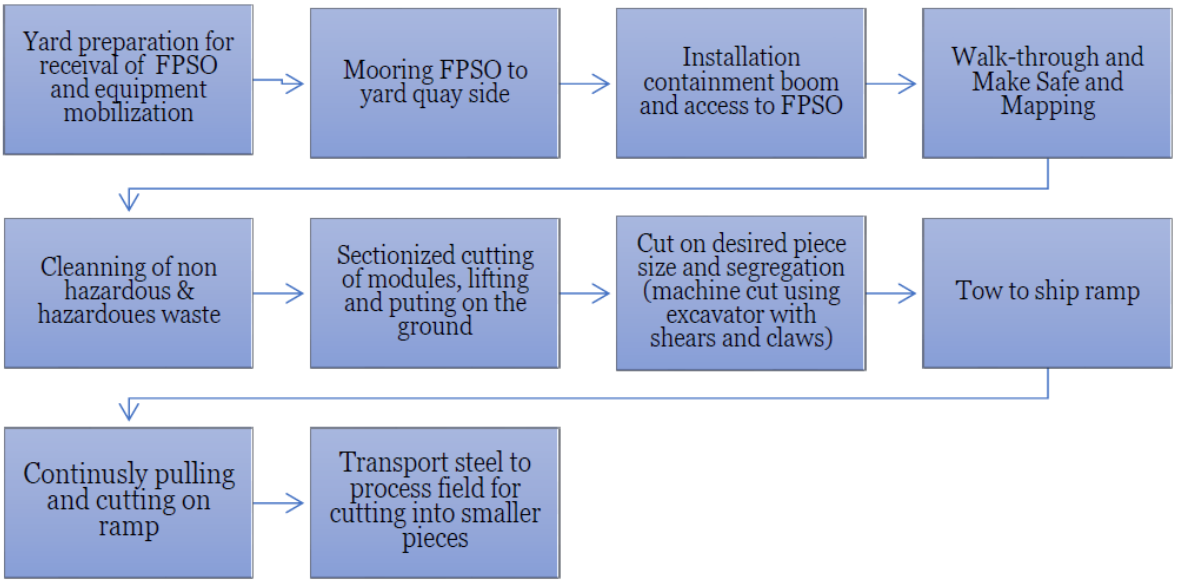
Section	Requirement	Notes
3.1	**Review of ship-specific information.** Inventory of Hazardous Materials (IHM), cooperate with the shipowner to obtain the completed IHM, including Part II and Part III, taking into account possible variations resulting from the ship's subsequent operations Ship specific information: · general arrangement, · capacity plan, · shell expansion plan, · fire control plan, · trim and stability calculation, · light weight distribution or calculation table. Also, the following may provide useful information: · midship section, · construction profile (including longitudinal sections, deck, inner bottom and deckhouse), · longitudinal and transverse bulkhead principal transverse sections, · fore and aft construction, · superstructures, · accommodation plan, · hydrostatic curve or table, · deck piping system, · general arrangement of ventilators and air ducts, · painting scheme, · joiner works, · engine room arrangement (if appropriate) and bilge piping system of pump room, · pump room arrangement, · engine room piping diagram, · ballast piping and cargo piping diagram and manufacturers' finished drawings of major equipment.	Waste Management Plan attached.
3.2	**Comparison of ship-specific information with the Ship Recycling Facility Plan (SRFP) and/or Document of Authorization to conduct Ship Recycling (DASR).** For each ship to be recycled, the ship-specific information obtained from the shipowner should be evaluated in the context of the capabilities and limitations specified in the Ship Recycling Facility Plan (SRFP) and/or Document of Authorization to conduct Ship Recycling (DASR). The SRP will need to address any ship-specific considerations that are not covered in the SRFP or that will require special procedures.	The recycling of the FPSO will follow the DASR, that M.A.R.S. Europe received from the municipality of Frederikshavn 27 January 2023 (Doc No. 7016731). The document states that M.A.R.S. Europe has been accepted to the EU-list of approved recycling facilities and lists the conditions for

Section	Requirement	Notes
		ship recycling at the M.A.R.S. Europe site.
4	**Framework of Ship Recycling Plan (SRP).** Describe how the Ship Recycling Facility will recycle the specific ship in a safe and environmentally sound manner, covering the recycling process steps and their sequence over the entire process. Any processes or procedures that deviate from the SRFP and are specific to the ship should be described in detail in the SRP. If more than one Ship Recycling Facility is used, SRPs should be prepared separately, in principle, by each of the Facilities involved, according to their respective duties and indicate the order in which the activities will occur.	Method Statement attached.
4.1	**Pre-arrival elements.** Description of any specific preparatory work that should be carried out. The SRP should clarify whether and to what extent any preparatory work such as: · pre-treatment, · identification of potential hazards · removal of stores will take place at a location other than the Ship Recycling Facility identified in the SRP. The extent to which such preparatory work will be covered in the SRP will depend upon the capability of the authorized Ship Recycling Facility and the scope of the agreement with the shipowner. In the case of a tanker, the ship should arrive at the Ship Recycling Facility with cargo tanks and pump room(s) in a condition that is ready for certification as Safe-for-entry, or Safe-for-hot work, or both.	1. Offshore survey at MV18 by M.A.R.S. Europe team in September 2024 2. Desktop analysis of IHM report 3. Identification of waste and plan for removal and treatment (R12 schedule) 4.
4.2	**Arrival of ship.** The SRP should describe the procedures that the Ship Recycling Facility will follow to conduct a walk-through (on-board check) of the vessel in an effort to identify any potential environmental or safety issues. The Ship Recycling Facility should verify whether safe access and egress have been provided for and that the SRP is in place throughout the ship recycling process. It is recommended that the Ship Recycling Facility should mark the location of the known Hazardous Materials. Any specific items or locations on board whose hazardous characteristics are uncertain should be marked for additional sampling as necessary.	Handover of FPSO between MV18 team and M.A.R.S. Europe team Initial walk-through will be conducted by EHS department Make-safe will be completed by the EHS department to ensure safe workspaces before work can start.
4.3	**Management of Hazardous Materials.** The SRP should include information on how the type and amount of Hazardous Materials will be managed, as required by regulation 9.3 of the Convention and specify the facility's approach for managing each Hazardous Material.	All hazardous materials will be mapped and documented through level III mapping. Hazardous waste will be removed:

Section	Requirement	Notes
	Special attention should be paid to the types and quantities of Hazardous Materials on the ship. If ship-specific conditions require deviation from normal practices for managing Hazardous Materials, the appropriate ship-specific measures should be described in detail in the SRP. In order to avoid confusion, it is recommended that the SRP should use the same nomenclature and identification scheme as those included in the IHM. Specifically, the SRP should describe where the Hazardous Materials are to be processed or disposed of if the operation is not being conducted at the Ship Recycling Facility. The SRP should state that the removal of Hazardous Materials will be undertaken by responsible personnel who are trained and authorized to do so.	1. On water: all hazardous waste that is being transferred from the vessel to the site, before ship is pulled to the ship ramp, will be transferred using closed and sealed containers and bulks, to avoid any spillage. 2. On site: Hazardous waste will always be handled on closed and sealed areas with a slope towards drainage systems with shut-off valves. Refer to the attached Waste Management Plan
4.4	**Safe-for-Entry and Safe-for-Hot-Work procedures.** SRP to include information concerning the establishment, maintenance and monitoring of Safe-for-entry and Safe-for-hot-work procedures. SRP should describe in detail how Safe-for-entry and Safe-for-hot-work procedures will be implemented on the specific ship, taking account of such features as its structure, configuration, and previous cargo.	Refer to M.A.R.S. Europe procedure: EHS-PRO-300 Hot Work Permitting EHS-PRO-324 Confined Space
4.5	**Dismantling sequence.** Depending on a number of factors, including the age of the ship and the quantity of Hazardous Materials present, it may be impossible to remove all Hazardous Materials prior to the start of cutting activities. The SRP should include a dismantling sequence that is ship-specific and takes into account the cutting operations and locations of Hazardous Materials.	Refer to attached method statement and below process flow.
4.6	**Other necessary elements.** Include any ship specific processes and/or procedures that will be necessary to recycle the ship and that are not fully covered in the Ship Recycling Facility Plan (SRFP). For example, a Ship Recycling Facility may need to use additional workers or subcontractors, or they may need additional equipment to deal with unique aspects of the ship.	Refer to M.A.R.S. Europe procedures: EHS-PRO-351 Emergency Response Plan
4.7	**Attach a copy of the DASR to the SRP.** Management of Hazardous Materials as required in Appendix 5 of the Convention (also known as the DASR).	DASR attached.
5	**Verification of competent authority approval.** Article 16.6 of the Convention stipulates that a State shall declare whether it requires tacit or explicit approval of the SRP before a ship may be recycled. The Ship Recycling Facility should be familiar with the procedures	Denmark has chosen a Tacit Approval.

Section	Requirement	Notes
	implemented by the Competent Authority for approval of the SRP. The Competent Authority's approval process will, at a minimum, include written acknowledgement of receipt of the SRP and may include further written documentation of approval or denial for the ship-specific recycling. The written acknowledgement and/or documentation of approval should be appended to the SRP immediately upon availability and made available to appropriate authorities and stakeholders as necessary.	

Ship Recycling, Process Flow



ATTACHMENTS

1. Document of Authorization to conduct Ship Recycling (DASR).
2. Waste Management Plan
3. Method Statement
4. Internal procedure: EHS-PRO-300 Hot Work Permitting
5. Internal procedure: EHS-PRO-324 Confined Space
6. Internal procedure: EHS-PRO-351 Emergency Response Plan

eTranslate ApS
Gydevang 41
3450 Allerød
Denmark

Certification of Translation Accuracy

Translation of document(s) from **Danish** to **English**

Customer Name:	Cecilie Nedergaard
Reference Number:	#12082601985
Order Date:	February 9, 2023

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Frederik Wilfert
Authorised Representative
Frederik@etranslate.dk
(+45) 50 570 870

FREDERIKSHAVN KOMMUNE

Frederikshavn Municipality
Rådhus Allé 100
DK-9900 Frederikshavn

Tel. +45 98 45 50 00
post@frederikshavn.dk
www.frederikshavn.dk
CVR No. 29189498

Modern American Recycling Services Europe, M.A.R.S
Sandholm 60
DK-9900 Frederikshavn
E-mail: kim@mars-eu.dk

27 January 2023

Approval for inclusion in the EU's list regarding the Ship Recycling Regulation[1]

Case number: GEO-2022-07138
Document number: 7016731
Case handler:
Jette Brønnum Direct
phone:
+45 9845 6359

On 20 December 2022, Frederikshavn Municipality received the company's application for renewal of approval to the European list of approved ship recycling facilities. Additional information has subsequently been submitted. The company's existing authorisation expires on 23 August 2023.

Frederikshavn Municipality hereby grants renewed approval to Modern American Recycling Services Europe, M.A.R.S, Sandholm 60, 9900 Frederikshavn, to the European list of approved ship recycling facilities. The authorisation is granted pursuant to Article 14(1) of the Ship Recycling Regulation.

The approval is granted to the ship recycling facility at Sandholm 60, 9900 Frederikshavn.

Frederikshavn Municipality considers that the company fulfils the conditions of Article 13(1) of the Regulation.

The request
The request for renewal of the authorisation has been submitted in accordance with the Ship Recycling Order [2]. In accordance with Article 4 of the Order, the request must be accompanied by the following:

1. A ship recycling facility plan and evidence that the facility complies with the requirements of Article 13(1) of the Regulation (Section 4(2) of the Order).
2. Information on (Section 4(3)):
   a) The recyling method
   b) Type and size of ships that can be recycled
   c) The maximum annual tonnage of steel to be recycled by ship, expressed in tonnes of steel per year
3. The ship recycling facility must attach a declaration of acceptance to comply with the requirements of Article 13(2) of the Regulation (Section 4(4) of the Order).

[1] Council Regulation (EU) No. 1257/2013 of 20 November 2013 on ship recycling and amending Regulation (EC) No. 1013/2006 and Directive 2009/16/EC (Ship Recycling Regulation)
[2] Ministry of Environment and Food of Denmark Order No. 526 of 21 May 2017 on the designation of competent authorities and supplementary provisions pursuant to Regulation (EU) No. 1257/2013 of the European Parliament and of the Council of 20 November 2013 on ship recyling and amending Regulation (EC) No. 1013/2006 and Directive 2009/16/EC, and delegation of certain powers of the Ministry of Environment and Food of Denmark under the Marine Environment Protection Act to the Danish Maritime Authority

The company's request is attached:

Re 1.
A Ship Recycling Facility Plan (SRFP) consisting of procedures, instructions and annexes. The company's management system is certified to ISO 9001 (quality), 45001 (working environment) and ISO 14001 (environment). The requirements for the content of the Ship Recycling Facility Plan (SRFP) and the information referred to in Article 13(1) of the Regulation are contained in the management system.

In order to document that all requirements are described, a reference document has been created that relates the requirements of the Regulation, as well as the requirements of the guideline to the specific documents in the management system.

Re 2.
Information on
a) The recyling method

The recyling method is shearing and cutting after the salvage item has been hauled onto the bedding facility or into the glide area. Hazardous materials and waste are removed from the ship while it is berthed. Cutting on ships and platforms at berth takes place in an enclosed hull.

b) Type and size of ships that can be recycled

All floating vessels: Ferries, cargo ships, fishing vessels, semi-submersibles, rigs and other floating offshore installations.
There are no restrictions on the size of vessels.
The approximate maximum handling size will be: Length: 400 metres x Width: 90 metres x Depth: 14 metres.

c) The maximum annual tonnage of steel to be recycled by ship, expressed in tonnes of steel per year

There are no restrictions. About 15 ships are expected to be recycled on an annual basis, corresponding to 150,000 tonnes per year.

Re 3.
Declaration by the company of its intention to comply with Article 13(2) of the Ship Recycling Regulation.

Municipality's assessment
Frederikshavn Municipality has granted an environmental permit to the company on 9 March 2018 and has granted an addendum to the environmental permit on 12 July 2022.
Environmental permits impose conditions aimed at preventing, reducing, minimising and eliminating adverse effects on the environment.

The company has chosen to ensure compliance with parts of Article 13(1) of the Regulation through their management system. It is the assessment of Frederikshavn Municipality that the terms and conditions of the environmental permit and the introduction of the management system by the company ensure compliance with Article 13(1) of the Ship Recycling Regulation.
1. The management system is certified according to ISO 9001 (quality), 45001 (working environment) and ISO 14001 (environment) on 4 May 2021.

The company has also submitted a declaration of intent to comply with Article 13(2) of the Ship Recycling Regulation.

Frederikshavn Municipality has not addressed issues related to the working environment. As regards the content and quality of documents relating to the working environment, the Danish Working Environment Authority is the appropriate authority. The Danish Working Environment Authority does not have to approve the content in advance, but will follow up during their future inspections.

Validity
The authorisation is valid for 5 years and will therefore expire on **27 January 2028**. If the company then wishes to remain on the European list of approved facilities, it must submit a new application for inclusion. The request should be submitted in good time to allow the authority to process it.

Right of access to documents
There is a right of access to documents in the case. Access to documents, and the restrictions on access to documents, follow from the rules in the Public Access Act, the Administrative Procedure Act and the Act on Access to Environmental Information.

Legal basis
Frederikshavn Municipality's approval is based on the Ship Recyling Order, which is laid down in Section 89a(1) and Section 89b of the Environmental Protection Act.

Publication and appeal procedure
The decision, which has been notified in accordance with the rules of the Environmental Protection Act, will be published by announcement on the municipality's website (www.frederikshavn.dk) and on the Digital Environmental Administration (https://dma.mst.dk) on **31 January 2023**.

Pursuant to Section 89a(4) of the Environmental Protection Act, the rules of the Environmental Protection Act apply to access to appeals and legal proceedings in connection with decisions based on regulations or rules issued pursuant to Section 89a(1).

According to the rules of the Environmental Protection Act, the decision can be appealed to the Environmental and Food Appeals Board by the applicant, by certain specified authorities and interest groups and by anyone who has an individual, substantial interest in the outcome of the case.

If you wish to appeal against this decision, you can appeal to the Environmental and Food Appeals Board. You appeal through the Appeals Portal, which you can log into via this link: https://kpo.naevneneshus.dk. You can also log in via borger.dk (as a citizen) or via virk.dk (as a company or association). You log in to the Appeals Portal with your NEM ID.

The appeal is sent through the Appeals Portal to the authority that took the decision. An appeal is filed when it is available to the authority in the Appeals Portal. You have to pay a fee of DKK 900 when you appeal. Companies and organisations must pay a fee of DKK 1,800. You pay the fee by a payment card in the Appeals Portal. The fee will be refunded if you win all or part of your appeal.

As a rule, the Environmental and Food Appeals Board must reject an appeal that is not submitted through the Appeals Portal unless there are special reasons for doing so. If you wish to be exempted from using the Appeals Portal, you must send a reasoned request to the authority that has taken a decision in the case. The authority will then forward the request to the Environmental and Food Appeals Board, which will decide whether your request can be granted.

The appeal period is 4 weeks from the public announcement of the approval and expires at midnight on **28 February 2023**.

Under Section 96 of the Environmental Protection Act, an appeal against an authorisation does not have suspensive effect unless the Minister decides otherwise. The use of the authorisation shall be at the sole responsibility of the applicant and shall not restrict the right of the appeal body to amend or revoke the decision appealed against.

According to Section 101 of the Environmental Protection Act, an action to challenge the decision under the Act must be brought before the courts within 6 months of the announcement of the decision.

Moreover
It should be noted that Frederikshavn Municipality must notify the Danish Environmental Protection Agency of ship recycling facilities that are to be removed from the list because they no longer meet the environmental requirements of Article 13 of the Regulation or if the company no longer wishes to recycle ships covered by the Regulation.

Yours sincerely,

Jette Brønnum
Engineer

Helle Müller
MSc - Environmental Assessment in Engineering and Science

Copy sent to:
The Port of Frederikshavn (info@pof.dk)
The Danish Patient Safety Authority, Supervision and Advisory North (trnord@stps.dk)
The Danish Society for Nature Conversation (dnfrederikshavn-sager@dn.dk
The Danish Society for Nature Conversation (dn@dn.dk)
The Danish Sports Fishing Association (post@sportsfiskerforbundet.dk)
The Danish Sports Fishing Association, local (skagerak@sportsfiskerforbundet.dk)
Greenpeace (info.dk@greenpeace.org)
Danish Fishers PO (mail@dkfisk.dk)
Frederikshavn Angling Association (formandlfo@gmail.com)
Birdlife Denmark (DOF) (frederikshavn@dof.dk and natur@dof.dk) the Danish Outdoor Council, head office(fr@friluftsraadet.dk)

General Method Statement

For the

dismantling, recovery and disposal services as part of the MV18 FPSO

Tender Ref.

0100-24-T-MVM

MODEC

Table of Contents

Abbreviations & References

Company	MODEC
Contractor	Modern American Recycling Services, Europe A/S

Definitions

CoG	Center of Gravity
EHS	Environment, Health and Safety
GBP	Ground Bearing Pressure
GRP	Glass Reinforced Plastic (Fiber Glass)
HAZID	Hazard Identification
HIRA	Hazard Identification and Risk Assessment
HPU	Hydraulic Power Unit
JSA	Job Safety Analysis
M.A.R.S.	Modern American Recycling Services Europe A/S
NORM	Naturally Occurring Radioactive Materials
PMT	Project Management Team
PPE	Personal Protective Equipment
QI	Qualified Individual
SIMOPS	Simultaneous Operation
SRFP	Ship Recycling Facility Plan
SoW	Scope of Work
WEEE	Waste from Electrical and Electronic Equipment

1. Introduction

This document, called later the Method Statement, covers the Disposal of the project for the MV18 FPSO.

The following Method Statement for dismantling of the MV18 FPSO is the basis for performing the disposal work and represents a commitment to perform the work, in Contractor's yard, in the manner and sequence described.

This Method Statement also gives a description and overview of the site, equipment and methods that will be used activities needed for disposal of the FPSO.

1.1. Port of Frederikshavn

Note: *Refer to Appendix 7 for latest tidal tables within the harbor.*

Note*: Refer to Appendix 1, 2, 3, 4, 5, and 6 for information of the harbor and site.*

Port of Frederikshavn is located in Northern Denmark, near the North Sea and with access to North Sea oil sectors. It has optimal sailing conditions year-round with 14 meters water dept, tidal water of ± 25 cm and sheltered and ice-free water.

The Port has two (2) tugboats with bollard pull (BP) 16 tons. Upon request, in 12 hours, tugboats with 60 and 90 tons of BP can be mobilized from Skagen ang Goteborg.

Port agencies:

- Blue Water Shipping
- GAC
- Norsea Group
- Shipping dk

Port Authority pilots:

- Danpilot

2. Ship Recycling Facility Plan

Contractor has developed a Ship Recycling Facility Plan (SRFP), which provides an overview of operations at the facility. Refer to ***Appendix 8: Ship Recycling Facility Plan.***

The Ship Recycling Facility Plan has been approved by the Municipality of Frederikshavn.

3. Approvals, Permits and Legal Requirements

Contractor has obtained the following permits and approvals:

- Environmental approval from March 2018
- Approved on EU-list of ship recycling facilities, August 2018 and renewed in January 2023
- Approval for handling and temporary storage of NORM, July 2020 and updated in January 2024.
- Pre-approval for import and treatment of ships for R12 operation. The approval is given by the Danish Environmental Protection Agency (DEPA), May 2021

Refer to Appendix 9, 10, and 11 for copies of permits.

Further, Contractor has the following ISO certificates:

- ISO 9001:2015 Quality Management Systems.
- ISO 14001:2015 Environmental Management Systems.
- ISO 45001:2018 Occupational Health and Safety Management Systems.

The Contractor is following the requirements outlined in the obtained approvals, permits, and certificates.

4. General

Upon the contract award, Project Management Team (PMT) will be created. The PMT will consist of Project Manager, Project Engineer, Environmental Health and Safety Manager, Site Manager, Field Engineer, inventory of material and waste tracking in

charge and additional support staff. Project Manager will communicate with Company to compile a detailed project schedule, engineering requirements, EHS project specific plan & document control register. Regular project meeting times will be established, with working yard visits. Each aspect of the project will be accompanied by engineering analysis, project procedures & drawings to support operation efficiency & safety.

All required topics will be discussed at a specific discipline level however all agreements shall be formalized by the Project Manager and Company Representative.

The defined personnel in the Project Management Team shall report directly to the Project Manager, who in turn is the single point contact for the Company.

5. Project Philosophy

The prime execution approach for this project is driven by the need to maximize the utilization of resources available in order to safely and efficiently complete the Scope of Work (SOW). To achieve this, internal and local organizations will be sourced for the project but will be subject to evaluation of their capabilities. Continued external input from Contractor will nurture all these resources towards the successful completion of the project meeting the Quality, Safety and Schedule requirements of the Company.

On award of the project, a kickoff meeting will be conducted with the participation of all key personnel involved from Contractor, its sub-contractors, and Company. Simultaneously the key personnel team members will be mobilized. During the initial phase of the project, the emphasis will be more on finalizing the methodology of the project.

At the start of the project, all management and first line of site supervision personnel from Company, Contractor and Subcontractors will attend a project Risk Assessment and HAZID for overall contract Scope of Work. The HAZOP will be performed when job packages and plans/methods are in place. Prior to mooring and disposal work the Readiness Review will be performed.

The success of the project is based on own philosophy “Zero incidents, safe operations and protecting the environment”. M.A.R.S. and Subcontractors will also implement the Company’s “Zero harm” vision and strategy for “Always safe, High value and Low carbon” to identification, planning, organization, and execution of all activities.

6. Overall Coordination

The project schedule will be generated in accordance with the contract scope of work. Input from the Company with respect to the hazardous waste identification, de-inventorying, mooring, component load-in to quay, etc. shall be considered in the preparation of the overall plan. Once approved, the schedule will be frozen as Baseline.

This Baseline plan, including safety hold points, shall form the basis for the monitoring and controlling of the project execution and shall be utilized for generating the Project Progress Report to the Company.

All outputs will be derived from this Baseline Plan (e.g. S-curves, bar charts, Critical Path Components, etc. and an activity listing with dates will be generated).

If the need arises, this planning package will be revised and will follow a similar procedure.

7. Review and Analysis

Periodic review of the scheduled activities on this overall Baseline schedule will be summarized by the Project Manger at least once a week. Nonetheless, actual progress will be closely monitored on a daily basis to ensure the schedule is on-track.

The schedule performance will be discussed in weekly/monthly project meetings with the relevant departments and parties, where the status of the current ongoing activities will be reviewed. During this meeting, the target plan activities due for the next week/month will also be discussed. Scheduled variance/delays and problems being faced currently and anticipated shall be analyzed. Ways to overcome these difficulties will be determined and if necessary, the schedule updated to reflect these changes. Monthly and weekly reports will be prepared and submitted to the Company, which will include all the necessary planning and progress information.

8. Progress Measurement Procedure

8.1. Weighted Values

A commonly used procedure will be developed to provide an editable and reliable method that can be used to measure and reflect the progress of the actual work completed.

8.2. Progress Calculating Procedure

Measurement of physical work will be done as far as possible on the basis of quantifiable parameters to judge the actual physical work done. The monitoring will be done as per the project progress calendar.

9. Environmental, Health and Safety

The Contractor's philosophy is that in the performance of our services, the health and safety of all personnel involved, the protection of assets and the protection of the environment are of primary concern.

"No job is so important that we cannot take the time to do it safely."

The Contractor is committed to safety leadership and dedicated to continuously improving our EHS performance and meeting our goal of EHS Management System

processes while providing the highest quality services available to our customers. To further our goal of "Incident and Injury-Free" operations and "Zero harm" vision and strategy for "Always safe, High value and Low carbon", Contractor will manage its services to the highest EHS standards.

9.1. Emergency Spill Response Plan

The Contractor will submit, before the awarded contract start date, an ***Emergency Spill Response Plan*** which will be the applicable plan to respond in the event of a hazardous fluid spill during offload operations. A Qualified Individual (QI) will be available 24 hours a day, 7 days a week to act on behalf of the Contractor during the offload operation.

The Contractor implemented a safety induction process on the site. All employees, visitors, and contractors cannot enter the site without a safety induction performed by EHS Department. Specific safety induction is performed on each asset, familiarizing employees with the vessel/structure before performing work. (Access routes, Make Safe, T card System, Fifi, and L.S.A. equipment, Reporting).

An emergency response plan is part of the Contractor's management system. The purpose of this plan is to ensure that Contractor can respond rapidly and appropriately in case of an emergency on the Contractor site/storage facilities/offices to mitigate consequences. The ERP has been developed to provide practicable guidelines in case of an incident/emergency.

This plan addresses the following emergencies:

- Accidental injuries.
- Medical emergencies.
- Fires & explosions.
- Hazardous spills.
- Accidental collapses of structures and vehicles.
- Other accidents/incidents which lead to an emergency.

Certified and qualified emergency rescue teams are implemented at the Contractor site. A drill plan was developed, performing training at regular intervals, followed by a drill report, and presented to all employees as a lesson learned to improve awareness, reaction, and safety culture. Each asset in the yard has an alert system in place, with sirens activated locally from the tally station. On the structure, a second system will be installed to allow fast alerting in case of emergency.

9.2. Unprotected Perimeters and Open Holes

Elevated work areas with unprotected perimeters will be enclosed with handrails or temporary barricades where required in accordance with ***Working at Height*** procedure.

When the scope of work is expected to create an unprotected perimeter, a barricade will be installed prior to executing that particular task. In the event that an exposed fall hazard cannot be enclosed, workers entering the area will be secured with fall harness. The harness will be anchored to a fixed, secure point, and will have a means of retrieval.

Contractor will ensure that:

- Safety is an integral part of all work performed on the project.
- Activities are managed in compliance with Contractor and Company EHS requirements, having equal status with Primary Business Objectives.
- All Subcontractors shall be in compliance with Contractor and Company EHS standards, whichever is more stringent.
- A Hazard Identification and Risk Assessment (HIRA) has been conducted for this project scope of work. The HIRA will be made available to the crew members and reviewed as appropriate during the Pre-Shift Safety Meetings.
- Throughout the course of the project, Pre-shift Safety Meetings will take place at which the activities for the day will be discussed and general safety topics are shared with the crew. All personnel on a shift, inclusive of Subcontractor, and Company personnel are required to attend.
- Following the Pre-Shift Safety Meeting, each discipline will gather on deck in their respective areas to cover the Job Safety Analysis (JSA) for the task at hand. The foreman will ensure that all required permits are completed. The JSA's will be revised as necessary during the task in the event any parameters or environmental conditions change. A new JSA Meeting will be held as the crew complete one task and prepare to initiate another. Completed JSA's will be filed with the onboard EHS Advisor.
- All Contractor, Subcontractor and Company personnel have an obligation to exercise the procedure of Stop Work Authority if a hazardous condition arises or conditions change during the course of work, and if continuing to work may result in an incident, injury, or potential release to the environment.

10. Facility Overview

Contractor's site is located at the Port of Frederikshavn in the north of Denmark. The site has a quay side of 650 [m] with access to an additional 600 [m]. The quay has a ship breaking ramp of 90 [m].

Harbor details:

- water depth 14 meters in the port basin and along quays and new bulkheads.
- minimal tidal variations, ± 0.15 [m],
- ice-free,
- sheltered water,
- quay height: +2.5 [m],
- ramp edge: -4.65 [m],

- bollards (WLL 100 [t]) and fenders spaced every 20 meters along the quay,
- bollards (WLL 100 [t]) spaced every 20 meters on the wing walls in the ramp,
- additional mooring/storm bollards (WLL 200 [t]) in the skidding area and area 2.

Site details:

- over 280,00 [m2] of processing area,
- skidding / SPMT area with a 60 [t/m2] ground bearing capacity to accommodate ultra large offshore package offloads,
- subterranean water run-off containment and filtration system,
- on-site hazardous waste handling and remediation,
- facility is covered by ISPS Security System.

The site is divided into five areas:

- process area,
- storage area,
- load-in/load-off area w. dedicated skidding area,
- ship ramp,
- cleaning facility.

10.1. Decommissioning (process) area

The decommissioning area consists of a crushed rock surface with a membrane underneath. The area is surrounded by a drainage system with shut-off valves, which is directly connected to the water filtration system. Further, gas pipes are installed underneath the surface with connection points for flame cutters around the area.

10.2. Storage area

The storage area consists of a crushed rock surface with a membrane underneath. The area is surrounded by a drainage system with shut-off valves, which is directly connected to the water filtration system.

10.3. Load-in/load-off area & skidding area

The load-in area has a 255-meter-wide quay side with a general surface level at +2.4 meters. The area consists of a crushed rock surface with a membrane underneath.

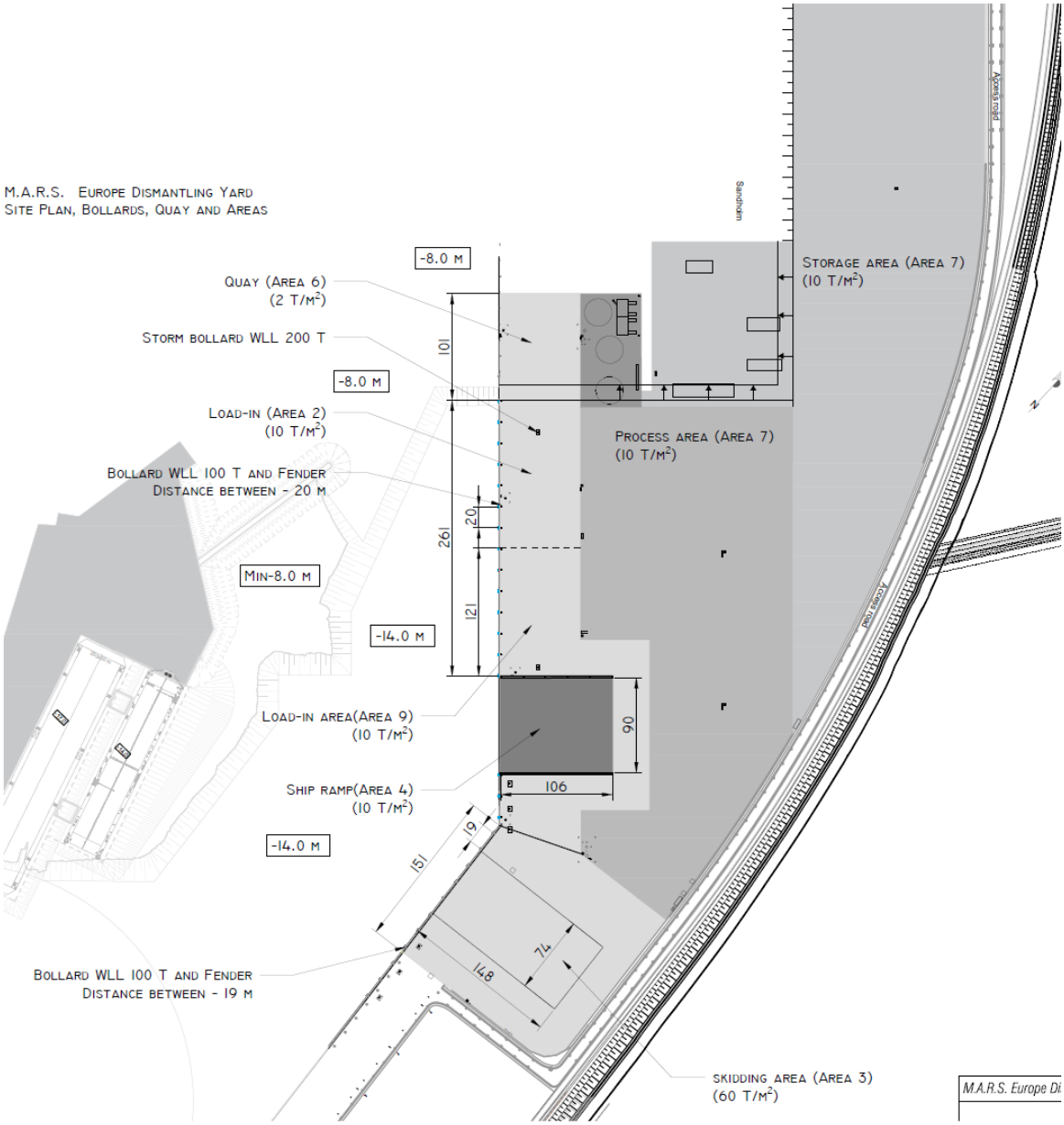
The skidding area has a ground-bearing pressure of 60 [t/m2]. The size of the area is 140m x 60m and consists of a crushed rock surface with membrane underneath.

10.4. Ship ramp

The ship ramp is 90 m. wide and has a size of 9630 m2. The slope is 1:15, with a threshold level of surface at quay side at -4.65 m. and top level at hinterland at 2.50 meters.

10.5. Cleaning facility

The cleaning facility consists of two water filtration tanks. The size of the storage tanks is 2,500 [m3] and they are designed to purify 36 [m3] of water per hour.



10.6. NORM and Mercury cleaning facility

Cleaning facilities for decontamination including NORM and mercury removal was established at the site in Q4 2021.

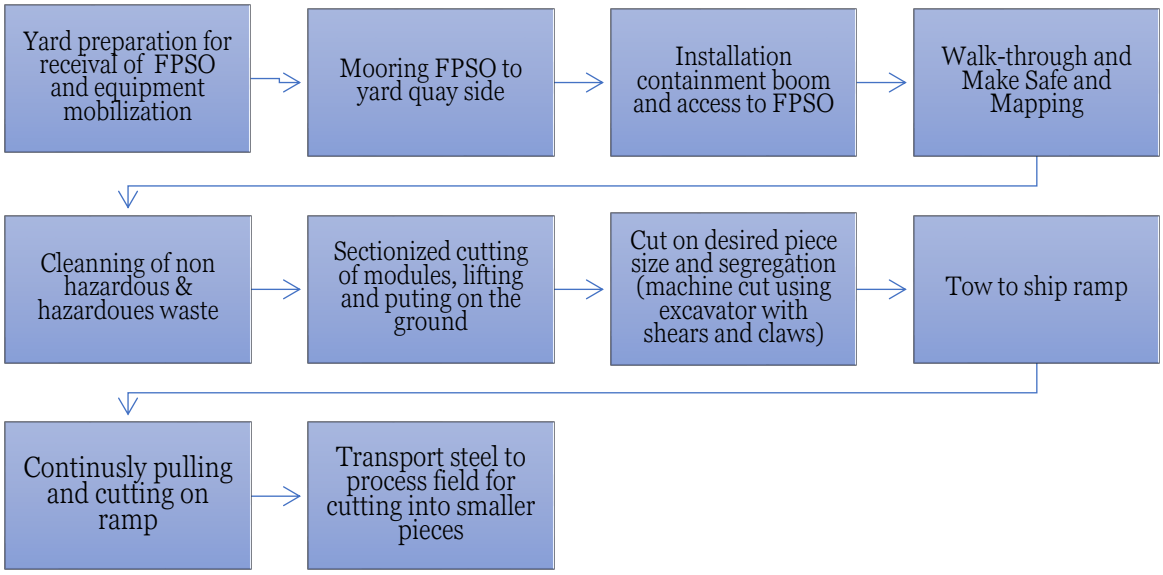
10.7. Equipment and tools

For the onshore dismantling operation, the following equipment, available on the yard, or equivalent will be used for all cutting activities being within the capacity of this equipment:

- Liebherr 11350 and Manitowoc 18000 crawler cranes,
- excavator with Mobile Shears 50 [t],
- excavator with Mobile Shears 180 [t],
- waterjet cutting machine,
- reach stacker,
- scrap handler,
- rubber tired loader,
- torches, manifolds, air compressors, air pumps, and hoses.
- emergency spill kits,
- various forklift for shop use/nonferrous/movement of large pieces to various cutting areas,
- dump trucks,
- non-ferrous, alligator shear, baler, etc.,
- winches,
- lifting equipment (slings, spreader bars, spreader beams, shackles etc.).

11. Process Flow Plan

11.1. Process Flow Plan for FPSO Recycling



12. Preparation of Yard and Work

***Note**: Quays are equipped with bollards witch capacity 100t and additionally with bollards with capacity 200t for load-in operations. Refer to **Appendix 1 – Site Plan** for layout.*

***Note**: Contractor's facility is designed and constructed as a dedicated disposal yard. Facility is equipped in skid-in area with GB 60 t/m² and additional area for roll-off operations.*

Before the dismantling process commences, below points must be prepared as a minimum.

12.1. General

- Prepare designated areas to be ready for FPSO receival.
- Organize process area where the cut modules from the FPSO will be cut into a final piece and will be segregated.
- Mobilize all equipment needed for disassembly FPSO (including crawler cranes, cherry pickers, man basket, lifting equipment, excavators with shears and claws, etc.).
- After the mooring, install access to the FPSO.
- Mobilize equipment needed to clean and remove marine growth.

12.2. Safety

- Identify hazardous material type, quantities, and compositions that may be present, and ensure that they remain properly secured until the appropriate personnel can remediate.
- Install temporary handrails on the topsides/modules, where an un-barricaded area will be created when components are removed.
- All unsafe areas are to be identified using caution or danger tape.
- Identify primary and secondary means of ingress and egress from the structure. Contractor access to the structures will sometimes have to be done via personnel basket. Designate a safe personnel basket.
- Prior to any hot work operations, a Hot Work Permit must be obtained for the area where the hot work will take place in addition to the permit normally generated for work. No hot work is allowed on NORM and mercury contaminated areas until these have been cleaned and verified clean. The same applies for systems that contain hydrocarbons and other hazardous materials including gases that can pose a risk to personnel.
- Drill (as required if not already done), sniff, and gas free all piping that will require cutting above and below the proposed cut points. Due to potential for trapped fluids in the pipe, absorbent pads, tapered dowel plugs, and certified containment drums will be on hand to capture any unknown fluids that are encountered in:
    - Conductors.

- Equipment piping.
- Deck legs.

12.3. Personal protective equipment (PPE)

Minimum PPE to be worn on site is as follow:

- hi-vis clothing with long sleeves and long legs,
- hard hat – if working at height fitted with a chin strap,
- safety footwear,
- eye protection – depending on the job, the mandatory requirement could be a visor a face shield,
- gloves – depending on the job, the mandatory requirement could be cut resisting gloves, and/or heat resisting gloves, and/or impact resisting gloves,
- full safety harnesses (where necessary),
- overalls,
- life vest of working near the quay side or on the vessel deck (< 2.0 [m] from the edge of the vessel or quat side),
- When performing hot work with technical gases a Powered Air Purifying Respirator (PAPR) shall be used.

12.4. Operational limits

Table 1 Operational limits

Limits	Go	No-go
24-hr weather forecast (wind)	Dropping	Increasing
Wind speed for the crane lint (onshore)	<14 m/s	>14 m/s
Visibility	> 200 m	< 200 m

12.5. Concurrent Operations

Whenever safe, prudent, and practical, the following operations are to be performed Non-Critical Path while simultaneously executing Critical Path Operations following the procedures outlined in the Critical Path Operations procedure. Order of Concurrent operations are to be prioritized by Project Manager and Site Manager to suit critical path needs.

Simultaneous Operations are controlled under the Project Management System (MS) and involve a structured approach to all work activities which occur within the project and ensure a coordinated safe and efficient work program communicated to all personnel and organizations that are directly involved or potentially impacted. SIMOPS are coordinated daily by Site Manager, also through the Permit to work system (risk assessment for SIMOPS, toolbox talk with all employees involved in operations, radio communications, barriers). EHS department is monitoring all the permits (permit board management) assuring that SIMOPS operation are done according to the procedures/permit to work system, performing regularly checks on the field.

Barriers management is part of the" Make a Safe" process and daily operation through permit to work system. When installing access to the deck, fences and covered corridor will assure protection against drop objects.

During concurrent operations, it is critical to be aware of personnel, equipment, or work in the vicinity of --and below-- areas where oxy-lance slag or sparks may be present.

13. Dismantling of FPSO

13.1. General

Before onshore recycling/disposal begins, personnel will conduct Level 3 inspection of components for salvageable items, hazardous materials, and materials that are otherwise not recyclable scrap steel, and develop plans to remove them from structure.

- Personnel will conduct inspection, testing, remediation, and disposal of all expected hazardous materials, including, but not limited to:
    - asbestos,
    - lead,
    - antifouling organotin compounds.
- NORM and Mercury related components will be removed to secure area within the Contractor's facility until the materials can be properly disposed.
- Potential hydrocarbon spill points will be identified and prepare remediation measures to potentially capture and contain any residual fluids.
- Hazardous materials will be recovered and quarantined at quay-side HAZMAT Warehouse.
- Inert waste, WEEE, and other various material types (other than recyclable steel) will be removed and collected separately.
- Components (pumps, compressors, cranes, et…) previously identified as salvageable will be removed with care and immediately placed in designated area for storage and potential re-sale.
- It is important to emphasize the fact that the dismantling of the FPSO components achieved in phases. As such, the clean-up and abatement of certain hazardous and regulated substances in some areas of the modules might take place simultaneously with actual cutting of other areas, which have already been cleaned and abated. In order to accomplish this simultaneous task management, management and supervisors will meet weekly and daily, if necessary, to schedule task precedence and overlap and SIMOPS will be planned. SIMOPS are monitored by Permit to Work System (permit board management) and during the opening of a permit, all teams will become aware if SIMOPS are in force. Risk assessment will assess the operations and mitigate the hazards, to allow safe work. A toolbox talk will be conducted with all teams involved in SIMOPS, to raise awareness and explain the hazards, risk, and operations.

13.2. Topsides

Contractor ensures that the mechanically deconstruction, dismantling and material separation will be applied and executed to remove personnel from the line of fire. In the areas where this will not be possible or will be counterproductive the alternative methods will be risk assessed to ensure the personnel performing the work and other personnel on Site are not exposed to potential hazards.

- Modules will be removed from the intact structures in a controlled order to keep the criteria for global structure integrity and keep the balance between the CoG and reactions in supports. Modules will be removed from the outside to the inside and from the top to the lower level.
- Weights of removed components will be recorded for overall removed and remaining volume monitoring.
- After the top layer of components has been removed, an inspection will take place on the next layer of components to identify hazardous materials, equipment that needs to be removed, component rigging points, and fastenings that must be severed for separation. Additionally, make safe will be prepared when if the characteristic of the area will change.
- During active dismantling operations, access below the layers being removed will be minimized to critical personnel and restricted entirely while an overhead lift is being made. Prior to all lifts a falling object / free to lift inspection is performed. The same will apply to routine and small lifts.
- Cables will be removed with following methods:
    - hydraulic / electrical cable cutter,
    - bayonet saw,
- Fireproofing concrete will be removed in several ways, as dictated by its installation configuration:
    - concrete saws,
    - large and hand-held jackhammers,
    - oxy/thermal lance burning rods.
- If the fireproofing concrete is contaminated with ceramic fiber, the following precautions needs to be taken:
    - before removal can begin, the work area is sealed off to prevent contamination of the surrounding areas. All cracks, joints, holes etc. in or around windows, and doors will be sealed. The ventilation plant must be stopped. Any holes or openings on ducts will be sealed. In addition to sealing off the contaminated area, constant negative pressure will be established and maintained to prevent the spread of ceramic fiber. Negative air pressure is established using one or more air purifiers fitted with 'absolute filters', also known as 'microfilters' or 'HEPA filters'. The air purifiers, while maintaining negative pressure, will filter the air in the contaminated area and catch the ceramic fibers in the HEPA filters,
    - to prevent the spread of ceramic fiber outside the contaminated area and to maintain negative air pressure, access to the area must be strictly via an airlock access system,

- workers must always wear suitable respirator and special work clothes when working inside the contaminated area. The removal of ceramic fiber contaminated materials should be performed carefully to reduce dust (avoid the materials breaking up),
- indoor work creating a lot of dust: A fresh air-supplied respirator connected to a compressor must always be worn for demolition work that creates a lot of dust. No more than 4-6 hours per day can be worked wearing such a respirator with regular breaks, depending on type of work. Special suits and footwear must be worn at all times. Reusable suits must be washed as frequently as the type of work requires. Disposable suits must be treated as contaminated waste and disposed of after use,
- outdoor demolition: half masks with a P3 filter and approved disposable suits should be worn for work that creates very little dust outdoors, such as dismantling/demolition. More stringent precautions should be taken for work that creates a lot of dust. Safety equipment (suits, masks, machinery etc.) should not be removed from the work - area and airlock doors before it has been thoroughly cleaned or packed in airtight polythene sacks.

- Recyclable steel components will be staged for further dismantling until they are able to be transported to the process area using reach stacker. Following points described deconstruction steps:
  - crawler crane (LR11350 or Manitowoc 18000) will remove components (Modules, equipment, hull sections) from topsides,
  - typical removal of a 100 - 200 [t] module from the topsides is expected to take 1 to 2 days,
  - sections of a 100 – 200 [t] will be placed on the ground by crawler crane in designated process area where further decomposition will be continued using excavator with shear,
  - it is expected that only 2 to 4 large components will be segmented adjacent to the structure at any given time, as the segmenting process is slightly quicker than the removal process.
- At the process area, the excavators equipped with shears will continue cut decontaminated components into progressively smaller segments, moving pieces away from the offload location, towards the staged-for-transport location (front-end loaders and large magnets), as they are further sorted (by homogeneous material, size, and shape) until they are ideal for transport to offsite steel mills.
- For the onshore dismantling operation, the following equipment or equivalent will be used for all cutting activities being within the capacity of this equipment:
  - crawler cranes (LR11350 and Manitowoc 18000),
  - mobile crane,
  - reach stacker 2x,
  - excavators with hydraulic shears 2x,

- cherry picker 2x,
- scrap handler,
- rubber tired loader,
- torches, manifolds, air compressors, air pumps, and hoses,
- emergency spill kits,
- various forklift for shop use/nonferrous/movement of large pieces to various areas,
- dump trucks.

14. Materials Inventory

The following waste streams are expected to be encountered:

14.1. Metals

The FPSO structural steel consist mainly of carbon steel. Stainless steel and other metal alloys may be present in piping and equipment.

- As part of Contractor commitment to a circular economy, metals will be sorted by composition and size for re-sale to mills.

14.2. Recoverable Materials

Other material than steel such as glass, plastic, concrete, and wood will be segregated and recovered. It should be noted that electrical waste and some hazardous waste may also be recovered.

14.3. WEEE

Electrical waste will be segregated from the waste stream and be delivered through national waste streams. The majority of the WEEE materials such as steel cabinets and electrical cooper cables will be recovered.

14.4. Combustible Waste

Combustible waste which may not be recoverable will be provided for energy recovery such as glass fiber (GRP), rubber (electrical cables) and mix waste.

14.5. Inert Waste to Landfill

The fraction of materials which will require depository to landfill will be limited as much as possible. However, materials such as rock wool insulation, light weight concrete fire protection, grout and ground sweeping are inert waste which are difficult to recover and will be delivered to landfill after all other recovery options are exhausted.

14.6. Hazardous Waste

The structures will be "Cleaned for removal". All systems will be depressurized, drained, flushed, purged, and vented to natural conditions. In addition, steam cleaning will be used in selected areas to allow reclassification and use of hot work cutting techniques where required. The following generic cleanliness standard will be applied:

- free of liquid hydrocarbons,
- gas free (all systems depressurized, purged, and vented to natural atmosphere),
- thin layer of residual hydrocarbon may be expected,
- hard scale may be expected.

15. Management of Waste

15.1. Non-Hazardous Waste Materials

Non-hazardous waste materials will be separated from components and stored in designated area until they can be hauled off-site for final disposal.

- Non-hazardous waste is to be considered materials that are not recyclable or hold no commercial value that can be disposed of a typical waste collection facility.
- Non-hazardous waste can include wood, plastic, paper, foam insulation, etc.

15.2. Hazardous Waste Components

Hazardous waste components will be separated from components and stored in designated areas until they can be hauled off-site for final disposal. Removal and handling of hazardous waste components will be undertaken by personnel that are authorized and trained to handle the specific waste components.

- Hazardous waste is to be considered materials that are not recyclable or hold no commercial value that cannot be disposed of in typical fashion and must be treated per EPA regulations before proper disposal.
- Materials identified in the existing IHM Report Part I, II, and III will be physically identified and marked on each location, it will be removed by trained / certified personnel according to Safety Data Sheet, waste fraction and in accordance with internal working instructions and procedures using adequate PPE and will thereafter be disposed accordingly.
- Hazardous waste can include NORM, asbestos, and hydrocarbons.
- As part of Contractor commitment to a circular economy, hydrocarbons will be used as fuel for high-temperature incineration furnace.

The Denmark classification into hazardous and non-hazardous waste is based on the system for the classification and labelling of dangerous substances and preparations, which ensures the application of similar principles over their whole life cycle. The properties which render waste hazardous are laid down in Annex III of Directive 2008/98/EC and are further specified by the Decision 2000/532/EC establishing a List of Wastes as last amended by Decision 2001/573/EC.

15.3. Non-Hazardous Inorganic Waste Components

Non-hazardous inorganic waste components will be collected deposited into onsite roll on/roll off boxes and transported as inert waste for final deposit at landfill.

Inorganic waste which can be unstable due to its content of chemical compounds might be sent to incineration before it is sent to landfill through the bottom ashes. Ex. typical low amount of organic waste with inorganic substances where the total volume of waste is so high, incineration will extract the inorganic from the organic compounds and then sent bottom ashes to landfill as much lower amount/higher concentration.

15.4. Non-Hazardous Organic Waste Components

Non-hazardous organic waste components (i.e., marine growth) will be removed and disposed of as follows:

- marine growth that falls from the structures during the deconstruction operation will be collected by front-end loader and deposited into roll on/roll off boxes and transported as inert waste to for final deposit at landfill,
- marine growth will be removed from the structures collected and deposited into roll on/roll off boxes and transported as inert waste for final deposit at landfill,
- as part of Contractor commitment to a circular economy, Contractor is currently exploring option of selling non-hazardous marine growth as organic fertilizer.

15.5. Asbestos

Asbestos will be removed and disposed of as follows:

- materials suspected to contain asbestos will be sampled by qualified inspector prior to sectioning operations,
- areas determined to contain asbestos will be quarantined,
- material verified to contain asbestos will be removed by qualified personnel with the appropriate PPE and preventative measures in place, including air monitoring,
- asbestos-containing materials will be loaded into sealed containers and transported off site for final disposal,
- deposited at permitted landfill site near Port of Frederikshavn.

15.6. Ceramic Fibers

There are currently no guidelines from the authorities' side in Denmark how to handle ceramic fibers. Ceramic fibers materials from the past 20 years are usually made with larger safer fibers than that found in asbestos. Materials from 20 + years were developed with much smaller fibers and can be similarly hazardous to asbestos. Recovers handling policy is therefore the same as with asbestos:

- materials suspected to contain ceramic fibers will be sampled by qualified inspector prior to sectioning operations,

- areas determined to contain ceramic fibers will be quarantined,
- material verified to contain ceramic fibers will be removed by qualified personnel with the appropriate PPE and preventative measures in place, including air monitoring,
- ceramic fibers-containing materials will be loaded into sealed containers and transported off site for final disposal,
- deposited at permitted landfill site near Port of Frederikshavn.

15.7. Hydrocarbons, Injection Chemicals, Fuel and Lube Oils

Hydrocarbons, injection chemicals, fuel and lube oils will be removed and disposed of as follows:

- sample equipment for reasonably expected hazardous materials,
- blow fluids back to respective HPU and/or reservoir,
- steam or mechanically clean HPU and/or reservoir,
- capture deposits by draining or vacuum in chemically safe tanks for transportation to final disposal site,
- vent previously contaminated equipment to atmosphere and sample contamination levels,
- repeat as required,
- waste water slurry disposal by high temperature incineration. See Table 5 for final Disposal Site.

15.8. NORM & Mercury

NORM and Mercury will be removed and disposed as follows:

- Port of Frederikshavn, DK facility:
    - sample equipment for NORM contamination,
    - if required, separate contaminated equipment from reminder of structure to quarantined areas with pollution control and prevention equipment,
    - vessels and piping containing hydrocarbons will be descaled using pure or chemical enriched steam,
    - drain and capture steam condensate in tanks for transport to disposal facility,
    - if required, remaining liquids and sediments to be removed by mechanical cleaning and vacuum,
    - vent previously contaminated equipment to atmosphere and sample contamination levels,
    - repeat as required.

- According to Danish regulation, NORM must be transported back to the country of origin if the contaminated material/equipment's radiation activity is above 1.6 cps (2 times background radiation).
    - if the contaminated material/equipment needs to be transported back to the county of origin, Contractor is able to assist with packing, sealing and transporting the material. The material will be handed over to the Company on arrival at the designated storage area.
    - process for disposal of NORM-contaminated materials is generally defined below:
        - securing that the NORM requirements are observed,
        - Contractor will adhere to the NORM requirements steadfastly and ensure they abide by exemption limits before the waste can physically be received, thus the necessity for a well-structured analysis process,
        - sampling and isotope specific analyses are mandatory to provide documentation to NORM waste (observing the exemption limits). This will need to take place at source,
        - Contractor is able to accept radionuclide types 3 and 4 directly,
        - identification of waste types will influence the process for analysis, transportation, and treatment. Different waste types to be considered as follows:
            - liquid/solid,
            - dusty/not dusty,
            - chemicals,
            - energy,
            - halogene/Sulphur,
            - Mercury,
        - establishment of treatment/handling/storage possibilities once the waste streams are described and analyzed,
        - NORM-specific initiatives. When working with NORM waste, a number of specific activities need to take place in order to comply with legislation around treatment and handling:
            - internal procedures/education:
                - safe handling and use of safety equipment,
                - precautions in case of dusty material,
                - procedures for sampling, measurement and follow up of dose rate and radioactivity measurements,
            - control measurement upon receipt:
                - specific precautions if the dose increase 2.5 µSv/h at workplaces,
                - sealing off of areas exceeding 7.5 µSv/h,

- dose monitoring,
- control measurement of residual (slag and fly ash):
    - dosimeter measurement,
    - isotope specific measurement at 2X background radiation.

Appendices

Appendix 1 – Site Plan

Appendix 2 – Quay Capacity Plan

Appendix 3 – Outer Port Depth

Appendix 4 – Inner Port Depth

Appendix 5 – Surface and Waste Water Collection System

Appendix 6 – Drainage Plan

Appendix 7 – Tidal Table

Appendix 8 – Ship Recycling Facility Plan

Appendix 9 – Environmental Approval with Annexes

Appendix 10 – EU List Approval

Appendix 11 – NORM Approval

Appendix 12 – Manitowoc 18000

Appendix 13 – Genesis Shears

Appendix 14 – CAT 988K Wheel Loader

Appendix 15 – Linde Reach stacker

Appendix 16 – Terex Telelift

M.A.R.S. Europe

Procedure

Hot Work Permitting

F	28-June-22	Revised Document	Simion Alexandru	Cecilie Nedergaard Nielsen	Kim Thygesen
E	17-May-21	Revised Document	Simion Alexandru	Cecilie Nedergaard Nielsen	Kim Thygesen
D	14-Jan-21	Revised Document	Simion Alexandru	Cecilie Nedergaard Nielsen	Kim Thygesen
C	1-Jul-18	Revised Document	Terry Overland	Pawel Serafinski	Kim Thygesen
REV	DATE	DESCRIPTION	WRITER	CONTROL	APPROVAL
			M.A.R.S. INTERNAL DOC NUMBER: EHS-PRO-300		

FOR DANSK VERSION – GÅ TIL SIDE 14

Table of Contents

1.0 PURPOSE

The purpose of this procedure is to establish proper safety precautions to prevent fires and/or explosions while conducting HOT Work operations in classified areas. Hot Work that is conducted on client premises will be conducted in accordance with the more stringent of the two Hot Work permitting processes. Specific actions regarding Hot Work conducted at facilities or aboard ships and/or barges are contained within this standard.

2.0 SCOPE

This procedure, in conjunction with the Flame Cutting procedure (EHS-PRO-301), applies to all M.A.R.S. Europe work locations, land-based or on assets.

3.0 ACCOUNTABILITY

All involved personnel shall be fully aware of and comply with all safety regulations. Additional responsibilities are as follows.

The person taking out the permit shall:

- Fully complete the Hot Work Permit and ensure that all requirements of the permit are met.
- Coordinate the work with the company Supervisor or designated alternate in charge.

Perform Toolbox talk

- Sign the permit.

The person doing the work shall:

- Participate in Toolbox Talk before work is commenced
- Complete gas tests, if necessary, to determine explosiveness, toxicity, or other hazardous conditions.
- Inspect and place fire extinguishers, fresh air equipment and other safety equipment.
- Advise other personnel in the vicinity not to perform any operation that is likely to change the conditions and thus void the permit.
- Prevent other operations that may conflict with the permitted work.
- Ensure that fire ways and escape routes are not blocked.
- Instruct all personnel concerned to stop work if a change occurs that can create an unsafe condition.
- Inspect the work area after the work is complete.
- The person doing the work shall understand the conditions of the Hot Work Permit and sign the permit before starting the job.

The company EHS Supervisor / Site Supervisor or the designated alternate shall:

- Ensure the safety of personnel and equipment under his/her supervision.
- Ensure that all elements of the permit procedure are completed.
- Ensure that hot work area was safe prepared accordingly with procedure.
- Sign the permit.

The Fire Watch shall:

- Possess knowledge of and use of fire equipment, as necessary.

- Stop the Hot Work if sparks, flame, or heat is projected outside the permitted area.
- Alert personnel entering the permitted area of hazards, i.e., arc-flashes, grinding, cutting, overhead hazards, etc.
- Be equipped with a radio, keeping communication at all time with employee involved in the hot work process.
- Remain at site for 30 minutes to assure non-flare up from heat. (If required by Insurance company, Remain at site for 60 minutes)
- Sign the permit after the 30 (60)-minute safety period.
- Perform at least two rounds after finishing work.

4.0 PROCEDURE

4.1 Definitions

4.1.1 Classified Areas

Classified areas are defined as:

- All facility, asset, offshore platform, or rig areas except those otherwise designated as approved hot/safe work areas.
- All shipboard areas except those areas designated as smoking areas by the Ship Master.
- Areas within 35 feet (10m) of flammable or oxidizing agent's storage areas. This includes, but is not limited to, fuel tanks, paint lockers, control vans, offices, oxygen or acetylene bottles.
- Any other area as deemed necessary by supervision.
- The Facility/Project/Operations Manager must approve and document any exception via the Management of Change process.

Hot Work:
Hot Work is defined as any open flame, welding, burning, grinding or spark-producing activity. Specifically, "Hot work" means any activity requiring the use of electric arc or gas welding equipment, cutting burner equipment or other forms of flame, as well as heating or spark-generating tools, regardless of where it is carried out on board a ship.

Adjacent space:
Means those spaces bordering a space in all directions, including all points of contact, corners, diagonals, decks, tank tops and bulkheads.

Dangerous atmosphere:
Means an atmosphere that may expose workers to the risk of death, incapacitation, impairment of ability to self-rescue (i.e., to escape unaided from a space), injury or acute illness.

Enclosed space:
Means a space that has any of the following characteristics:

- Limited openings for entry and exit.
- Inadequate ventilation.
- Is not designed for continuous worker occupancy.

Enclosed spaces include, but are not limited to, cargo spaces, double bottoms, fuel tanks, ballast tanks, cargo pumprooms, cargo compressor rooms, cofferdams, void spaces, duct keels, inter-barrier spaces, boilers, engine crankcases, engine scavenge air receivers, sewage tanks and adjacent connected spaces.

Entry:
Means the action by which a person passes through an opening into a space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Space:
Means a permanent or temporary three-dimensional structure or compartment on a ship such as, but not limited to, cargo tanks or holds; pump or engine rooms; storage lockers; tanks containing

flammable or combustible liquids, gases, or solids; other rooms; crawl spaces; tunnels (i.e. shaft alleys); or access ways. The atmosphere within a space is the entire volume within its bounds.

Fire Watch:
The person(s) and associated fire protection equipment assigned to stand by during permitted welding, cutting or open flame conditions.

Safe Work Areas:
Safe Work Areas shall be established in shop/fabrication areas for the purpose of conducting welding or burning operations not in the proximity of fuel tanks or other flammable/combustible material.

/1/ Safe work areas must be free of combustible materials.

/2/ No hydrocarbons or other flammable may be stored or used within 35 feet (10m) of the designated safe work area.

/3/ The safe work area must be equipped with a fully- charged and inspected fire extinguisher.

/4/ All safe work areas must be clearly marked and identified as an area safe for Hot Work.

Lower flammable Limit:
The lower limit of flammability of a gas or vapor at ordinary ambient temperatures expressed in percent of the gas or vapor in air by volume. No Hot Work will be allowed if the atmosphere is greater than 1% of the lower flammable limit.

EHS Supervisor /Site Supervisor:
A company employee designated as the EHS Supervisor / Site Supervisor by company.

4.2 General Permit Procedures

A permit is required in all company operations for any work affiliated with operations requiring an open flame, welding, hot tapping, burning, grinding, blasting, opening energized electrical junction boxes or portable spark producing devices including heaters, electrical hand tools and/or portable equipment not rated intrinsically safe within a classified area.

No work covered by these guidelines may be begun before a permit is issued.

Fill out the permit. All conditions of the permit must be met, and the permit must be signed.

4.2.1 Review the permit conditions.

The company EHS Supervisor / Site Supervisor must verify that the following steps are completed before signing a Hot Work Permit:

- All related equipment has been properly prepared and isolated as outlined in the company Lock Out/Tag Out and Confined Space Entry Guidelines.
- The permit has been reviewed by the Job Supervisor, the party responsible for the job or consultant in charge of the facility or area. The Site Supervisor must physically review the area and operating conditions before signing the permit.

4.2.2 Provisions must be made, for the following:

- A pre-job safety meeting, JSA or JHA, and/or HIRA has been conducted to ensure all safety and health precautions are understood by the person(s) who will perform the work. Person(s) performing the work should sign the permit.
- Necessary gas tests have been performed by a Competent person for explosiveness, toxicity or other hazardous conditions with readings recorded on the permit. (Consult the company EHS Department for assistance if needed).
- The welding/cutting equipment has been inspected for the following:
  - Cracks, splits, or loose connections in welding leads. Repair before use or Red Tag out of service.
  - Exhaust spark arrester and drip pans on machines used overwater as required by regulations.
  - Leaks in connection to oxygen or acetylene bottles, hoses, and valves.
  - Installation of back flow valve/flash arrester.

4.2.3 Hot Work Permits will be issued for:

- A hot work permit is valid for 7 days, performing daily the toolbox talk and acknowledging the permit validity by responsible person. Is allowing a maximum of 10 hours of continuous work.
- Until shift change.
- Until changes beyond those in the original permit.
- Hot Work Permits will be issued for specific tasks only.

4.2.4 EHS Supervisor / Site Supervisor

The company EHS Supervisor / Site Supervisor, after verifying that all permit requirements have been met, may sign the Hot Work Permit, allowing the work to be performed.

4.3 Hot work procedures for confined space

This section is directed towards Hot Work conducted in confined spaces.

4.3.1 Hot Work permit

The Hot Work permit may only be issued by the EHS Supervisor / Site Supervisor.

/1/ The person requesting the permit must show exactly where he wants to conduct hot work to receive a permit. No deviations will be allowed

/2/ Hydrocarbons or flammables cannot be used or stored within 35 feet (10m) of the hot work area unless protected by using fireproof tarps or water fog.

/3/ A fire watch must be present on the opposite side of from where the Hot Work is being performed. A fire watch shall not be allowed in any void, potable or ballast water tank unless entry is conducted according to company Confined Space Entry Procedure. Precaution should be taken to ensure the tank has no combustible gases present. The fire watch shall remain for 30 minutes after the burning or welding has ceased. (If required by insurance company the fire watch may be required for 60 minutes).

/4/ Any fuel tank vents within a 35-foot (10m) radius of the Hot Work must be checked to ensure the presence of 30X30 mesh (flame) safety screen. If no screen is in place, then vents must be

closed, plugged, or otherwise secured. This activity must be documented on the permit to assure the proper removal once the job has been completed. When the job is complete, any vents that were secured must be immediately reopened.

/5/ No Hot Work will be permitted directly on or adjacent to the skin of a fuel, oil or sewage holding tank. Hot Work may only be conducted after the tank is cleaned, purged and "certified" gas free by a marine chemist or other certifying body. Hot Work will only be permitted in a confined space once a certified competent person / external company has certified the space safe for hot work. This includes pipelines, heating coils, pump fittings or other accessories connected to spaces that contain or have last contained fuel; and bilges, cargo holds, engine room spaces and boiler spaces not containing dangerous atmospheres.

/6/ Gas detectors

Gas detectors should be always used while performing operations in confined space, especially hot work. Employees must be aware of the gas detectors capabilities, alarms, and operations. Prior training will be offered by a competent person.

Always use a calibrated and certified gas detector.

4.3.1 Safe-for-hot-work criteria

A space that is "Safe-for-hot-work" is one that meets all the Safe-for-entry criteria and the following criteria:

/1/ Any residues or materials in the space are not capable of producing an oxygen-enriched or oxygen-deficient environment and are not capable of generating flammable or explosive vapors.

/2/ All adjacent spaces have been cleaned, rendered inert or sufficiently treated to prevent the risk of explosion, the release of noxious or toxic fumes or gases and the spread of fire.

/3/ Work in adjacent spaces is not affected by the hot work, such as tank entry, lifting operations or deconstruction by hand.

4.3.2 Safe-for-hot-work inspection, testing and determination.

Each space should be certified by a Competent person / external company as "Safe-for-hot-work" as often as necessary to ensure that conditions within that space are maintained as established by the certificate. The frequency with which a space should be monitored to determine whether conditions are being maintained is a function of the following, but should in any event **not exceed a ten-hour shift period**:

/1/ Temperature

Any changes in temperature in the space could result in a change in its atmospheric conditions, and hotter days can cause residues to produce more vapors, resulting in a greater risk of flammable or explosive conditions.

/2/ Work in the space

Activity in the space can change its atmospheric conditions. Gas leaks from a hose or torch or manual tank cleaning by scraping or using hand-held high-pressure spray devices can stir up residues, which can result in a greater risk of flammable or explosive conditions.

/3/ Period of elapsed time

If a sufficient period (not to exceed 24 hours) has elapsed since "Safe-for-hot-work" certificate was issued, the condition of the space should be retested prior to entry and commencement of work.

/4/ Unattended spaces

A tank or space that has been certified as "Safe-for-hot-work" then subsequently left unattended for a sufficient period should be retested prior to entry and commencement of work.

/5/ Work break

Tanks or spaces should be checked for equipment left behind when workers take a break or leave at the end of the shift, and the condition of the tank or space should be retested prior to entry and resumption of work.

/6/ Ballasting or trimming

Changing the position of the ballast or moving or trimming the ship in any way can produce a change in the atmosphere of the spaces. The condition of the spaces should be retested prior to entry and resumption of work.

/7/ Gases detectors

Atmosphere is permanently monitored with gas detectors.

4.3.3 Safe-for-hot-work Permit certificate, warning signs and labels

Any determination of a space as "Safe-for-hot-work" should be accompanied by a permit / certificate which, should include the Safe/Confined Entry Permit if required by the Confined Space Entry Procedure. The Permit and warning signs and labels should be posted at the work site and in a central location where other permits are logged. The permit / certificate must clearly indicate that the space is "Safe-for-hot-work".

4.3.4 Safe-for-hot-work operational measures

In addition to the measures identified in the Safe/Confined Entry Permit, the following should also be applied to achieve certification as "Safe-for-hot-work":

/1/ Each area where hot work is to be performed should be carefully prepared and isolated before hot work commences.

/2/ All trash, debris, oil residues or other materials that could generate flammable or explosive vapors should be removed from the space prior to commencing hot work. The space and adjacent spaces should be kept free of any trash, debris, oil residues or other materials that could result in a risk of flammable or explosive conditions.

/3/ Drums and similar small containers which have contained flammable substances should, before they are cut, be either filled with water or thoroughly cleaned of such substances.

/4/ Deck tanks should be appropriately cleaned, gas freed and certified as Safe-for-entry and tested for hot work as described in this procedure. A suitable supply of fresh air should be maintained, given that oxygen from the atmosphere may be removed in the combustion process. The tanks should be isolated and tested in accordance with the guidance given in

these guidelines. Particular attention should be paid to access and egress and to the unique challenges presented by these spaces regarding tank rescue in an emergency.

/5/ Fixed cargo or fuel tanks should be cleaned and ventilated before any work commences and after having been passed as “Safe-for-entry” and "Safe-for-hot-work". Cleaning should be sufficient to remove any hazardous liquids, light solids, and leakage to allow the tank to be gas freed. Complex structures may require additional preparation before being certified as “Safe-for-hot-work”. The need for localized manual cleaning should be considered.

/6/ Ventilation should allow an adequate flow of air to all parts of the space to prevent a build-up of gases either from the hot work or from the tank coatings:

- ventilation should be provided at volumes and flow rates sufficient to ensure that the concentration of flammable vapours is maintained below 1 per cent of the lower flammable limit.
- general mechanical ventilation should be of sufficient capacity and so arranged as to produce sufficient air changes to maintain safe levels of welding fumes and smoke.

/7/ Confined space rescue equipment must be prepared and installed on the confined space entry, ready to be used in case of emergency. Rescue team should be informed prior the operations start, being ready to act accordingly.

Fire safety procedures must be followed.

Any person conducting Hot Work must have a designated fire watch and an appropriate designated fire-extinguishing agent within 10' (3m) of the work areas. Exception from this rule applies on the process field, where the fire watcher is not needed. The cutters from the process field, will work side by side, supervising/monitoring one to each other.

All cuts must be risk evaluated on the working area, depending on each structure configuration. Long torches may be used, to increase the safety distance from possible falling objects.

Fuel transfer operations shall not be conducted simultaneously with Hot Work.

Hot Work shall not be conducted at any marine-fuelling terminal.

All work shall meet all the requirements of the permit.

Immediately after the work is completed, the work area and adjacent areas will be inspected to ensure there has been no spread of sparks or heat. The permit will be returned to the supervisor after the job is complete and the area is secure.

4.4 Training

All affected employees will be trained in this standard.

Before work is commenced, M.A.R.S Europe employees have also participated in a 1-day course on “Hot Work” at an certify centre (labour training centre). The course gives them a certificate to work with Hot Work. All external suppliers will also be required to have this course.

4.4.1 Training level and range of personnel designated to training.

The company will provide training to ensure the appropriate level of worker safety and environmental protection. The training program should cover all workers and members of the Ship Recycling Facility, including contractor personnel and employees, and should identify the type and frequency of training.

4.4.2 Control of the training program

The training program shall be reviewed periodically and modified, as necessary.

4.4.3 The purpose of training

The training program should enable workers to safely undertake all operations that they are tasked to do and ensure that all workers at the Ship Recycling Facility have been provided with the appropriate training prior to performing any ship recycling operation.

4.4.4 Course range

The program should include appropriate training for tasks and operations performed by the employees including, but not limited to, the following:

- Awareness and communication of information about Hazardous Materials.
- Job hazard awareness, including handling and management of Hazardous Materials.
- Personal protective equipment.
- Fire protection and prevention.
- Emergency response and evacuation.
- Safety and health training.
- Environmental awareness.
- First-aid awareness.
- Permit to work system, risk assessment, toolbox talk and JSA awareness
- Confined spaces awareness
- Work at height awareness
- Chemical awareness
- Others relevant trainings related to work environment.

5.0 RECORDS

Hot Work Permit EHS-FRM-500

This document is reviewed at least every 3 years.

This procedure is signed by the company EHS Manager.

Simion Alexandru	**28/06/2022**
Manager EHS	*Date*

Appendix 1 Danish References

The guidelines in the following Danish references are complied with:

/1/ Danish Fire Technical Institute: DBI no. 10, Vol 1, 2 and 3 (2008).

/2/ Executive order no. 715 / 2020 Concerning Flammable and Combustible Liquids.

/3/ Executive order no. 1444 of 15. December 2010 Concerning Technical Regulations of Gasses.

/4/ Danish Emergency Management Agency: Guidance About Flammable and Burning Close to Fluids, 2017.

/5/ Danish Emergency Management Agency: Guidance to Technical Regulations of Gasses, 2016.

/6/ Work environment Act 674 with later amendments

M.A.R.S. Europe

Procedure

Tilladelse til Varmt Arbejde

F	28-June-22	Revised Document	Simion Alexandru	Cecilie Nedergaard Nielsen	Kim Thygesen
E	17-May-21	Revised Document	Simion Alexandru	Cecilie Nedergaard Nielsen	Kim Thygesen
D	14-Jan-21	Revised Document	Simion Alexandru	Cecilie Nedergaard Nielsen	Kim Thygesen
C	1-Jul-18	Revised Document	Terry Overland	Pawel Serafinski	Kim Thygesen
REV	DATE	DESCRIPTION	WRITER	CONTROL	APPROVAL

M.A.R.S. INTERNAL DOC NUMBER: EHS-PRO-300

Indholdsfortegnelse

1.0 FORMÅL

Formålet med denne procedure er at fastlæggepassende forholdsregler vedrørende sikkerhed. Dette for at forebygge brand og/eller eksplosioner, ved gennemførelse af Varmt Arbejde i klassificerede områder. Gennemførsel af Varmt Arbejde på kundens eget område vil være underlagt den mere stringente form af de to tilladelses-processer. Specifikke handlinger i forhold til Varmt Arbejde, der er foretaget på faciliteter eller ombord på skibe og/eller pramme, hører under denne procedure.

2.0 OMRÅDE

Sammenhængende med flammeskærings-proceduren (EHS-PRO-301) gælder denne retningslinje for alle M.A.R.S' europæiske arbejdspladser.

3.0 ANSVARLIGE

Alt involveret personale må være fuldt ud bevidst om, samt overholde, alle sikkerhedsforanstaltninger. Yderligere ansvarsområder er følgende:

Den tilladelsesansvarlige skal;

- lave en komplet udførsel af tilladelsen til Varmt Arbejde, og sikre at alle foranstaltningerne for tilladelsen er imødekommet
- koordinere arbejdet med virksomhedens tilsynsførende, eller hvem der alternativt er udpeget ansvarlig
- underskrive tilladelsen

Den arbejdsansvarlige skal;

- fuldføre gastest om nødvendigt for at afgøre spræng- og gitftfare eller andre farlige omstændigheder
- undersøge og kortlægge brandslukkere, friskluftsudstyr og andet sikkerhedsudstyr
- rådgive øvrigt personale i området om ikke at handle på en måde, der kan ændre forholdene og dermed annullere tilladelsen
- forebyggelse af andet, der kan hindre det tilladte arbejde
- sikre at brandudgange og flugtruter ikke er blokerede
- instruere alt involveret personale i at stoppe sit arbejde hvis der opstår ændringer, der kan skabe en usikker tilstand
- undersøge arbejdsområdet når arbejdet er færdigt
- forstå betingelserne for 'Tilladelse til Varmt Arbejde' og underskrive tilladelsen inden påbegyndelse af arbejdet

Firmaets EHS supervisor / site supervisor eller anden udpeget ansvarlige skal;

- sikre personalets sikkerhed og udstyret under sit tilsyn
- sikre, at alle elementer af tilladelsesproceduren er udfyldte
- sikre, at området for Varmt Arbejde er sikkert
- sikre, at området for Varmt Arbejde er sikkerhedsmæssigt klargjort som følge af denne procedure
- underskrive tilladelsen

Brandvagten skal;

- besidde viden om og gøre brug af brandudstyr om nødvendigt
- stoppe Varmt Arbejde i tilfælde af, at gløder, flammer eller varme projiceres udenfor det tilladte område
- advare personalet, der træder ind på det tilladte område om farer – dvs. lysbuer, slibning, skæring, farer over hovedet osv.
- være udstyret med radio og konstant fastholde kommunikationen med medarbejdere, der er involverede i processen omkring Varmt Arbejde
- forblive på arbejdspladsen i 30 minutter for at sikre, der ikke opblusser flammer fra varmen (forblive i 60 minutter hvis dette er et krav fra forsikringsselskabet)
- underskrive tilladelsen efter den 30 (60)- minutters sikkerhedsperiode
- udføre mindst to runder efter det afsluttede arbejde

4.0 PROCEDURE

4.1 Definitioner

4.1.1 Klassificerede områder

Klassificerede områder er defineret som;

- alle faciliterer, aktiver, boreplatforme eller rig-områder med undtagelse af de, der på anden vis er godkendte varme-/sikkerheds- arbejdsområder
- alle områder ombord med undtagelse af de rygeområder, der er udpeget af skibsføren
- områder inden for 35 fod (10 meter) af lageområder til opbevaring af brandfarlige eller oxiderende stoffer. Dette inkluderer, men er ikke begrænset til, brændstoftanke, malerskabe, kontrolvarevogne, kontorer, ilt- eller acetylenflasker
- ethvert område, hvor tilsyn anses for at være nødvendigt
- Facilitet-/projekt-/driftslederen skal godkende og dokumentere enhver undtagelse som beskrevet i M.A.R.S.'s forandringsledelses-procedure.

Varmt Arbejde

'Varmt Arbejde' er defineret som aktiviteter tilknyttet åben ild, svejsning, brændning, slibning eller gnistproducerende aktiviteter. Mere specifikt omfatter Varmt Arbejde aktiviteter, der kræver brug af lysbuer eller udstyr til gassvejsning, udstyr til skærebrændning eller andre former for ild – såvel varme- som gnistgenererende værktøjer – uanset hvor det er udført.

Tilstødende områder

'Tilstødende områder' er de områder, der grænser op til et rum i alle retninger – herunder alle kontaktpunkter, hjørner, diagonaler, dæk, tanktoppe og skotter.

Farlig atmosfære

'Farlig atmosfære' er en atmosfære, der kan eksponere de ansatte for risiko for død, uarbejdsdygtighed, svækkelse af evnen til at redde sig selv (dvs. flugt uden hjælp fra et område), skader eller akut sygdom.

Lukkede rum

'Lukkede rum' er et område, der har nogen af de følgende karakteristika:

- Begrænsede åbninger for ind- og udgang
- Utilstrækkelig ventilation
- Ikke er designet til kontinuerlig medarbejderbelægning,

Lukkede rum inkluderer, men er ikke begrænsede til, lastområder, dobbeltbunde, benzintanke, ballasttanke, pumperum for lastpumper, kompressorrum, kofferdamme, tomrums-områder, rørledningers nedkølingssystemer, mellemliggende afspærringsområder, kedler, krumtaphuse, luftmodtagere til skyllepumpetab, spildevandstanke og tilstødende, tilsluttede rum.

Indgang
Begrebet omfatter, at en person går igennem en åbning ind til et område. Indgang inkluderer efterfølgende arbejdsaktiviteter på dét område, og betragtes som værende trådt i kraft så snart hvilken som helst del af den fremmødtes krop, bryder grænsen mellem åbningen og området.

Område
Begrebet omfatter en permanent, eller midlertidig, tredimensionel struktur eller et område på et skib såsom, men ikke begrænset til, lasttanke eller lastrum; pumpe- eller motorrum; opbevaringsskabe; tanke der indeholder let antændelige eller brændbare væsker, gasser eller faste stoffer; andre områder; gennemsøgningsrum; tunneller (dvs. skakt-kanaler) eller adgangsruter. Områdets miljø dækker over *hele* rumfanget indenfor dets grænser.

Brandvagten
De(n) person(er) og tilhørende brandsikringsudstyr der har til opgave at være beredte under tilladte svejse, skære- eller åbne ildforhold.

Sikre Arbejdsområder
Sikre Arbejdsområder skal etableres i områder, med formålet at udføre svejsning eller afbrænding, der ikke er i nærheden af brændstoftanke eller andet let antændeligt/brændbart materiale.

/5/ Sikre arbejdsområder må være fri for brændbart materiale

/6/ Carbonhydrider eller andre brændbare materialer må ikke opbevares eller anvendes inden for 35 fod (10 meter) af de udvalgte sikkerhedsområder.

/7/ Det sikre arbejdsområde skal være udstyret med en fuldt ladet og kontrolleret brandslukker.

/8/ Alle sikre arbejdsområder skal være tydeligt markerede og identificeres som områder, der er *sikre for udførsel af Varmt Arbejde*

Den nedre grænse for brændbart
Den nedre grænse for brændbart er betegnelsen for en gas eller damp ved almindelige omgivelsestemperaturer udtrykt i procent af gassen eller dampen i luften i volumen. Varmt Arbejde tillades ikke hvis atmosfæren er større end 1% af den nedre grænse for brændbart.

EHS supervisor / site supervisor
Den ansatte der er udpeget af firmaet til at være EHS / site supervisor

4.2 Generelle procedurer for tilladelse

Det er nødvendigt med en tilladelse til alle erhvervsaktiviteter, som er tilknyttet aktiviteter, der kræver åben ild, svejsning, tryk aflytning, brændning, sprængning, åbning af elektriske samledåser eller transportable gnistproducerende enheder inklusiv varmeapperater, elektrisk værktøj og/eller transportabelt udstyr, der ikke er IS-vurderet indenfor et kvalificeret område.

Arbejde der hører under disse retningslinjer må ikke påbegyndes, førend der er udstedt tilladelse

Udfyld tilladelsen. Samtlige betingelser for tilladelsen skal imødekommes og tilladelsen skal underskrives.

4.2.1 Gennemgang af betingelserne for godkendelse

Supervisoren skal verificere, at følgende trin er udfyldte, inden 'Tilladelse til Varmt Arbejde' kan underskrives;

- Alt relateret udstyr er blevet korrekt forberedt og isoleret, som det er beskrevet i firmaets Lockout/Tagout og 'Retningslinjerne for Adgang til lukkede rum'.

- Tilladelsen er blevet gennemgået af supervisoren, den part der er ansvarlig for jobbet eller den konsulent, der har ansvaret for faciliteterne eller området. Områdets supervisor skal fysisk gennemgå området samt driftsbetingelserne før underskrivelse af tilladelsen.

4.2.2 Der skal foretages bestemmelser for følgende;

- Et sikkerhedsmøde forud for arbejdet. Der er gennemført en jobsikkerhedsanalyse/ arbejdssikkerhedsanalyse (JSA) eller en jobfare-analyse/arbejdsfare-analyse (JHA) og/eller en Identifikation af Farer og Risikovurdering (HIRA) for at sikre, at alle sikkerheds- og sundhedsmæssige forholdsregler er forstået af den person, eller de personer, der skal udføre arbejdet. Personen, eller personerne, der skal udføre arbejdet, bør underskrive tilladelsen.

- Nødvendige gasttester er foretaget af en person, der er har kompetencer indefor eksplosivitet, toksicitet eller andre farlige forhold og aflæsninger registreres på tilladelsen (i tilfælde af behov for råd og assistance kontaktes firmaets EHS-afdeling).

- Svejse-/skærings-udstyr er kontrolleret for følgende;
  - revner, delinger eller løse forbindelser i svejseledninger (i sådanne tilfælde skal disse repareres inden brug, eller markers med rødt som *"Ude af Drift").*
  - gnistfang til udstødningsystemer og dråbefangere på maskiner, som påkrævet ifølge lovgivningen
  - lækager i forbindelse med ilt- eller acetylenflasker, slanger og ventiler
  - installering af tilbagestrømningsventil

4.2.3 'Tilladelse til Varmt Arbejde' udstedes;

- indtil vagtskifte
- indtil ændringer der rækker ud over dem i den oprindelige tilladelse
- kun for specifikke opgaver.
- 'Tilladelse til Varmt Arbejde' er gyldig i 7 dage alt imens der dagligt udføres "Toolbox Talk" og tilladelsens gyldighed bekræftes af den ansvarlige. Der tillades et maksimum på 10 timers uafbrudt arbejde.

4.2.4 EHS / Site supervisor

Efter at have bekræftet at alle krav er imødekommet, skal firmaets EHS / site supervisor underskrive 'Tilladelse til Varmt Arbejde' for at tillade at arbejdet/opgaven må udføres.

4.3 Varmt arbejde i lukkede rum

Denne sektion er henvendt til 'Varmt Arbejde', som er udført i lukkede rum

4.3.1 Tilladelse til Varmt Arbejde

Tilladelse til Varmt Arbejde bør kun udstedes af EHS / Site supervisor

/7/ For at kunne modtage tilladelsen, må personen der anmoder om den, vise nøjatigt hvor han ønsker at udføre Varmt Arbejde. Der tillades ingen afvigelser.

/8/ Carbonhydrider eller brændbart må ikke anvendes eller opbevares indenfor 35 fod (10 meter) af området for Varmt Arbejde, medmindre der anvendes brandsikre presseninger eller vandtåge.

/9/ En brandvagt skal være til stede, på den modsatte side af den hvor det Varme Arbejde udføres. Der er ingen adgang for brandvagten i tomrum, drikkevandsttanke eller ballastvandtanke medmindre andet er anført ifølge firmaets procedure for 'Adgang til lukkede rum'. Sikkerhedsforanstaltninger bør foretages for at sikre, at tanken ikke indeholder brændbare gasser. Brandvagten skal forblive på pladsen 30 minutter efter brændningen eller svejsningen er ophørt (er det påkrævet fra forsikringsselskabet, må brandvagten forblive i 60 minutter).

/10/ Enhver udluftning til brændstoftanken der befinder sig indenfor 35 fods (10 meters) radius af det Varme Arbejde, må undersøges for at sikre tilstedeværelsen af en 30x30 mesh (flamme) sikkerhedsskærm. Hvis ikke en sådan skærm er til stede, må udluftningen lukkes, tilsluttes eller på anden måde sikres. Aktiviteten skal dokumenteres på tilladelsen for at sikre korrekt afskaffelse, når jobbet er fuldført. Når jobbet er fuldført, må al udluftning der er sikret, øjeblikkeligt genåbnes.

/11/ Intet Varmt Arbejde er tilladt direkte på den udvendige side af en brændstof-, olie eller spildevandstank. Varmt Arbejde må kun udføres efter tanken er rengjort, renset og bekræftet fri for gas af en skibsmekaniker eller en anden certificeret person. Varmt Arbejde tillades kun i et begrænset område så snart en certificeret, kompetent person/et eksternt firma har godkendt området til at være sikkert for udførsel af Varmt Arbejde. Dette inkluderer rørledninger, varmespoler, pumpearmaturer eller andet tilbehør relateret til rum der indeholder, eller har indeholdt, brændstof; og lænsere, lastrum, maskinrumsområder og kedelrum der ikke rummer farlige atmosfærer.

/12/ Gasdetektorer

Gasdetektorer bør altid anvendes i forbindelse med udførsel af arbejde i et lukket rum, især Varmt Arbejde. De ansatte må være opmærksomme på gasdetektornes kapaciteter, alarmer og funktioner. Forudgående instruktioner vil blive tilbudt af en kompetent person.

Anvend altid en kalibreret og certificeret gasdetektor.

4.3.2 Kriterer for 'Sikkert til Varmt Arbejde'

Et område der er erklæret 'Sikkert til Varmt Arbejde', er et område, der imødekommer alle kriterierne for sikker adgang samt følgende kriterier:

/4/ Restkoncentrationer eller materialer i området må ikke være i stand til at producere et iltberiget eller iltfattigt miljø og må ikke kunne genere antændelige eller eksplosive dampe.

/5/ Alle tilstødende områder skal være rengjorte og kemisk inaktiveret samt behandlet således der forebygges risiko for eksplosion, udslip af skadelige eller giftige dampe og spredning af ild.

/6/ Arbejde i tilstødende områder er ikke påvirket af det Varme Arbejde, såsom tankindgange, løft eller manuel dekonstruktion.

4.3.3 Inspektion, afprøvning og bestemmelse af Varmt Arbejde

Hvert område skal certificeres af en kompetent person/et eksternt firma som 'Sikkert til Varmt Arbejde' så ofte som nødvendigt, for at sikre at forholdene inden for området er opretholdt som vedtaget i bestemmelserne. Hyppigheden af hvorvidt et område bør monitoreres for at afgøre, hvorvidt forholdene inden for området opretholdes, er en funktion af følgende **(men bør under ingen omstændigheder overstige en 10-timers vagtperiode);**

/8/ Temperatur

Enhver ændring i temperaturen på området kan resultere i ændringer i de atmosfæriske forhold, og varmere dage kan forårsage restkoncentrationer til at producere flere dampe, hvilken kan resultere i en større risiko for brandfarlige eller eksplosive forhold.

/9/ Arbejde i området

Gasudslip fra en slange eller lommelygte eller manuel tankrensning, som er rengjort ved at skrabe eller ved brug af håndholdte højtryksrensere, kan antænde restkoncentrationerne og dermed skabe en større risiko for brandfarlige eller eksplosive forhold.

/10/ Periode for forløbet

Hvis der er gået en tilstrækkelig periode (ikke over 24 timer), siden certifikatet "Sikkert til Varmt Arbejde" blev udstedt, skal områdets tilstand testes igen, forud for nyt fremmøde og genoptagelse af arbejdet.

/11/ Ukontrollerede Områder

En tank eller et område, der er blevet godkendt som værende 'Sikkert til Varmt Arbejde', og siden efterlades uden opsyn i en tilstrækkelig lang periode, skal testes igen forud for nyt fremmøde og optagelse af arbejdet.

/12/ Arbejdspause

Tanke eller områder skal undersøges for eventuelt efterladt udstyr, når de ansatte holder pause eller inden afgang, når en vagt er ovre. Tankens eller områdets stand skal testes igen forud for nyt fremmøde og optagelse af arbejdet.

/13/ Ballastering eller trimning

Ændring af ballastens position eller flytning eller trimning af skibet, kan medføre ændringer i områdernes atmosfærer. Forholdene i områderne skal testes igen forud for nyt fremmøde og optagelse af arbejdet.

/14/ Gasdetektorer

Atmosfæren er konstant monitoreret med gasdektorer.

4.3.4 ’Tilladelse til Varmt Arbejde’ – advarselsskilte og etiketter

Enhver bestemmelse af et område som ‘Sikkert til Varmt Arbejde’, bør ledsages af en tilladelse sammen med ’Tilladelse til arbejde i lukkede rum’, hvis dette påkræves af Proceduren for lukkede rum. Tilladelsen og advarselsskilte samt etiketter skal bogføres på arbejdspladsen sammen med andre registrerede tilladelser. Tilladelsen skal tydeligt indikere, at området er ’Sikkert til Varmt Arbejde’.

4.3.5 ‘Sikkert-til-Varmt-Arbejde’ – operationelle foranstaltninger

I tillæg til de foranstaltninger der er identificeret i ’Tilladelse til arbejde i lukkede rum’, skal følgende ligeledes tilføjes, for at opnå ’Sikkert til Varmt Arbejde’:

/7/ Hvert område hvor varmt arbejde udføres, skal være omhyggeligt forberedt og isoleret før det varme arbejde påbegyndes.

/8/ Al affald, olierester eller andet materiale der kan generere brændbare eller eksplosive dampe skal fjernes fra området, inden det varme arbejde påbegyndes. Området og tilstødende områder skal holdes fri fra affald, snavs og olierester, der kan skabe et brændbart eller eksplosivt miljø.

/9/ Tønder og lignende små opbevaringremedier, som har indeholdt brændbare stoffer, skal, inden de skæres/klippes, endten fyldes med vand eller grundigt renses for disse stoffer.

/10/ Tanke på dækket skal omhyggeligt rengøres, garfrigøres og certificeres som ’Sikkert til Adgang’ og ’Sikkert til Varmt Arbejde’ som beskrevet i denne procedure. Et passende supplement af frisk luft skal opretholdes, da ilt fra atmosfæren i området kan være blevet fjernet i brændningsprocessen.Tankene skal isoleres og testes i overensstemmelse med vejledningen i disse retninglinjer. Det skal være særlig opmærksomhed i forbindelse med adgang og udgang og til de unikke udfordringer områderne udgør med hensyn til tankredningsprocedurer i en nødsituation.

/11/ Faste last- eller brændstoftanke skal rengøres og udluftes inden påbegyndelse af arbejde og efter at have gået igennem som ’Sikkert til Adgang’ og ’Sikkert til Varmt Arbejde’. Rengøringen skal være tilstrækkelig, til at kunne fjerne farlige væsker, lette faste stoffer og lækager, så tanken kan frigøres for gasser. Komplekse konstruktioner kræver muligvis yderligere forberedelse, førend de kan certificeres som ’Sikkert til Varmt Arbejde’. Der bør overvejes en lokaliseret rengøringsmanual.

/12/ Ventilationen skal muliggøre en tilstrækkelig luftstrøm til alle dele af området for at forhindre ophobning af gasser enten fra det varme arbejde eller fra tankens belægninger:

- Der skal være ventilation i mængder og strømningshastigheder, der er tilstrækkelige til at sikre, at koncentrationen af brandfarlige dampe holdes under 1 % af den nedre brændbare grænse.
- Den generelle mekaniske ventilation skal være tilstrækkelig kapacitet og således indrettet, at der kan foretages tilstrækkelige luftændringer til at opretholde sikre svejsedampe og røg.

/13/ Redningsudstyr til Lukkede rum skal forberedes og installeres ved indgangen til det lukkede rum, således det er klar til anvendelse i tilfælde af nødsituationer. Redningsholdet skal informeres forud for arbejdes påbegyndelse, så de står klar til at handle herpå

Procedurer for brandsikkerhed skal følges.

Enhver person der udfører varmt arbejde skal have en identificeret brandvagt og et udpeget brandslukningsmiddel inden for 10 fod (3 meter) af arbejdsområderne. Undtagelser fra denne regel gælder i procesfeltet, hvor brandmanden ikke er påkrævet. Fræserne fra procesfeltet vil arbejde side om side og overvåge/overvåge hinanden.

Alle nedskæringer skal risikovurderes på arbejdsområdet, afhængigt af hver strukturkonfiguration. Lange skærebrændere kan bruges for at øge sikkerhedsafstanden fra mulige faldende genstande.

Forflytning af brændstof må ikke foregå samtidigt med varmt arbejde.

Varmt arbejde skal ikke udføres i nærheden af en maritim brændstofsterminal.

Alt arbejde skal imødekomme alle kravene for tilladelsen.

Straks efter arbejdet er fuldført, skal arbejdsområdet og tilstødende områder inspiceres, for at sikre der ikke har være spredning af gnister eller varme.

4.4 Oplæring

Alle berørte ansatte oplæres i denne standard.

Forud for arbejdet, må europæiske M.A.R.S-ansatte have deltaget i et 1-dags kursus om 'Varmt arbejde' på et certificeringscenter (uddannelsescenter for arbejdskraft). Kurset vil kvalificere de ansatte til at arbejde med Varmt Arbejde. Alle eksterne leverandører skal også deltage i dette kursus.

4.4.1 Uddannelsesniveau og personale der er udpeget til uddannelse

Firmaet vil sørge for uddannelse for at sikre, at der er et passende niveau af arbejdssikkerhed og miljøbeskyttelse. Uddannelsesprogrammet skal identificere uddannelsens art og hyppighed. Programmet gælder for alle ansatte og medlemmer af ophugningsanlægget – inklusive underleverandørers personale og medarbejdere.

4.4.2 Kontrol af uddannelsesprogrammet

Uddannelsesprogrammet gennemses periodisk og justeres efter nødvendighed.

4.4.3 Formålet med uddannelsen

Uddannelsesprogrammet skal gøre det muligt for de ansatte, sikkert at varetage alle opgaver de har til opgave at udføre, samt sikre at alle ansatte på ophugningsanlægget er blevet forudsat en passende uddannelse forud for enhver udøvelse af skibsophugning.

4.4.4 Områder kurset dækker

Programmet skal inkludere passende uddannelse for opgaver og procedure udført af de ansatte. Dette inklusiv, men ikke begrænset til, følgende;

- bevidsthed om og kommunikation omkring information om Farlige Materialer

- bevidsthed om arbejdsfarer, inklusiv håndtering og administrering af Farlige Materialer
- personalets beskyttelsesudstyr
- ildsikring- og forebyggelse
- beredskab og evakuering
- sikkerheds- og sundhedstræning
- miljøbevidsthed
- bevidsthed om førstehjælp
- tilladelse til arbejdssystemet, risikovurdering, 'toolbox talk' og JSA-bevidsthed
- bevidsthed om lukkede rum
- bevidsthed om arbejde i højder
- bevidsthed om kemikalier
- anden relevant uddannelse relateret til arbejdsmiljøet

5.0 Relateret dokumenter

Hot Work Permit EHS-FRM-500

Dette dokument er gennemgået minimum mindst hvert tredje år.

Denne procedure er underskrevet af firmaets EHS-tilsynsførende

Simion Alexandru	**28/06/2022**
Tilsynsførende EHS	*Dato*

Bilag 1 Danske referencer

Retningslinjerne i de følgende danske referencer stemmer overens med:

/1/ Dansk Brand- og sikringsteknisk Institut: DBI vejledning 10, del 1, 2 og 3 (2008) – Varmt arbejde

/2/ Bekendtgørelse nr. 715 af 2020 om brandfarlige og brændbare væsker.

/3/ Bekendtgørelse nr 1444 af 15/12/2010 om tekniske forskrifter for gasser

/4/ Beredskabsstyrelsen: Vejledning om brandfarlige brændbare væsker, 2020

/5/ Beredskabsstyrelsen: Vejledning til tekniske forskrifter for gasser, 2016

/6/ Arbejdsmiljølov 674 med senere ændringer

M.A.R.S. Europe

Procedure

Confined Space Entry

G	14-April-23	Revised Document	Simion Alexandru	Flemming Jensen	Kim Thygesen
F	11-Oct-21	Revised Document	Simion Alexandru	Cecilie Nielsen	Kim Thygesen
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D	18-Jan-21	Revised Document	Simion Alexandru	Cecilie Nielsen	Kim Thygesen
C	18-Nov-18	Revised Document	Terry Overland	Pawel Serafinski	
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FOR DANSK VERISION – GÅ TIL SIDE 24

Table of Contents

1.0 PURPOSE

To establish procedures necessary for the safe preparation, entry, and restoration of a permit- required confined space. No work may be done in a permit-required confined space until a permit has been issued. Cold work permit form should be used for confined space. If hot work will be conducted, then a hot permit form should be used for confined space.

This procedure is designed to permit man-entry and does not authorize specific work.

On vessels, a Marine Chemist, or a Shipyard Competent Person (specific training required) must authorize hot work in a confined space.

Certain procedures must be followed before any person can enter a confined space for any length of time.

2.0 SCOPE

This procedure will apply to all M.A.R.S. Europe controlled work sites, facilities, and vessels, both offshore and land-based where entry into a confined space is necessary. This Procedure applies to all M.A.R.S. Europe employees and locations worldwide.

This procedure does not apply when work is being performed on a M.A.R.S. Europe facility or vessel, by a third-party contractor or shipyard, that has in place **a confined space procedure that has been reviewed and approved by** M.A.R.S. Europe **management**. M.A.R.S. Europe personnel are still required to approve confined space entry permits on a M.A.R.S. Europe facility or vessel issued by third parties and shipyards. M.A.R.S. Europe personnel entering a space that is under the control of a third party or shipyard will comply with all aspect of the permit. M.A.R.S. Europe personnel will periodically inspect, verify, and document that all permit conditions are adequate and in place for the duration of the work.

3.0 RESPONSIBILITIES

Primary responsibility for following this procedure belongs to the persons performing the entry into and working in a confined space.

The designated personnel and their responsibilities are listed below and in the definitions section.

3.1 Entry Supervisor

The Entry Supervisor for work in a confined space is responsible for the following:

- Ensuring that all safety requirements are in place prior to the issuance of a Confined Space Entry Permit and the posting of all issued permits.
- Surveying each operation and evaluating potential hazards.
- Ensuring that all employees involved know the M.A.R.S. Europe:
  - policies and procedures,
  - are trained in the nature and hazards of the entry,
  - correct use of required personal protective equipment,
  - and emergency evacuation and rescue.
- Notify the Project Engineer/Project Manager/Technical Manager on shore, EHS person on call, or the facilities manager for land-based operations that a confined space has been deemed safe for entry and work can precede.
- Signing the Confined Space Cold Permit.
- Notifying the Person in Charge (PIC) of the facility or asset of the Confined Space entry.
- The Entry Supervisor may also be the Designated Competent Person.

3.2 Designated Competent Person (see EHS-PRO-323)

The Designated Competent Person for work in a confined space is responsible for the following:

- Evaluating and monitoring the work environment to determine the hazards associated with the confined space including performance of and signing for atmospheric tests (EHS-WIN-405 Portable Gas Detection Monitors TBA)
- Review prior entry permits and incident data-base for any previous incidents or lesson learned, to ensure that they have been incorporated into procedure
- Determining which personal protective and rescue equipment is required while working in the confined space.
- Reviewing the Confined Space Cold Permit.
- The Designated Competent Person may also be the Entry Supervisor.
- Include lessons learned from previous exercises

3.2.1 The Facility Manager, Superintendent, Master/Captain, or Site Manager

The Facility Manager, Superintendent, Master/Captain, or Site Manager is the Person in Charge (PIC) for a location. They will ensure a designated competent person reviews a confined space entry. They will initial the start of a confined space entry and initial the closing of the permit. The Facility Manager, Superintendent, Master/Captain, or Site Manager may be the designated competent person for that facility. On large vessels, barges, rigs, or facilities this may be delegated to another qualified person by the Facility Manager, Superintendent, Master/Captain, or Site Manager.

3.2.2 The Environmental Health & Safety Department, Facility Technical Manager/Site Superintendent, Facility Manager

The Environmental Health & Safety Department, Facility Technical Manager/Site Superintendent must approve any exceptions to ventilation or via the Management of Change process. (only for emergency and rescue valid reasons, and with proper equipment.)

4.0 PROCEDURE

4.1 Definitions

Permit-Required Confined Space (Permit Space):
A confined space large enough in which a person may enter but, has limited entry or exit and is not designed for continuous employee occupancy, and has any one of the following characteristics:

/1/ Contains or could contain a hazardous atmosphere.

/2/ Contains a material that could engulf a person.

/3/ Has an internal configuration which could trap a person inside.

/4/ Contains any other recognized significant safety or health hazard.

A permit space includes, but is not limited to:
storage tanks, tank trucks, process vessels, furnace boxes, sewer systems, ducts, flues, manholes, valve boxes, cellars, pipelines. Pits or excavations, with side walls 1.2 meters (4 feet) or deeper, without easy means to enter or exit or any other confined spaces which may contain toxic or corrosive conditions, flammable, oxygen deficient or oxygen rich atmospheres.

On a vessel, all tanks, vessels, voids, coffer dams, areas accessible through a man way or similar compartments will be considered a confined space.

Entry:
The action by which a person passes through an opening into a permit space. Entry includes work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Company Site Entry Supervisor:
The Company Site Entry Supervisor must be designated by the company. The Entry Supervisor must be properly trained and is responsible for proper identification and preparation of the permit space to be entered. He/she should know the proper procedure for testing and monitoring of the permit space to determine if acceptable or prohibitive conditions exist. In preparation for entry, a Confined Space Cold Permit (EHS-FRM-510 Rev C), must be initiated, completed, and posted according to the procedures. **This procedure is designed to permit man-entry and does not authorize specific work**.

Entrants (Authorized Workers):
One or more properly equipped and trained person(s) who have been authorized by the company Site Entry Supervisor to enter a permitted space. These workers will be made aware of any known hazards, be properly trained in the use of Personal Protective Equipment required for entry and be versed in visual and/or hand communication signals to enhance the monitoring of the entrant's status by attendant while within the permit space.

(Attendant) Stand-by Personnel:
One or more properly equipped and trained (First Aid/C.P.R.) person(s) stationed OUTSIDE the permitted space. The attendant shall protect the entrants by continuously monitoring all activities within and outside the permit space. At no time may the attendant enter the permit space. If an

emergency arises, the attendant shall actively participate in a non-entry rescue by requesting emergency services, providing accurate information to rescue personnel (number of entrants, possible problems, atmospheric conditions, time of last contact, etc.) and also assist in directing the emergency situation. These shall be his only job duties while posted as a standby.

Rescue Service:
One or more properly equipped and trained person(s) designated by the company Site Entry Supervisor to rescue or remove injured entrants from permitted spaces. This service should be stationed on site and may be a designated employee or outside subcontractor who is trained in this procedure. If the Rescue Service is provided by an outside service, they shall be given an opportunity to examine the entry site, practice rescue and decline as appropriate. The Rescue Service is required to be on site for all IDLH conditions while work is being performed?

Emergency Evacuation Equipment:
That equipment that is located outside the permit space that would be needed to rescue or extract a worker from the permitted space. The equipment is not limited to but should include the following: Self-contained breathing apparatus or approved hose line with escape feature, lifelines, harness, and other equipment such as a hoist where rescuing workers from spaces 1.5 meters (5 feet) or more in depth. A first aid kit shall also be available to the work site.

Hazardous Atmosphere:
An atmosphere containing flammable vapours, oxygen deficiency or oxygen enrichment or any air containment measured by instrumentation to be more than allowable limits.

Isolation:
Action taken to prevent the entry of hazardous materials or the creation of hazardous conditions in a permitted confined space.

4.2 Before Beginning Work (see Appendix 1 for an overview of the process)

Permit space preparation:

a. The permit space must be properly isolated prior to entry. Isolation shall incorporate the Lockout/Tag out of pressurized vessels/piping, electrical sources, stored energy, and valves and hydraulic equipment. (Refer to EHS-PRO-326 Lock Out /Tag Out).

b. The installation of blinds is required where lines may reasonably cause contaminates to flow into the space. Disconnection and blinding should take place as close as possible to the permit space. Any isolation or removal of equipment should be documented on a blinding work sheet and attached to the permit. (Refer to EHS-PRO-325 Blinding).

c. The required duties of all employees/subcontractors will be reviewed prior to opening the permit space. This shall include, but is not limited to, the Site Entry Supervisor, authorized workers, standby personnel, and rescue personnel.

d. Upon opening the permit space, a “DO NOT ENTER” sign shall be posted at the entrance. This sign shall stay in place until the Confined Space Permit is completed and signed. A “DANGER CONFINED SPACE ENTRY IN PROGRESS, NO UNAUTHORIZED ENTRANTS” sign will be in place upon entering the permit space by any occupant.

4.3 Atmosphere Checks and Preparation

If natural ventilation is inadequate, mechanical ventilation must be established to ensure movement of fresh air in the permit space. Mechanical ventilation should be started prior to and after testing. Ventilation shall be continued during the entry process to help reduce and/or eliminate atmospheric hazards.

On Vessels

a. The desired method for air exchange is to fill the tank with seawater and drain where applicable.

b. Potential hazards presented by piping which runs through void spaces should be considered. (Refer to EHS-PRO-325 Blinding).

c. The Technical Manager/Site Superintendent must approve any exceptions to ventilation via the Management of Change process. (Refer to EHS-PRO-318 MOC)

d. Internal combustion (non-explosive proof power sources) may be used for forced air ventilation of the permit space when the work site has all potential hazards secured and the air intake of the ventilation system is placed in an area that prevents contaminants from entering the fan intake and being discharged into the permit space.

e. For “Pull Ventilation”, air driven, or explosion-proof electric fans shall be used to ensure explosion hazards are reduced.

Atmospheric checks shall be taken at various levels of the permit space and recorded on the permit. Ventilation shall be discontinued during this process. In some cases, it may be necessary to enter the permit space to check properly the atmospheric conditions. If this is required, an air-supplied respirator with an approved facemask or self-contained breathing apparatus or an approved hose line unit with an escape pack must be worn. In this case, the worker must be attached to a lifeline or other rescue device during this initial entry.

1. The atmosphere within a permit space shall be tested:

   a. Prior to entry.

   b. After each break or interruption of work.

   c. At each shift change.

   d. At intervals determined by the competent person and/or Marine Chemist.

   e. Following an employee, request, complaint, or concern.

   f. The space is periodically monitored and recorded for as long as it is occupied. Spaces that warrant consideration include the following:

      · spaces that have been sealed.

      · spaces and adjacent spaces that contain or have recently contained combustible or flammable liquids or gases.

      · spaces and adjacent spaces that contain or have recently contained liquids, gases or solids that are toxic, corrosive, or irritant.

- spaces and adjacent spaces that have been fumigated; and
- spaces containing materials or residues of materials that create an oxygen-deficient atmosphere.

2. Test instruments shall be calibrated in accordance with manufacturer's instructions. Each instrument shall be tested prior to its use (EHS-WIN-405 Portable Gas Detection Monitors) for the completion of a Confined Space Cold Permit).

3. Atmospheric checks shall include the following:

Safe for entry – Oxygen

a. Minimum 19.5%.

b. Maximum 22 %.

c. Oxygen levels must be checked before explosive levels.

Safe for entry – Flammable or Explosive Vapours (% of LEL)

a. 0% of LEL without respiratory equipment.

b. Maximum 10% of LEL with respiratory equipment.

c. Above 10% of LEL, rescue purpose only with respiratory equipment.

Safe for entry – Hydrogen Sulphide (H2S) 5 ppm. Acceptable levels without respirator is below 10% of the limit level < 0,5 ppm.

Safe for entry – Carbon Monoxide (CO) 20 ppm. Acceptable levels without respirator is below 10% of the limit level < 2 ppm.

Safe for entry – Benzene the current PEL (permissible exposure level) is 1 ppm (parts per million) in air for an 8-hour average with a short-term exposure limit of 5 ppm. (15 minutes) The IDLH (Immediate Danger to Life and Health) concentration for Benzene is 500 ppm.

Safe for Hot Work Permit (Hot Work):
For confined space hot work 0% LEL. (Refer to EHS-PRO-300 Hot Work Permitting)

Note: *The Environmental Health & Safety Department and Site Technical Manager/Site Superintendent on vessels or Facility Manager for Inland Operations shall approve any confined space hot work permit above 0% LEL via the Management of Change process. (Refer to EHS-PRO-318 Management of Change, MoC)*

On vessels, a Marine Chemist, or a Shipyard Competent Person (specific training required) must authorize hot work in a confined space.

Safe for Entry – Temperature
Maximum air temperature 52°C (125°F) for allowable entry, (only light and short-term work), Maximum wall temperature 60°C (140°F)

Exposure to other noxious gases limits will be assess prior of confined space operations start, a risk assessment and gas measures will be performed, to allow safe for entry. All evaluation will be performed with proper PPE.

4.4 SAFE-for-ENTRY - CRITERIA FOR SHIP RECYCLING

For entry purposes, steady readings of all the following should be obtained:

1. The oxygen content of the atmosphere is 21 per cent by volume, measured using an oxygen content meter (Note: National requirements may determine a safe atmosphere range).
2. Where the preliminary assessment has determined that there is potential for flammable gases or vapors, the concentration of those gases or vapors is not higher than 1 per cent of their lower flammable limit (LFL), measured using a suitably sensitive combustible gas indicator.
3. The concentration of any toxic vapors and gases is not higher than 50 per cent of their occupational exposure limit (OEL)[(1)].

If these conditions cannot be met, the space should be ventilated further and retested after a suitable interval.

[(1)] It should be noted that the term occupational exposure limit (OEL) includes the permissible exposure limit (PEL), maximum allowable concentration (MAC) and threshold limit value (TLV), or any other internationally recognized terms.

4.4.1 Safe-for-Entry procedures

Throughout the entire recycling process, M.A.R.S. Europe will ensure that, prior to entry and during work, enclosed spaces and other areas where the atmosphere is dangerous are monitored to ensure that they remain Safe-for-Entry and safe for continued activity. The M.A.R.S. Europe Facility shall ensure that shipboard spaces are not entered until a Safe-for-Entry certificate has been issued by a Competent person. A Competent person shall visually inspect and test each space on the ship to determine the areas which are safe for entry before issuing a certificate and before recycling activities are commenced.

Safe-for-entry certification, inspection and testing shall be conducted in all spaces that have the potential to pose harm to human health as a result of the space's oxygen content, flammability or atmospheric toxicity, with particular attention paid to enclosed spaces and to spaces and adjacent spaces where hot work has been or will be performed during the course of the daily recycling work.

Designation as "Safe-for-Entry" is not sufficient for hot work, as additional criteria should be met to address safety issues related to hot work.

4.4.2 Safe-for-Entry criteria

See 4.4 above.

4.4.3 Competent person for Safe-for-Entry determination

Definition "Competent person"

M.A.R.S. Europe has designated the appropriate criteria for designation of a Competent person. However, the Competent person(s) for Safe-for-Entry and/or Safe-for-Hot-Work determination shall be able to determine oxygen content, concentration of flammable vapors and gases and the presence of toxic, corrosive, irritant or fumigated atmospheres and residues. The Competent person shall possess sufficient knowledge and practical experience to make an informed assessment based on the structure, location and designation of spaces where work is done.

The Competent person shall possess the ability to inspect, test and evaluate spaces to determine the need for further testing. The Competent person shall also monitor the maintenance of appropriate conditions in spaces.

4.4.4 Safe-for-Entry inspection and testing procedures.

Designation as "Safe-for-Entry" is not sufficient for hot work, as additional criteria must be met to address safety issues related to hot work. Testing should be carried out by a Competent person using appropriate and properly certified and calibrated equipment, including, but not limited to, an oxygen content meter, combustible gas indicator, toxicity meter and gas or vapor detection equipment.

4.4.5 Oxygen

The M.A.R.S. Europe Facility shall ensure that spaces are tested by a Competent person to determine the atmosphere's oxygen content prior to initial entry into the space by workers, and also that the space is periodically monitored and recorded for as long as it is occupied.

Spaces that warrant particular consideration include the following:

- Spaces that have been sealed.
- Spaces and adjacent spaces that contain or have recently contained combustible or flammable liquids or gases.
- Spaces and adjacent spaces that contain or have recently contained liquids, gases or solids that are toxic, corrosive, or irritant.
- Spaces and adjacent spaces that have been fumigated.
- Spaces containing materials or residues of materials that create an oxygen-deficient atmosphere.

A worker should only enter a space where the oxygen content, by volume, has the value noted in 4.4. In such a case, the space should be labeled "Safe-for-Entry". If an oxygen-deficient or oxygen-enriched atmosphere is found, ventilation should be provided at volumes and flow rates sufficient to ensure that the oxygen content is maintained at the value noted in 4.4. The label may be reattached when the oxygen content returns to the value noted in 4.4, and after it has been tested and inspected by the Competent person.

4.4.6 Flammable atmospheres

The M.A.R.S. Europe Facility shall ensure that spaces and adjacent spaces that contain or have contained combustible or flammable liquids or gases are visually inspected and tested by the Competent person prior to entry by workers, and that they are periodically monitored, and the results recorded throughout the time that the spaces are occupied.

If the concentration of flammable vapors or gases in the space to be entered is equal to or greater than 1 per cent of the lower flammable limit, then no one should enter the space and the label "Safe-for-Entry" should be removed. Ventilation should be provided at volumes and flow rates sufficient to ensure that the concentration of flammable vapors is maintained below 1 per cent of the lower flammable limit. The label may be reattached when the concentration of flammable vapors falls below 1 per cent of the lower flammable limit and after it has been tested and inspected by the Competent person.

4.4.7 Toxic, corrosive, irritant or fumigated atmospheres and residues

The M.A.R.S. Europe Facility should ensure that spaces or adjacent spaces that contain or have contained liquids, gases or solids that are toxic, corrosive or irritant are visually inspected and tested by a Competent person prior to initial entry by workers.

If a space contains an air concentration of a material which exceeds 10 per cent of their OEL, then no one should enter the space and it should not be labeled "Safe-for-entry". Ventilation should be provided at volumes and flow rates sufficient to ensure that air concentrations are maintained below 10 per cent of their OEL. The label may be reattached when the concentration of contaminants is maintained below 10 per cent of their OEL and after it has been tested and inspected by the Competent person.

4.4.8 Safe-for-Entry determination by a Competent person

A Competent person should visually inspect and test each space certified as "Safe-for-Entry" as often as necessary to ensure that atmospheric conditions within that space are maintained within the conditions established by the certificate. However, at a minimum, the space should be inspected and tested at least **once in an eight-hour shift period**. The results of these tests should be recorded on the Safe-for-Entry certificate.

When a change occurs that could alter conditions within a tested enclosed space or other dangerous atmosphere, work in the affected space or area should be stopped. Work may not be resumed until the affected space or area is visually inspected and retested by the Competent person and found to comply with the certification. It is recommended that the space should be ventilated, and the atmospheric conditions returned to the acceptable limits after a space has been found to exceed limits.

If the Competent person has initially determined that a space is safe for an employee to enter and they subsequently find that the conditions within the tested space fail to meet the requirements, work should be stopped until the conditions in the tested space are corrected to comply with the certification requirements. If it is safe to do so, the Competent person may be asked to investigate the reason for the space's non-compliance and to ensure that the remedial action to be taken will prevent a reoccurrence.

4.4.9 Safe-for-Entry certificate, warning signs and labels

Any determination of a space as "Safe-for-Entry" should be accompanied by a certificate which, at a minimum, should clearly indicate the following information:

- Name and title of the Competent person performing the test(s) and inspection(s).
- Signature of the above person.
- Name of vessel and location.

- The areas of the ship that are Safe-for-Entry.
- Date and time of the inspection.
- Location of inspected spaces.
- Tests performed.
- Type of equipment used in testing.
- Test results.
- Period of retesting of the spaces.
- Results of periodic retesting undertaken.
- Conditions when the Competent person should be recalled or conditions that void the certificate.
- Safety designation(s) ("Safe-for-Entry", "Not Safe-for-Entry").
- **Validity period and expiration date of the certificate, recommended to be a maximum of 24 hours, with periodic retesting intervals not exceeding eight (8) hours.**
- Type of ventilation.
- Any additional relevant information or instructions.

Safe-for-Entry certificates should be posted at every access point between ashore and the ship. A record of inspection of atmospheric tests shall be appended to the certificate.

The certificate and/or the spaces themselves should be clearly marked and presented in a manner that can be seen and understood by all workers in the working language of the yard and, if possible, with pictorial representations.

If an entire work area has been tested and labeled with the proper signage (for example, as being "Safe-for-Entry") at all points of access to the work area, an individual tank or other space located within the work area need not be labeled separately.

The certificate, updates and any other records should be kept on file for a period of at least three months from the completion date of the specific job for which they were generated.

If a space at any time ceases to meet the Safe-for-Entry criteria, the label "Safe-for-Entry" should be removed.

4.4.10 Safe-for-Entry operational measures

In addition to ensuring certification as "Safe-for-Entry", the following operational measures shall also be observed:

- No person may open or enter an enclosed space unless authorized by the Competent person of the M.A.R.S. Europe Facility and unless the appropriate safety procedures have been followed.
- A permit for entry has been issued for those intended to enter the space by the same individual(s) who is/are responsible for maintaining the certificate on behalf of the M.A.R.S.

Europe Facility, confirming that all certification processes and operational measures for safe entry have been completed and are in effect.

- The space is properly illuminated.
- There is appropriate access and egress to the space and the working area in the enclosed space is suitable for the work that is being considered, specifically for heavy, large or complex lifting operations.
- A suitable system of communication between all parties for use during entry is agreed upon, tested, and used.
- The space is adequately isolated from gases, liquids or other identified hazardous substances that could inadvertently be released into the space in which work is being undertaken.
- A fully trained supervisor, who may be in charge of one or more work teams, has oversight of the area and frequently monitors the conditions to which the workers are exposed.
- The style of ventilation equipment is such that no ignition sources are introduced into a hazardous space.
- The ventilation provided for the space is adequate for the work to be undertaken and for any diurnal variation in environmental conditions that may be experienced in hot or humid regions.
- The ventilation system is designed to prevent the persistence of gas pockets within tanks/spaces – owing either to the complex structure of the tank/space or to the fact that the gas pockets are heavier than air vapors in the tank – which may be achieved by suction/evacuation style ventilation rather than blower ventilation.
- In the event of ventilation system failure, some means of alert is provided so that any persons in the space can leave immediately.
- Appropriate rescue and fire control plans are in place.
- Appropriate personal protective equipment (PPE), protective clothing and safety equipment (including harnesses and lifelines) are provided to the workers and used during entry to and work in the designated spaces.
- Adequate and functioning rescue and resuscitation equipment has been provided and is positioned ready for use at the entrance of the space.

If the fire alarm is activated, the space shall be evacuated until the all-clear for re-entry is given by the Competent person.

4.5 SAFE-for-HOT WORK - CRITERIA FOR SHIP RECYCLING

No hot work commences on a ship unless the area is deemed "Safe-for-Hot-Work".

Safe-for-Hot-Work certification, inspection and testing apply to all of the following:

- Enclosed spaces and all other spaces enclosed by bulkheads and decks (including cargo holds, tanks, quarters, and machinery and boiler spaces) that potentially contain dangerous atmospheres.

- Within, on, or immediately adjacent to spaces that contain or have contained combustible or flammable liquids or gases.
- Within, on, or immediately adjacent to fuel tanks that contain or have last contained fuel.
- on pipelines, heating coils, pump fittings or other accessories connected to spaces that contain or have last contained fuel.
- Bilges, cargo holds, engine room spaces and boiler spaces not containing dangerous atmospheres.

The M.A.R.S. Europe Facility shall ensure that no hot work commences in any of these spaces until Safe-for-Hot-Work certification has been issued by a Competent person or external company. These inspections and tests should be entered on the record of inspection and testing and posted in a conspicuous place on board. A Competent person should visually inspect and test each space on the ship to determine the areas which are deemed "Safe-for-Hot-Work" before a certificate is issued and before recycling activities commence.

4.5.1 Safe-for-Hot-Work criteria

A space that is "Safe-for-Hot-Work" is one that meets all the Safe-for-entry criteria and also the following criteria:

- Any residues or materials in the space are not capable of producing an oxygen-enriched or oxygen-deficient environment and are not capable of generating flammable or explosive vapors.
- All adjacent spaces have been cleaned, rendered inert or sufficiently treated to prevent the risk of explosion, the release of noxious or toxic fumes or gases and the spread of fire.
- Work in adjacent spaces is not affected by the hot work, such as tank entry, lifting operations or deconstruction by hand.

4.5.2 Competent person for Safe-for-Hot-Work determination

A Competent person for matters related to Safe-for-Hot-Work determination should meet the criteria identified in 4.4.3 and possess the additional knowledge and skills required to handle hot work activities.

4.5.3 Safe-for-Hot-Work inspection, testing and determination.

Each space should be certified by a Competent person as "Safe-for-Hot-Work" as often as necessary to ensure that conditions within that space are maintained as established by the certificate. The frequency with which a space should be monitored to determine whether conditions are being maintained is a function of the following, **but should in any event not exceed an eight-hour shift period**:

- Temperature: any changes in temperature in the space could result in a change in its atmospheric conditions, and hotter days can cause residues to produce more vapors, resulting in a greater risk of flammable or explosive conditions.

- Work in the space: activity in the space can change its atmospheric conditions; gas leaks from a hose or torch or manual tank cleaning by scraping or using hand-held high-pressure spray devices can stir up residues, which can result in a greater risk of flammable or explosive conditions.
- Period of elapsed time: if a sufficient period of time (not to exceed 24 hours) has elapsed since Safe-for-Hot-Work certificate was issued, the condition of the space should be retested prior to entry and commencement of work.
- Unattended spaces: a tank or space that has been certified as "Safe-for-Hot-Work" then subsequently left unattended for a sufficient period of time should be retested prior to entry and commencement of work.
- Work break: tanks or spaces should be checked for equipment left behind when workers take a break or leave at the end of the shift, and the condition of the tank or space should be retested prior to entry and resumption of work.
- Ballasting or trimming: changing the position of the ballast or moving or trimming the ship in any way can produce a change in the atmosphere of the spaces; the condition of the spaces should be retested prior to entry and resumption of work.

4.5.4 Safe-for-Hot-Work certificate, warning signs and labels

Any determination of a space as "Safe-for-Hot-Work " should be accompanied by a certificate which, at a minimum, should include the information identified in section 4.4.9 ("Safe-for-Entry certificate, warning signs and labels"). Warning signs and labels should be posted in the manner described in section 4.4.89 for Safe-for-Entry determination, clearly indicating that the space is **"Safe-for-Hot-Work"**.

4.5.5 Safe-for-Hot-Work operational measures

In addition to the measures identified in Safe-for-Entry operational measures, the following should also be applied in order to achieve certification as "Safe-for-Hot-Work":

- Each area where hot work is to be performed should be carefully prepared and isolated before hot work commences.
- All trash, debris, oil residues or other materials that could generate flammable or explosive vapors should be removed from the space prior to commencing hot work. The space and adjacent spaces should be kept free of any trash, debris, oil residues or other materials that could result in a risk of flammable or explosive conditions.
- Drums and similar small containers which have contained flammable substances should, before they are cut, be either filled with water or thoroughly cleaned of such substances.
- Deck tanks should be appropriately cleaned, gas freed and certified as Safe-for-entry and tested for hot work as described in the general sections above. A suitable supply of fresh air should be maintained, given that oxygen from the atmosphere may be removed in the combustion process. The tanks should be isolated and tested in accordance.

- Particular attention should be paid to access and egress and to the unique challenges presented by these spaces regarding tank rescue in an emergency situation.
- Fixed cargo or fuel tanks should be cleaned and ventilated before any work commences and after having been passed as "Safe-for-Entry" and "Safe-for-Hot-Work". Cleaning should be sufficient to remove any hazardous liquids, light solids and clinkage to allow the tank to be gas freed. Complex structures may require additional preparation before being certified as "Safe-for-Hot-Work". The need for localized manual cleaning should be considered. Ventilation should allow an adequate flow of air to all parts of the space to prevent a build-up of gases either from the hot work or from the tank coatings.
- Ventilation should be provided at volumes and flow rates sufficient to ensure that the concentration of flammable vapors is maintained below 1 per cent of the lower flammable limit.
- General mechanical ventilation should be of sufficient capacity and so arranged as to produce sufficient air changes to maintain safe levels of welding fumes and smoke.
- The M.A.R.S. Europe Facility's fire safety procedures shall be followed.

4.5.6 Welding, cutting, grinding and heating.

See EHS-PRO-300 Hot Work Permitting, and EHS-PRO-301 Flame Cutting.

4.6 Site Preparation

/1/ A safe means of access and egress shall be provided at all times when the permit space is entered/exited from above or below grade. This could include a portable ladder or scaffolding that is properly installed and secured for climbing.

/2/ When entrance covers are removed, the opening shall be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.

/3/ All lighting equipment that is required for working within the permit space shall be explosion-proof and have a ground fault circuit interrupter (GFCI). Only intrinsically safe or explosion-proof flashlights are permitted for use within the permit space when work will be limited to a short time period.

/4/ All electrical equipment (such as air movers and vacuum truck hoses) shall be properly grounded or bonded to prevent static discharge (sparks).

/5/ Fire extinguisher(s) and other firefighting equipment shall be available at the work site if flammable or combustible materials are present. The extinguisher shall be inspected to confirm that it is in good working order.

/6/ Barricades, guards, signs, or personnel will be utilized to prevent external hazards such as equipment, debris, personnel, pedestrians, or vehicles from entering or interfering with confined space activities or rescue personnel and equipment.

/7/ Emergency evacuation equipment shall be available at the work site. The rescue and extraction equipment will be inspected to ensure that it is in proper working condition. Rescue services

provided the company or by a third party will be trained in rescue, have equipment necessary to perform a rescue. Rescue personnel will be provided the opportunity to examine the site and practice rescue if requested. Rescue Services will be available on site or at short notice while a Permit Space Entry is in progress. Communications will be available and checked to contact rescue personnel.

4.7 Permit Issuance

Upon completion of the above requirements, the entry supervisor shall review the preparations and the permit space. If all requirements are met, the EHS /Site supervisor may sign the permit, have the permit initiated by the Person in Charge of the vessel or facility, and shall post it conspicuously at the work site.

4.8 Entry into the Permit Space

/1/ Prior to entry, the entry supervisor shall review the following with all authorized workers (employee/subcontractor): known hazards within the permit space, air monitoring procedure and data, ventilation requirements, the responsibility of each authorized worker (supervisor, workers, stand-by personnel, and rescue services) and the location and procedures for calling for outside emergency services. Upon completion of all confined space requirements, the Port Engineer/Technical Manager on shore, EHS person on call, or the Facilities Manager for land-based operations must be made aware that a confined space has been deemed safe for entry and will proceed.

/2/ Authorized employees may enter the permit space only after all Confined Space Entry Permit requirements have been met, and the permit is signed and issued and management has approved the entry.

/3/ Unauthorized personnel shall not be allowed entry.

/4/ There will be a minimum of one Confined Space Attendant on duty at the **entrance to each space entered**. The attendant shall have no other duties that would distract from the monitoring of the entrants or the space.

/5/ If the permit space is left unattended, the entrance shall be locked or secured.

/6/ The permit space atmosphere shall be RECHECKED as often as necessary while entrants are in the permit space to ensure a safe work environment.

/7/ If conditions require, a Hot Work Permit should be issued in accordance with EHS-PRO-300 Hot Work Permitting.

/8/ Stand-by personnel must remain in contact (visual, hand signals, soft line, voice, etc.) with the personnel in the confined space always.

/9/ Authorized Entrants shall wear a full body retrieval harness while working within the permit space. In spaces that require a vertical descent of 1.2 meters (5 feet) or greater, a retrieval line shall be connected to a hoist during decent and ascent into the space. To facilitate non-entry rescue, retrieval systems or methods shall be used whenever an authorized entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. In spaces that require the entrant to move horizontally out of the line of

sight of the attendant, a lifeline must be attached to the harness if the retrieval system cannot be utilized. **If multiple Authorized Entrants are in the same space, personnel will remain in contact (visual, hand signals, soft line, voice, radio, etc.) with each other and the Confined Space Attendant always**.

/10/ Rescue equipment shall be on location or available on short notice while a Permit Space Entry is in progress. Communications will be available and checked to contact rescue personnel.

/11/ The company Competent Person or Site Entry Supervisor shall terminate the permit and instruct all entrants to evacuate the permit space if:

d. An unauthorized worker enters the permit space.

e. Operations covered by the permit have been completed.

f. Conditions not allowed under the permit arise in or near the permit space.

4.9 Restoration of the Permit Space

When all work is completed, the permit space must be restored to normal service conditions. Use the permit as a checklist for proper restoration. The company Competent Person will review the work, the restoration of the permit space and, if everything is acceptable, initial the permit and have the permit initialled by the Person in Charge of the facility or vessel. The original permit must be kept with other records pertaining to the work done. A copy of the permit shall be maintained on site for six months.

4.10 Training

Training shall be conducted to ensure that each employee is well versed as to his/her role as an active participant in the entry of a permitted space. Instructions and training material will be made available through the company Training Department or an approved subcontractor.

All personnel supervising, observing, or performing confined space work must receive training prior to start of work activities. Each affected employee must be trained prior to initial assignment, prior to a change in assigned duties, if a new hazard has been created or special deviations have occurred.

The Training Department must certify that the required training has been accomplished. The certification shall include employee name, trainer signature/initials, date of training. Certification will be issued to employees and can be made available to the employees authorized representative.

All employees will receive basic “Confined Space Awareness” training during the “New Employee Safety Orientation.

4.11 Program Review

Procedures confined space entry be reviewed periodically, no less than annually. The company EHS Department will perform periodic reviews of permit-required confined space entry permits and incident database and lessons learned.

5.0 RECORDS

N/A

6.0 AUTHORIZATION

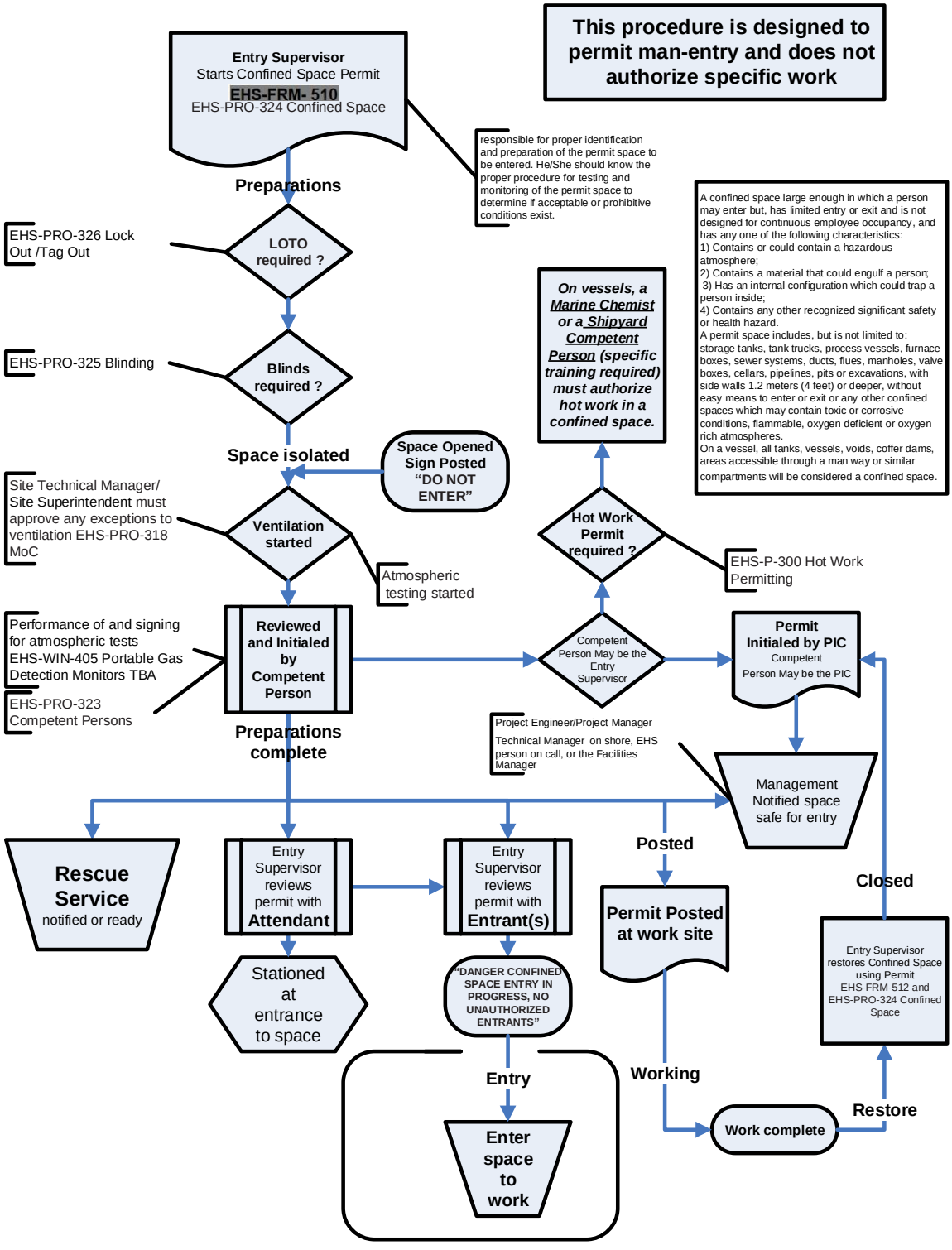
This document is reviewed at least every 1 year.

This procedure is signed by the company EHS Manager.

Alexandru Simion	**14.04.2023**
Manager EHS	*Date*

7.0 APPENDIX

Appendix 1: Flow-Chart of Safe-for Entry



Appendix 2: Danish Reference

/1/ Work environment Act 674 with later amendments
/2/ Executive Order No. 1234 2018 on execution of work with later amendments
/3/ ISO13732-1:2006 on Thermal Environment -Methods for Evaluating Human Response by Contact with Surfaces -Part 1: Heat Surfaces.
/4/ Guideline No. D. 5.5.-3 on Fall protection.
/5/ Guideline No.1.7.1-2 on Training, instruction, and supervision of the work.
/6/ Guideline No. A.1.3 2001 on Work in strong heat and cold.

M.A.R.S. Europe

Procedure

Arbejde i Lukkede Rum

G	14-April-23	Revised Document	Simion Alexandru	Flemming Jensen	Kim Thygesen
F	11-Oct-21	Revised Document	Simion Alexandru	Cecilie Nielsen	Kim Thygesen
E	17-May-21	Revised Document	Simion Alexandru	Cecilie Nielsen	Kim Thygesen
D	18-Jan-21	Revised Document	Simion Alexandru	Cecilie Nielsen	Kim Thygesen
C	18-Nov-18	Revised Document	Terry Overland	Pawel Serafinski	
B	28-Jul-18	Revised Document	Terry Overland	Pawel Serafinski	
REV	**DATE**	**DESCRIPTION**	**WRITER**	**CONTROL**	**APPROVAL**
			M.A.R.S. INTERNAL DOC NUMBER: EHS-PRO-324		

Indholdsfortegnelse

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1.0 FORMÅL

Formålet er at fastslå de nødvendige procedurer for sikker forberedelse, adgang og istandsættelse af lukkede rum, der kræver tilladelse. Intet arbejde må udføres i lukkede rum, førend en tilladelse er blevet udstedt. En tilladelses-formular til "Koldt Arbejde" skal anvendes til lukkede rum. **EHS-FRM-510 Rev C**

Denne procedure er udarbejdet med henblik på at tillade adgang til lukkede rum, og bemyndiger ikke specifikt arbejde.

På skibe må en skibsmekaniker eller en skiftværfts-kompetent person (specifik uddannelse kræves) give tilladelse til Varmt Arbejde i et lukket rum.

Bestemte procedurer skal følges, før nogen har adgang til et lukket rum i en længere periode.

2.0 OMFANG

Denne procedure henvender sig til alle europæiske M.A.R.S. arbejdspladser, faciliteter og skibe – både offshore og landbaserede – hvor det er nødvendigt med adgang til lukkede rum. Proceduren henvender sig til alle M.A.R.S. Europe ansatte.

Denne procedure gælder ikke når arbejde udføres på en M.A.R.S. facilitet eller -skib af en trejdeparts underleveradør eller -skibsværft, der allerede har proceduren for lukkede rum på plads, og denne er gennemlæst og godkendt af M.A.R.S. Europe's ledelse. M.A.R.S. Europe's personale skal stadig godkendes til 'tilladelse til adgang til lukkede rum' på en M.A.R.S. facilitet eller skib udstedt af trejdeparts underleverandør eller -skibsværfter. Hvis M.A.R.S. Europe's personale skal have adgang til et lukket rum, der hører under ledelse af en tredjeparts underlevenrandør eller – skibsværft, skal alle aspekter af tilladelsen overholdes. M.A.R.S. Europe's personale skal regelmæssigt inspicere, verificere og dokumentere, at alle omstændigheder af tilladelsen er tilstrækkelige og acceptable under hele varigheden af arbejdets udførsel.

3.0 ANSVARSOMRÅDER

Det primære ansvar for at følge denne procedure, ligger hos de personer der skal have adgang til og arbejde i lukkede rum.

Det udvalgte personale og dets ansvar er listet herunder samt i definitions-sektionen.

3.1 Adgangssupervisor

Adgangssupervisor for arbejde i lukket rum er ansvarlig for følgende:

- Sikre at alt sikkerhedsudstyr er på plads, forud for udstedelse af 'Tilladelse til Adgang til Lukkede Rum' og udstationering af alle udstedte tilladelser.
- Kortlægge alle opgaver og evaluere potentielle farer.
- Sikre at alle ansatte der er involveret, er uddannet i adgangens karakter og i dens farer.
- Sikre at alle ansatte der er involveret, har kendskab til M.A.R.S. Europe's;
  - politikker og procedurer,
  - er trænet i farerne ved adgang
  - korrekte anvendelse af det krævede beskyttelsesudstyr,
  - og evakuering og redning i nødstilfælde.
- At oplyse til Projektingeniøren/Projektlederen/den tekniske leder på land, EHS-vagt, eller facilitetslederen for landbaserede aktiviteter, at et lukket rum er blevet erklæret sikkert for adgang og arbejdet kan fortsætte.
- Underskrive tilladelsen
- At underrette den ansvarshavende af anlægget om adgangen til det Lukkede Rum.
- Adgangschefen kan også være den udpegede, kompetente person

3.2 Kompetent Person (se EHS-PRO-323)

Den person der er udpeget 'Kompetent Person til Arbejde i Lukkede Rum', er ansvarlig for følgende:

- Evaluering og observering af arbejdsmiljøet til bedømmelse af farer associeret med det lukkede rum, inklusive udførelse og underskrivelse af atmosfæriske tests (EHS-WIN-405 Portable Gasmålere).
- Gennemgå forudgående adgangstilladelser baseret på tidligere hændelser eller erfaringer.
- Bestemmelse af hvilket beskyttelses- og redningsudstyr der kræves, mens der arbejdes i et lukket rum.
- Revidere tilladelsen
- Den udpegede Kompetente Person kan ligeledes være adgangssupervisoren.

3.2.1 Facilitetslederen, Opsynshavende, Kaptajnen, eller Site Manager

Facilitetslederen, Opsynshavende, Chefen/Kaptajnen eller Site Manager er den ansvarshavende for en facilitet. De skal sikre, at en kompetent person gennemgår adgangen til et lukket rum. De skal initialisere starten på adgangen til et lukket rum og indlede lukning af tilladelsen. Facilitetsleder, Opsynshavende, Chef/Kaptajn eller Site Manager kan udpeges som Kompetent Person for pågældende facilitet.

3.2.2 EHS-afdelingen, Facilitetens Tekniske Leder, Site Manager

EHS-afdelingen, facilitetens Tekniske Leder eller Site Manager skal tillade enhver undtagelse til ventilation – eller gennem ”Management of Change”-processen (kun i nødstilfælde og ved redningsgyldige årsager og med korrekt udstyr).

4.0 PROCEDURE

4.1 Definitioner

Påkrævet Tilladelse til arbejde i lukkede rum
Et lukket rum er stort nok til at en person kan gå ind, men med begrænset adgang eller udgang, og det er ikke er designet til, at ansatte kontinuerligt kan opholde sig, samt har én af følgende karakteristika:

/5/ Indeholder, eller kan indeholde, en farlig atmosfære.

/6/ Indeholder materiale, der kan tilintetgøre en person.

/7/ Har en intern sammensætning, der kan lukke en person inde.

/8/ Indeholder enhver anden anerkendt væsentlig sikkerheds- eller sundhedsfare.

Et Lukket Rum inkluderer, men er ikke begrænset til:
Lagertanke, tankvogne, procesbeholdere, ovnbokse, kloaksystemer, kanaler, røgkanaler, mandehuller, ventilkasser, kældre, rørledninger. Grave eller udgravninger med sidevægge på 1,2 meter (4 fod) eller dybere, uden ind- og udgange der er lette at passere, eller andre lukkede rum der kan indeholde giftige eller ætsende forhold eller brandfarlige, iltmanglende eller iltholdige atmosfærer.

På et skib vil alle tanke, beholdere, hulrum, kassedæmninger og områder, der er tilgængelige via en menneskelig vej eller lignende rum, betragtes som et lukket rum.

Adgang
Begrebet omfatter, at en person går igennem en åbning ind til et område. Adgang inkluderer efterfølgende arbejdsaktiviteter på dét område, og betragtes som værende trådt i kraft så snart hvilken som helst del af den fremmødtes krop, bryder grænsen mellem åbningen og området.

Virksomhedens Adgangstilsynsførende
Virksomhedens Adgangstilsynsførende skal udpeges af virksomheden. Adgangstilsynsførende skal uddannes korrekt og er ansvarlig for passende udførsel af "Påkrævet Tilladelse til Identifikation af og Adgang til Lukkede Rum". Han/hun skal kende den rette procedure til testning og observation af tilladte rum for at afgøre, hvorvidt der er acceptable eller uoverkommelige forhold til stede. Til forberedelse af adgangen skal en koldt-arbejde tilladelse (EHS-FRM-510 Rev C), indledes, afsluttes og sendes i henhold til procedurerne.

Denne procedure er udarbejdet med henblik på adgang for personale og bemyndiger ikke specifikt arbejde.

Deltagere (Bemyndiget Personale)
Én eller flere korrekt udstyret og uddannet person(er) der er blevet bemyndiget af virksomhedens adgangstilsynsførende til adgang til et lukket rum. Disse ansatte er blevet gjort opmærksomme på kendte farer, er blevet korrekt trænet i personalets beskyttelsesudstyr, som er påkrævet for adgang, og er blevet fortrolig(e) med visuelle signaler og/eller håndkommunikationssignaler med henblik på, at ledsageren kan monitorere deltagerens status, mens han/hun befinder sig i det tilladte rum

(Ledsager) Standby Personale

Én eller flere korrekt udstyret og uddannet (Førstehjælp/Genoplivning) ansat(te) der opholder sig UDENFOR det lukkede rum. Ledsageren skal beskytte arbejderen/arbejderne ved kontinuerligt at monitorere alle aktiviteter indenfor og udenfor det tilladte rum. Ledsageren må på intet tidspunkt gå ind i det tilladte rum. Opstår der en nødsituation, skal ledsageren aktivt deltage i en redning *uden adgang* ved at anmode om nødtjeneste, videregive nøjagtige informationer til redningspersonalet (antal deltagende, sandsynlige problemer, den atmosfæriske tilstand, tid siden sidste kontakt osv.) og hjælpe med at lede redningssituationen. Disse skal være de eneste arbejdspligter personalet har, når det står standby.

Redningstjeneste

Én eller flere korrekt udstyret og uddannet/uddannede person(er) der af firmaet er udstedt til at redde eller fjerne skadede deltagende fra tilladte lukkede rum. Denne service skal gerne være til stede på selve arbejdspladsen og skal udøves af en udpeget medarbejder eller en ekstern underleverandør, som er uddannet i proceduren. Hvis redningstjenesten er stillet til rådighed af en udefrakommende tjeneste, skal denne/de have muligheden for at undersøge adgangsområdet, træne redning og afvise efter behov. Redningstjenesten skal forblive på området under alle IDLH-forhold (Immediately Dangerous To Life or Health-forhold) alt imens arbejdet foretages.

Nødevakueringsudstyr

Udstyret der befinder sig udenfor det tilladte område, og som er nødvendigt for at redde eller evakuere en arbejder fra det tilladte lukkede rum. Udstyret er ikke begrænset til, men burde inkludere følgende; selvstændigt åndedrætsværn eller godkendte slangelinjer med flugtfunktion, livliner, seler og andet udstyr såsom et hejseværk hvor der reddes arbejdere fra rum der er 1.5 meter (5 fod) eller mere i dybden. Førstehjælpsudstyr skal også være tilgængeligt på arbejdspladsen.

Farlig Atmosfære

En atmosfære der indeholder brændbare dampe, iltmangel eller iltberigelse eller nogen form for instrumentalt målt luftindeslutning der overskrider de tilladte grænser.

Isolation

Handling truffet for at forebygge adgang for farligt materiale eller skabelse af farlige tilstande i et tilladt lukket rum.

4.2 Forud for påbegyndelse af arbejde (se Bilag 1 for et overblik over processen)

Forberedelse til tilladelse

e. Det tilladte lukkede rum skal korrekt isoleres forud for adgang. Isolation skal omfatte Lock Out/Tag Out af trygbeholdere/rør, elektriske kilder, lagret energi og ventiler og hydraulisk udstyr (henviser til EHS-PRO-326 Lock Out/ Tag Out)

f. Installation af skærme er påkrævet, der hvor forureninger med rimelighed kan strømme ind i rummet. Afbrydelse og afblænding skal finde sted så tæt på det tilladte rum som muligt. Enhver form for isolation eller fjernelse af udstyr skal dokumenteres, og vedhæftes tilladelsen (henviser til EHS-PRO-325 Afskærmning)

g. De påkrævede opgaver for alle ansatte/underleverandører vil blive gennemgået forud for tilladelse af adgang til det lukkede rum. Dette skal inkludere, men er ikke begrænset til; områdets tilsynsførende, de autoriserede arbejdere, standby-personalet og redningspersonalet.

h. Der skal sættes et skilt op ved indgangen til det tilladte rum, hvorpå der står "INGEN ADGANG". Skiltet skal være til stede, indtil Tilladelsen til Lukket Rum er udfyldt og underskrevet. Et andet skilt med ordene "FARER! ADGANG TIL LUKKET RUM ER UNDER UDVIKLING. INGEN ADGANG FOR UAUTORISEREDE DELTAGERE" skal være synligt for enhver over indgangen til det tilladte rum.

4.3 Kontrol og Forberedelse af Atmosfære

Hvis den naturlige ventilation er utilstrækkelig, må mekanisk ventilation etableres for at sikre cirkulation af frisk luft i det tilladte rum. Mekanisk ventilation skal igangsættes forud for og efter kontrol. Ventilationen skal fortsat være til stede, mens adgangsprocessen er i gang for at reducere og/eller eliminere atmosfæriske farer.

På skibe

f. Den ønskede metode til udluftning er at fylde tanken med havvand og dræne hvor det er relevant.

g. Potentielle farer i forbindelse med rør der løber gennem hulrum bør overvejes (henviser til EHS-PRO-325 Afskærmning)

h. Den tekniske tilsynsførende skal godkende undtagelser i forhold til ventilation

i. Intern forbrænding (ikke-eksplosive sikre strømkilder) anvendes til fremtvungen luftventilation af det tilladte rum, når arbejdsområdet er sikret mod alle potentielle farer, og luftindtaget af ventilationen er placeret i et område, der hindrer forurenede stoffer i at trænge ind i ventilationsindtaget og udledes i det tilladte rum.

j. Til mekanisk ventilation der suger luften ind, skal der anvendes luftdrevne eller eksplosionssikre elektriske blæsere for at sikre, at eksplosionsfarerne reduceres.

Atmosfærisk kontrol skal udføres på forskellige niveauer af det tilladte rum og registreres på tilladelsen. Ventilationen skal afbrydes under denne proces. I nogle tilfælde kan det være nødvendigt at træde ind på det tilladte område for at undersøge de atmosfæriske tilstande korrekt. I sådanne tilfælde skal arbejderen tilkobles en livline eller anden form for redningsudstyr under den indledende adgang.

4. Atmosfæren i et tilladt rum skal kontrolleres;

g. forud for indtræden

h. efter hver pause eller afbrydelse af arbejde

i. ved hvert vagtskifte

j. i intervaller bestemt af den kompetente person og/eller marinekemikeren

k. efterfulgt af en ansats anmodning, klage eller bekymring

Rummet overvåges og registreres så længe det er optaget. Rum der giver anledning til bekymring, inkluderer følgende;

- forseglede rum
- rum eller tilstødende rum der indeholder, eller nyligt har indeholdt, brændbare eller brandfarlige væsker eller gasser.
- rum og tilstødende rum der indeholder eller nyligt har indeholdt væsker, gasser eller faste stoffer der er giftige, ætsende eller forstyrrende.
- rum og tilstødende rum der har være desinficeret; og
- rum der indeholder materialer eller rester af materialer, der kan skabe en iltmanglende atmosfære.

5. Testinstrumenter skal kalibreres i overensstemmelse med producentens instruktioner. Hvert instrument skal testes før brug (EHS-WIN-405 Gasmålere) for at kunne færdiggøre kold arbejde tilladelsen (EHS-FRM-510 Rev C).
6. Atmosfærisk kontrol skal inkludere følgende:

Sikkert til adgang - Ilt

g. Minimum 19.5%.
h. Maksimum 22 %.
i. Iltniveauer skal kontrolleres for eksplosive niveauer.

Sikkert til adgang – Brandfarlige eller Eksplosive dampe (% of LEL[1])

d. 0% LEL uden vejrtrækningsudstyr
e. Maksimum 10% LEL med vejrtrækningsudstyr
f. Over 10% LEL, kun ved redningsformål med vejrtrækningsudstyr

Sikkert til adgang– Hydrogensulfid (H2S) 5 ppm. Acceptable niveauer uden åndedrætsværn er under 10% af grænseniveauet < 0,5 ppm.

Sikkert til adgang – Carbonmonoxid (CO) 20 ppm. Acceptable niveauer uden åndedrætsværn er under 10% af grænseniveauet < 2 ppm.

Sikker adgang - Benzen den nuværende PEL (tilladt eksponeringsniveau) er 1 ppm (dele pr. Million) i luften i et 8-timers gennemsnit med en kortsigtet eksponeringsgrænse på 5 ppm. (15 minutter) IDLH (øjeblikkelig fare for liv og sundhed) koncentration for benzen er 500 ppm.

Sikkert til varmt arbejde:

[1] Low Explosion Level/Lavt Eksplosionsniveau

Til Lukket Rum – Varmt Arbejde 0% LEL (henviser til EHS-PRO-300 Tilladelse til Varmt Arbejde)

Note: *EHS-afdelingen, Facilitetens Tekniske Leder/Site Manager skal godkende enhver lukket-rum-varmt-arbejde tilladelse over 0% LEL.*

Sikker til adgang – Temperatur
Den maksimale tilladte rumtemperatur for at gå ind i et lukket rum er 52 grader (kun kortvarigt arbejder). Den maksimale vægtemperatur er 60 grader.

Eksponering for andre skadelige gasser grænser vil blive vurderet inden start af lukkede rumoperationer, en risikovurdering og gasforanstaltninger vil blive udført for at gøre det sikkert at komme ind. Al evaluering vil blive udført med korrekt PPE.

4.4 SIKKERT-til-ADGANG – KRITERIER FOR SKIBS-RECYCLING

Til adgangs-formål skal jævnlige aflæsninger af følgende udføres:

1. Iltindholdet af atmosfæren er 21 volumenprocent, målt ved brug af en iltindholdsmåler.
2. Hvis den foregående vurdering har vist, at der er potentiale for brændbare gasser eller dampe, må koncentrationen af disse gasser eller dampe ikke være højere end 1 procent af deres nedre brændbare grænse (LFL), målt af en passende følsom indikator for brændbar gas.
3. Koncentrationen af alle giftige dampe eller gasser er ikke højere end 50 procent af deres erhvervsmæssige eksponeringsgrænse (occupational exposure limit (OEL)[2])

Hvis disse betingelser ikke kan imødekommes, skal rummet yderligere udluftes og gentestes efter et passende interval.

4.4.1 Sikker-til-Adgang – procedurer

Gennem hele recycling-processen skal M.A.R.S Europe sørge for, forud for adgang og under arbejdet, at lukkede rum og andre områder med en farlig atmosfære er overvåget, for at sikre opretholdelse af at rummet er sikkert til adgang og sikkert for videre aktivitet. M.A.R.S Europe skal sikre, at skibsrum ikke er trådt ind i førend et Sikkert-til-Adgang certifikat er blevet udstedt af en Kompetent Person. Inden certifikat kan udstedes, og førend recyckling-aktiviter påbegyndes, skal en Kompetent Person visuelt undersøge og teste hvert rum på skibet, for at afgøre hvilke områder der er sikre til adgang.

Sikkert-til-adgang-certificering, -inspektion og -testning skal gennemføres i alle rum, der har et potentiale til at udgøre skade på menneskers sundhed som et resultat af rummets iltindhold, antændelighed eller atmosfærisk toksicitet. Dette især med fokus på lukkede rum, mellemrum og tilstødende rum hvor varmt arbejde er blevet eller bliver udført i løbet af det daglige recycling-arbejde.

[2] Det bør noteres, at termen 'erhvervsmæssig eksponeringsgrænse' (OEL) inkluderer den tilladte eksponeringsgrænse (PEL), den maksimalt tilladte koncentration (MAC) og tærskelgrænseværdien (TLV) eller andre internationale anerkendte vilkår.

Betegnelsen "Sikkert-til-Adgang" er ikke tilstrækkelig, når det gælder varmt arbejde, da yderligere kriterier skal være opfyldt for at løse sikkerhedsproblemer i forbindelse med varmt arbejde.

4.4.2 Sikkert-til-Adgang – kriterier

Se 4.4 ovenfor.

4.4.3 Kompetent Person til at bedømme Sikkert-til-Adgang

Definition af "Kompetent Person"
M.A.R.S. Europe har specificeret de passende kriterier til udpegelsen af en Kompetent Person. Den Kompetente Person/Kompetente Personer til bestemmelse af 'Sikkert-til-adgang' og/eller 'Sikkert-til-Varmt-Arbejde' skal dog være i stand til at påvise iltindhold, koncentration af brændbare dampe og gasser og tilstedeværelsen af giftige, ætsende, irriterede eller fumigerede atmosfærer samt spild. Den Kompetente Person skal have tilstrækkelig viden og praktisk erfaring for at udarbejde en informeret vurdering baseret på strukturen, placeringen og betegnelsen af rum, hvor arbejdet udføres.

Den Kompetente Person skal besidde evnen til at inspicere, teste og evaluere rum for at bestemme behovet for yderligere testning. Den Kompetente Person skal også overvåge vedligeholdelsen af passende forhold i et rum.

4.4.4 Sikkert-til-Adgang – inspektion og test-procedurer

Betegnelsen "Sikkert-til-Adgang" er ikke tilstrækkelig når det gælder varmt arbejde, da yderligere kriterier skal opfyldes for at løse sikkerhedsspørgsmål relateret til varmt arbejde. Testning skal udføres af en Kompetent Person, som skal anvende passende og korrekt certificeret udstyr inklusiv, men ikke begrænset til, en iltindholdsmåler, en indikator for brændbar gas, en toksicitetsmåler og udstyr til detektion af gas eller damp.

4.4.5 Ilt

M.A.R.S. Europe skal sikre at rum er testet af en Kompetent Person for at bestemme det atmosfæriske iltindhold forud for arbejdernes første indtræden i rummet, samt sikre at rummet er periodisk overvåget og dokumenteret, så længe det er optaget.

Rum der giver anledning til særlig overvejelse, inkluderer følgende;

- Forseglede rum
- Rum og tilstødende rum der indeholder, eller nyligt har indeholdt, brændbare eller brandfarlige væsker eller gasser.
- Rum og tilstødende rum der indeholder, eller nyligt har indeholdt, væsker, gasser eller faste stoffer der er giftige eller irritante.
- Rum og tilstødende områder der er blevet desinficeret.
- Rum der indeholder materialer eller rester af materialer, der skaber en iltmanglende atmosfære.

En arbejder bør kun træde ind i et rum, hvor iltindholdet, efter volumen, har den værdi, der er noteret i punkt 4.4. I et sådan tilfælde skal rummet markeres "Sikkert-til-Adgang". Hvis der er en iltberiget atmosfære, skal ventilation stilles til rådighed med volumener og strømhastigheder, der er

tilstrækkelige til, at iltindholdet holdes på den værdi, der er anført i punkt 4.4. Mærkatet skal fastgøres igen, når iltindholdet vender tilbage til værdien anført i punkt 4.4, og efter det er blevet testet og undersøgt af den Kompetente Person.

4.4.6 Brandfarlige Atmosfærer

M.A.R.S. Europe skal sikre, at rum og tilstødende rum der indeholder, eller har indeholdt, brandfarlige eller brændbare væsker eller gasser, er visuelt inspiceret og testet af den Kompetente Person forud for arbejdernes indtræden. Rummene skal periodisk overvåges, og resultaterne dokumenteres gennem al den tid, de er optaget.

Hvis koncentrationen af brandfarlige væsker eller gasser i det rum, der skal gives adgang til, er lig eller større end 1 procent af den nedre brandfarlige grænse, da må ingen træde ind i rummet, og mærkatet "Sikkert-til-Adgang" fjernes. Ventilation skal være disponibel med tilstrækkelige volumener og strømhastigheder til at sikre, at koncentrationen af brandfarlige dampe holdes under 1 procent af den nedre brandfarlige grænse. Mærkatet skal igen påsættes, når koncentrationen af brandfarlige dampe falder til under 1 procent af den nedre brandfarlige grænse, og efter den er testet og undersøgt af den Kompetente Person.

4.4.7 Giftige, ætsende eller røgfyldte atmosfærer og rester

M.A.R.S. Europe skal sikre, at rum og tilstødende rum, der indeholder eller har indeholdt væsker, gasser eller faste stoffer, som er giftige, røgfyldte eller irritante, visuelt undersøges og testes af en Kompetent Person forud for arbejdernes påbegyndende adgang.

Indeholder et rum en luftkoncentration af et materiale, der overstiger 10 procent af dens erhvervsmæssige eksponeringsgrænse (OEL), må ingen få adgang til rummet, som i et sådan tilfælde ikke markeres "Sikkert-til-Adgang". Ventilation skal være disponibel med tilstrækkelige volumener og strømhastigheder til at sikre, at luftkoncentrationen opretholdes under 10 procent af dens OEL. Mærkatet skal igen påsættes, når koncentrationen af forurenede stoffer fastholdes under 10 procent af dens OEL, og efter den er blevet og undersøgt af den Kompetente Person.

4.4.8 Bestemmelse af "Sikkert-til-Adgang" af en Kompetent Person

Når der opstår en ændring, der kan ændre forholdene i et testet, lukket rum eller andre farlige atmosfærer, skal arbejde i det ramte rum eller område ophøre. Arbejdet må ikke genoptages, før det ramte rum eller område er visuelt undersøgt eller testet igen af den Kompetente Person og stemmer overens med bestemmelserne i tilladelsen. Det er anbefalet, at rummet skal udluftes og at de atmosfæriske forhold skal tilbage til de acceptable grænser efter et rum viser sig at overskride grænserne.

Hvis den Kompetente Person har forudbestemt, at rummet er sikkert til adgang for en ansat, og de efterfølgende finder ud af, at forholdene i det testede rum ikke opfylder kravene, skal arbejdet stoppes, indtil forholdene i det testede rum er korrigerede, så de stemmer overens med kravene for tilladelsen. Hvis det er sikkert at gøre, skal den Kompetente Person bedes undersøge årsagen bag rummets fejl, og sikre at de afhjælpende foranstaltninger forhindrer, at lignende sker igen.

4.4.9 Tilladelse til Sikkert-til-Adgang – advarselsskilte og mærkater

Enhver bestemmelse af et rum som "Sikkert-til-Adgang", skal ledsages af et certifikat, der, som minimum, synligt skal angive følgende information:

- Titel på den Kompetente Person der udfører test(s) og undersøgelse(r).
- En underskrift fra ovenstående person.
- Navn på skib og lokation.
- De områder på skibet der er Sikre-til-Adgang.
- Dato og tid for undersøgelsen.
- Lokation for de undersøgte rum
- Udførte tests.
- Type af udstyr der er anvendt til testning.
- Testresultater.
- Periode for gentestning af rummene.
- Resultater af de periodiske gentests.
- Forhold når den Kompetente Person er blevet tilkaldt igen eller forhold der afviger fra certifikatet.
- Sikkerhedsbetegnelse(r) ("Sikkert-til-Adgang", "Ikke Sikkert-til-Adgang).
- **Tilladelsens gyldighedsperiode og udløbsdato, hvilken anbefales til højst 24 timer med periodiske gentestningsintervaller, der ikke overstiger otte timer.**
- Ventilationstype.
- Enhver anden relevant information eller instruktioner.

Sikkerhedscertifikater til "Sikkert-til-Adgang" skal påsættes ethvert adgangspunkt mellem land og skib. En attest af inspektionen af atmosfæriske tests skal vedlægges certifikatet.

Certifikatet og/eller selve rummene skal tydeligt markers og præsenteres, således det/de kan ses og forstås af alle arbejdere på sitets 'arbejdssprog' og, om muligt, med billedlige fremvisninger.

Hvis et helt arbejdsområde er blevet testet og markeret med den passende skiltning (fx som værende "Sikker-til-Adgang") på alle adgangspunkter, behøver individuelle tanke, eller andre områder lokaliseret inden for arbejdsområdet, ikke at være markeret separat.

Certifikatet, opdateringer og andre attester skal gemmes på filer i en periode af mindst tre måneder, fra slutdatoen af det specifikke job de er fremstillet til. Hvis et rum, på hvilket som helst tidspunkt, ikke lever op til kriterierne for "Sikkert-til-Adgang", skal mærkatet "Sikkert-til-Adgang" fjernes.

4.4.10 Sikkert-til-Adgang – Operationelle foranstaltninger

Udover at sikre certificering som "Sikkert-til-Adgang", skal følgende operationelle foranstaltninger også overholdes:

- Ingen må åbne eller træde ind i et lukket rum, medmindre det er godkendt af den Kompetente Person fra M.A.R.S. Europe, og medmindre den passende sikkerhedsprocedure er fulgt.
- Der er udstedt en tilladelse til adgang til dem, der er berettiget til at træde ind i rummet ifølge de(t) samme individ(er), som har ansvaret for opretholdelsen af certifikatet på vegne af M.A.R.S. Europe, som bekræfter at alle certificeringsprocesser og operationelle foranstaltninger for sikker adgang er afsluttet og i kraft.

- Rummet er tilstrækkeligt oplyst.
- Der er passende ad- og udgang til rummet, og arbejdsområdet i det lukkede rum er egnet til det arbejde der skal udføres – især ved tunge, store eller komplekse løfteoperationer.
- Der er aftalt, testet og anvendt et passende kommunikationssystem mellem alle involverede parter.
- Rummet er tilstrækkeligt isoleret fra gasser, væsker eller andre identificerede, farlige stoffer, der utilsigtet kan frigives i det rum, hvor arbejdet udføres.
- En fuldt uddannet supervisor, der kan have ansvaret for ét eller flere arbejdshold, har tilsyn med området og overvåger ofte de forhold, arbejdstagerne er udsatte for.
- Håndtering af ventilationsudstyret er således, at ingen antændelseskilder indføres i et farligt rum.
- Ventilationen til rummet er tilstrækkelig til arbejdets udførsel og til enhver døgnvariation i miljøforholdene, der kan opleves i varme eller fugtige områder.
- Ventilationssystemet er designet til at forebygge vedvarende gaslommer i tanke/rum – enten pga. den komplekse struktur i tanken/rummet, eller grundet det faktum at gaslommer er tungere end luftdampene i tanken – hvilket kan opnås gennem udsugning snarere end udblæsning.
- Skulle ventilationssystemet fejle, skal en alarm aktiveres, så personer i rummet straks kan forlade det.
- Passende rednings- og brandkontrolplaner er på plads.
- Egnet personligt beskyttelsesudstyr (PPE), beskyttelsestøj og sikkerhedsudstyr (inklusive seler og livliner) er stillet til rådighed til arbejderne og anvendes under adgang til – og arbejde i – de udstedte rum.
- Tilstrækkeligt og funktionelt rednings- og genoplivningsudstyr er til rådighed og er stillet klar til brug ved indgangen til rummet.

Hvis brandalarmen aktiveres, skal rummet evakueres indtil "Fri bane til adgang igen" gives af den Kompetente Person.

4.5 Sikkert-til-Varmt-Arbejde – kriterier for skibs-recycling

Intet varmt arbejde må udføres på et skib medmindre området er erklæret "Sikkert-til-Varmt-Arbejde".

Sikkert-til-Varmt-Arbejde certificering, inspektion og test gælder for følgende:

- Lukkede rum og alle andre rum der er lukket af skotter og dæk (inklusive lastrum, tanke, depoter samt maskin- og kedelrum) som potentielt indeholder farlige atmosfærer.
- Inden for, på eller umiddelbart ved siden af rum der indeholder, eller tidligere har indeholdt, brandfarlige eller brændbare væsker eller gasser.
- Inden for, på eller umiddelbart ved siden af brændstoftanke der indeholder, eller tidligere har indeholdt, brændstof.
- På rørledninger, varmebatterier, pumpefittinger eller andet tilbehør der hører til rum, som indeholder eller tidligere har indeholdt brændstof.
- Lænser, lastrum, maskinrum og kedelrum der ikke indeholder farlige atmosfærer.

M.A.R.S. Europe skal sikre, at intet varmt arbejde udføres i nogle af disse rum, førend en tilladelse til "Sikkert-til-Varmt-Arbejde" udstedes af en Kompetent Person eller et eksternt firma. Disse

undersøgelser og tests skal registreres og anbringes på et iøjnefaldende sted om bord. En Kompetent Person skal visuelt undersøge og teste hvert rum på skibet for at bestemme de områder, der betragtes som "Sikkert-til-Varmt-Arbejde", før et certifikat udstedes, og inden recycling-aktiviteter påbegyndes.

4.5.1 Sikkert-til-Varmt-Arbejde – kriterier

Et område der er erklæret 'Sikkert til Varmt Arbejde', er et område, der imødekommer alle kriterierne for sikker adgang samt følgende kriterier:

- Restkoncentrationer eller materialer i området må ikke være i stand til at producere et iltberiget eller iltfattigt miljø og må ikke kunne genere antændelige eller eksplosive dampe.
- Alle tilstødende områder skal være rengjorte og kemisk inaktiveret samt behandlet således der forebygges risiko for eksplosion, udslip af skadelige eller giftige dampe og spredning af ild.
- Arbejde i tilstødende områder er ikke påvirket af det Varme Arbejde, såsom tankindgange, løft eller manuel dekonstruktion.

4.5.2 Kompetent Person til bestemmelse af Sikkert-til-Varmt-Arbejde

En Kompetent Person, i sager relateret til Sikkert-til-Varmt-Arbejde, bør opfylde kriterierne identificeret i 4.4.3, og have den ekstra viden og færdigheder der kræves for at håndtere aktiviteter med varmt arbejde.

4.5.3 Inspektion, afprøvning og bestemmelse af Varmt Arbejde

Hvert område skal certificeres af en kompetent person/et eksternt firma som 'Sikkert til Varmt Arbejde' så ofte som nødvendigt, for at sikre at forholdene inden for området er opretholdt som vedtaget i bestemmelserne. Hyppigheden af hvorvidt et område bør monitoreres for at afgøre, hvorvidt forholdene inden for området opretholdes, er en funktion af følgende **(men bør under ingen omstændigheder overstige en otte timers vagtperiode.**

- Temperatur: Enhver ændring i temperaturen på området kan resultere i ændringer i de atmosfæriske forhold, og varmere dage kan forårsage restkoncentrationer til at producere flere dampe, hvilken kan resultere i en større risiko for brandfarlige eller eksplosive forhold.
- Arbejde i området: Aktivitet i området kan ændre atmosfæren; Gasudslip fra en slange eller lommelygte eller manuel tankrensning, som er rengjort ved at skrabe eller ved brug af håndholdte højtryksrensere, kan antænde restkoncentrationerne og dermed skabe en større risiko for brandfarlige eller eksplosive forhold.
- Periode for forløbet: Hvis der er gået en tilstrækkelig periode (ikke over 24 timer), siden certifikatet "Sikkert til Varmt Arbejde" blev udstedt, skal områdets tilstand testes igen, forud for nyt fremmøde og genoptagelse af arbejdet.
- Ukontrollerede områder: En tank eller et område, der er blevet godkendt som værende 'Sikkert til Varmt Arbejde', og siden efterlades uden opsyn i en tilstrækkelig lang periode, skal testes igen forud for nyt fremmøde og optagelse af arbejdet.
- Arbejdspause: Tanke eller områder skal undersøges for eventuelt efterladt udstyr, når de ansatte holder pause eller inden afgang, når en vagt er ovre. Tankens eller områdets stand skal testes igen forud for nyt fremmøde og optagelse af arbejdet.

- Ballastering eller trimning: Ændring af ballastens position eller flytning eller trimning af skibet, kan medføre ændringer i områdernes atmosfærer. Forholdene i områderne skal testes igen forud for nyt fremmøde og optagelse af arbejdet.

4.5.4 ’Tilladelse til Varmt Arbejde’ – advarselsskilte og mærkater

Enhver bestemmelse af et område som ‘Sikkert til Varmt Arbejde’, bør ledsages af en tilladelse/et certifikat, der inkluderer ’Tilladelse til Adgang til Sikkert/Begrænset Område’, som identificeret i sektion 4.4.9 (Tilladelse til Sikkert-til-Adgang – advarselsskilte og mærkater). Advarselsskilte samt mærkater skal anvendes som anført i sektion 4.4.89 til bestemmelse af “Sikkert-til-Adgang”, og tydeligt indikere at området er **’Sikkert til Varmt Arbejde’**.

4.5.5 Sikkert-til-Varmt-Arbejde – operationelle foranstaltninger

Udover de foranstaltninger der er identificeret i de operationelle foranstaltninger, der er i forbindelse med Sikkert-til-Adgang, skal følgende også tilføjes, for at opnå certificering til ”Sikkert-til-Varmt-Arbejde”:

- Hvert område hvor varmt arbejde udføres, skal være omhyggeligt forberedt og isoleret før det varme arbejde påbegyndes.
- Al affald, olierester eller andet materiale der kan generere brændbare eller eksplosive dampe skal fjernes fra området, inden det varme arbejde påbegyndes. Området og tilstødende områder skal holdes fri fra affald, snavs og olierester, der kan skabe et brændbart eller eksplosivt miljø.
- Tønder og lignende små opbevaringsremedier, som har indeholdt brændbare stoffer, skal, inden de skæres/klippes, enten fyldes med vand eller grundigt renses for disse stoffer.
- Tanke på dækket skal omhyggeligt rengøres, gasfrigøres og certificeres som ’Sikkert til Adgang’ og ’Sikkert til Varmt Arbejde’ som beskrevet i denne procedure. Et passende supplement af frisk luft skal opretholdes, da ilt fra atmosfæren i området kan være blevet fjernet i brændingsprocessen. Tankene skal isoleres og testes i overensstemmelse med vejledningen i disse retningslinjer.
- Det skal være særlig opmærksomhed i forbindelse med adgang og udgang og til de unikke udfordringer områderne udgør med hensyn til tankredningsprocedurer i en nødsituation.
- Faste last- eller brændstoftanke skal rengøres og udluftes inden påbegyndelse af arbejde og efter at være certificeret som ’Sikkert til Adgang’ og ’Sikkert til Varmt Arbejde’. Rengøringen skal være tilstrækkelig, til at kunne fjerne farlige væsker, lette faste stoffer og lækager, så tanken kan frigøres for gasser. Komplekse konstruktioner kræver muligvis yderligere forberedelse, førend de kan certificeres som ’Sikkert til Varmt Arbejde’. Der bør overvejes en lokaliseret rengøringsmanual. Ventilationen skal muliggøre en tilstrækkelig luftstrøm til alle dele af området for at forhindre ophobning af gasser enten fra det varme arbejde eller fra tankens belægninger.
- Der skal være ventilation i mængder og strømningshastigheder, der er tilstrækkelige til at sikre, at koncentrationen af brandfarlige dampe holdes under 1 % af den nedre brændbare grænse.
- Den generelle mekaniske ventilation skal være af tilstrækkelig kapacitet og således indrettet, at der kan foretages tilstrækkelige luftændringer til at opretholde sikre svejsedampe og røg.

- M.A.R.S. Europe's brandsikkerhedsprocedurer skal følges

4.5.6 Svejsning, skæring, slibning og opvarmning

Se EHS-PRO-300 Tilladelse til Varmt Arbejde og EHS-PRO-301 Svejsning og flammeskæring.

4.6 Site Forberedelse

/1/ Et sikkert middel til ad- og udgang skal til enhver tid være til rådighed, når det tilladte rum trædes ind i eller ud af fra oven eller fra neden. Dette kan inkludere en transportabel stige eller et stillads, der er sikkert installeret og sikret til klatring.

/2/ Når indgangsdæksler er fjernet, skal åbningen straks beskyttes af et gelænder, et midlertidigt låg eller anden midlertidige barrierer, der forhindrer et utilsigtet fald gennem åbningen, og som vil beskytte hver medarbejder, der arbejder i rummet fra fremmedlegemer der kan komme ind i dét.

/3/ Al lysudstyr der kræves til arbejdet i det tilladte rum, skal være eksplosionssikret og have en jordfejlafbryder (GFCI[3]). Kun egensikre eller eksplosionssikre lommelygter er tilladte til brug i det tilladte rum, når arbejdet er begrænset til en kort tidsperiode.

/4/ Al elektrisk udstyr (såsom luftmotorer og vakuumslanger til lastbiler) skal være korrekt jordforbundet eller bundet for at hindre statisk afladning (gnister).

/5/ Brandslukker(e) og andet brandslukningsudstyr skal være til rådighed på sitet, hvis brandfarlige eller brændbare materialer er til stede. Brandslukkeren skal undersøges for at bekræfte, at den er i god stand.

/6/ Barrikader, vagter, skilte eller personale skal forhindre eksterne farer (såsom udstyr, snavs, personale, fodgængere eller køretøjer) i at komme ind eller forstyrre aktiviteter i det lukkede rum eller redningspersonale og -udstyr.

/7/ Nødevakueringsudstyr skal være tilgængeligt på sitet. Rednings- og udvindingsudstyret skal inspiceres for at sikre, at det er i ordentlig stand. Firmaets eller en tredjeparts redningstjeneste skal uddannes i redning og får udstyr, der er nødvendigt for at foretage redning. Redningspersonale får muligheden for at undersøge sitet og øve redning, hvis det ønskes. Redningstjenester vil være tilgængelige på sitet eller med kort varsel, mens 'Tilladelse til Adgang til Lukket Rum' er under udarbejdelse. Kommunikationsudstyr er tilgængeligt og kontrolleret, så redningspersonale kan kontaktes.

4.7 Udstedelse af tilladelse

Når ovenstående krav er opfyldt, skal adgangschefen gennemgå forberedelserne og det tilladte rum. Hvis alle krav er imødekommet, skal EHS lederen underskrive tilladelsen, (EHS-FRM-510 Rev C), have tilladelsen indført af den ansvarlige for skibet eller anlægget, og ophænge den et iøjnefaldende sted på sitet.

4.8 Adgang til det Tilladte Rum

/1/ Forud for adgangen, skal adgangschefen gennemgå følgende, med alle autoriserede arbejdere (ansatte/underleverandører); kendte farer i det tilladte rum, procedure for luftmonitorering og data, ventilationskrav, hver autoriseret arbejders (supervisor, arbejdere, stand-by personales og

[3] ground fault circuit interrupter (GFCI)

redningstjenesters) ansvar samt placeringen og procedurerne for indkaldelse af eksterne alarmberedskab. Når alle krav om lukket rum er lukket, skal den tekniske leder på land, EHS-manageren der er på vagt, eller facilitetslederen for landbaserede operationer gøres opmærksom på, at et lukket rum er anført som sikkert-til-adgang og vil fortsætte.

/2/ Autoriserede ansatte må kun træde ind i det tilladte rum, efter kravene til 'Tilladelse til Adgang til Lukkede Rum' er imødekommet, tilladelsen er underskrevet og udstedt, og ledelsen har godkendt adgangen.

/3/ Uautoriseret personale er ikke tilladt adgang.

/4/ Der vil være mindst én deltager af Lukket Rum på vagt ved **indgangen til ethvert rum der trædes ind i.** Deltageren skal ikke have andre pligter, der kan distrahere fra at overvåge indtræden i rummet eller selve rummet.

/5/ Hvis det tilladte rum er efterladt uden opsyn, skal indgangen låses eller sikres.

/6/ Atmosfæren i det tilladte rum skal kontrolleres så ofte som nødvendigt, mens deltagerne er i det tilladte rum for at sikre et sikkert arbejdsmiljø.

/7/ Hvis omstændighederne kræver det, skal en Tilladelse-til-Varmt-Arbejde udstedes i overensstemmelse med EHS-PRO-300 Tilladelse-til-Varmt-Arbejde.

/8/ Stand-by personale skal til enhver tid forblive i kontakt (visuel, håndsignaler, soft-line, stemme osv.) med personalet i det lukkede rum.

/9/ Autoriseret Personale til Adgang skal være iklædt en redningssele, der dækker hele kroppen, mens der arbejdes i det lukkede rum. I rum der kræver en lodret nedstigning på 1,2 meter (5 fod) eller mere, skal en ophejsningsline fastgøres til en fire under nedstigning og opstigning i rummet. For at lette redningsarbejdet uden indtræden i rummet, skal der anvendes hejsesystemer eller hejsemetoder hver gang en autoriseret deltager træder ind i et tilladt rum, medmindre hejseudstyret øger den overordnede risiko for adgang, eller det ikke vil bidrage til redningen af deltageren. I rum der kræver, at en deltager bevæger sig vandret ud af ledsagerens synslinje, skal en livline fastsættes til selen, hvis et hejsesystem ikke kan anvendes. **Hvis flere autoriserede personer er i det samme rum, skal personale til enhver tid forblive i kontakt (visuel, håndsignaler, soft-line, radio osv.) med hinanden og med vagten af Lukkede Rum**.

/10/ Redningsudstyr skal være på lokationen eller være tilgængeligt med kort varsel, mens Tilladelse-til-Adgang er under udarbejdelse. Kommunikationsudstyr er tilgængeligt og kontrolleret for kontakt til redningspersonalet.

/11/ Firmaets Kompetente Person eller Områdets Adgangschef skal ophæve tilladelsen og instruere alle indtrædne i at evakuere det tilladte område, hvis:

a. En uautoriseret medarbejder træder ind på det tilladte område.
b. Arbejdsopgaver dækket af tilladelsen er fuldførte.
c. Betingelser, der ikke er tilladt i henhold til tilladelsen, opstår i eller i nærheden af tilladelsesområdet.

4.9 Gendannelse af det Tilladte Område

Når alt arbejde er fuldført, skal det tilladte område gendannes til de normale service-forhold. Anvend tilladelsen som checkliste for korrekt restaurering. Firmaets Kompetente Person gennemgår arbejdet, restaureringen af det tilladte rum og, hvis alt er acceptabelt, initialiserer tilladelsen og får den underskrevet af den ansvarlige for anlægget eller skibet. Den originale tilladelse skal opbevares med andre optegnelser, der vedrører det udførte arbejde. En kopi af tilladelsen skal bevares på sitet i seks måneder.

4.10 Træning

Årlig træning skal gennemføres for at sikre, at enhver ansat er velbevandret i sin rolle som en aktiv deltager i adgangen til et tilladt rum. Instruktioner og undervisningsmateriale er tilgængeligt fra firmaets EHS- eller HR-afdeling eller en godkendt underleverandør.

Alt personale, der overvåger, observerer eller udfører arbejde i lukkede rum, skal have undervisning forud for opstart af arbejdsaktiviteter. Alle involverede ansatte skal undervises forud for en påbegyndende opgave, forud for ændringer i tildelte opgaver, hvis der er skabt en ny fare, eller hvis der er opstået specielle afvigelser.

Uddannelsesafdelingen skal certificere, at den påkrævede uddannelse er gennemført. Certificeringin skal inkludere den ansattes navn, underviserens signatur/initialer, dato for uddannelsen. Certificeringen udstedes til den ansatte og kan gøres tilgængelig for medarbejderens autoriserede repræsentant.

Alle ansatte modtager en basal uddannelse i “Viden om Lukket Rum” under ” Sikkerhedsorientering til Nyansatte”.

4.11 Programgennemgang

Firmaets EHS-afdeling vil foretage periodiske gennemgange af tilladelseskrav til ’Tilladelse-til-Lukket-Rum’, hændelsesdatabaser og erfaringer.

5.0 REFERENCER

N/A

6.0 AUTORISATION

Dette dokument gennemgås mindst én gang årligt.

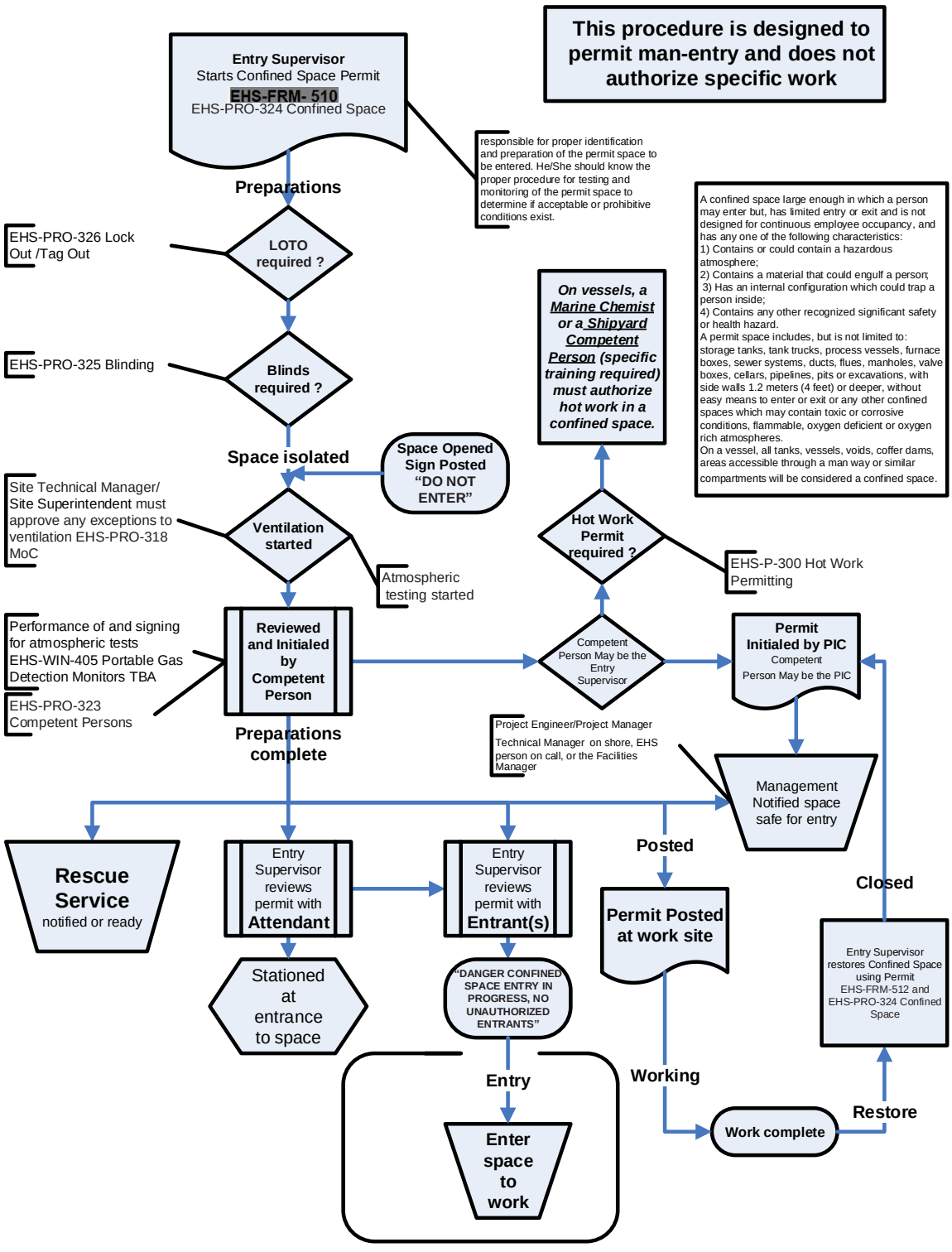
Proceduren er underskrevet af firmaets EHS Manager

_____ _____

EHS Manager *Date*

7.0 Bilag

Bilag 1: Flow-Chart of Safe-for Entry



Bilag 2: Lovgivning

/7/ Bekendtgørelse af lov om arbejdsmiljø nr. 674**,** med senere tilføjelser

/8/ Arbejdstilsynets bekendtgørelse nr. 1234 af 29. oktober 2018 om arbejdets udførelse

/9/ ISO13732-1:2006 om Termisk Miljø

/10/ AT-vejledning nr. 5.5.-3 om Faldsikring

/11/ AT-vejledning nr. 1.7.1-2 om Oplæring, instruktion og tilsyn med arbejdet

/12/ AT-vejledning nr. A.1.3 om Arbejde i stærk varme og kulde

M.A.R.S. Europe

Procedure

Emergency Response Plan

Frederikshavn

REV.	DATE	DESCRIPTION	WRITER	CONTROL	APPROVAL
O	04-03-2025	Revised Document	Alexandru Simion	Mia Funk	Cecilie Nielsen
N	24-01-2024	Revised Document	Alexandru Simion	Cecilie Nielsen	Kim Thygesen
M	17-Feb-23	Revised Document	Alexandru Simion	Cecilie Nielsen	Kim Thygesen
L	22-AUG-22	Revised Document	Alexandru Simion	Cecilie Nielsen	Kim Thygesen
K	01-AUG-22	Revised Document	Alexandru Simion	Cecilie Nielsen	Kim Thygesen
J	27-OCT-21	Revised Document	Alexandru Simion	Kim Pedersen	Kim Thygesen
I	11-OCT-21	Revised Document	Alexandru Simion	Cecilie Nielsen	Kim Thygesen
H	08-DEC-20	Revised Document	Alexandru Simion	Cecilie Nielsen	Kim Thygesen
G	18-AUG-20	Revised Document	Dan T. Christensen	Cecilie Nielsen	Kim Thygesen
F	22-JUL-20	Revised Document	Dan T. Christensen	Cecilie Nielsen	Kim Thygesen
E	25-MAY-20	Revised Document	Dan T. Christensen	Cecilie Nielsen	Kim Thygesen
D	20-MAY-20	Revised Document	Dan T. Christensen	Cecilie Nielsen	Kim Thygesen
C	22-APR-20	Revised Document	Dan T. Christensen	Cecilie Nielsen	
B	25-FEB-20	Revised Document	Dan T. Christensen	Cecilie Nielsen	
A	16-JAN-20	Initial Document	Dan T Christensen	Pawel Serafinski	

M.A.R.S. INTERNAL DOC NUMBER: EHS-PRO-351

Table of Contents

1.0 Introduction

1.1 Purpose

The purpose of this plan is to ensure that M.A.R.S. Europe can respond rapidly and appropriately in case of an emergency on the M.A.R.S Europe's dismantling projects to mitigate consequences. The Emergency Response Plan (ERP) has been developed to provide practicable guidelines in case of an incident/ or emergency. All M.A.R.S. Europe's personnel, Company personnel, subcontractors, vendors, and visitors shall comply ERP when on the M.A.R.S. Europe's Site in Frederikshavn, including storage facilities and offices.

1.2 Scope

The scope of the Emergency Preparedness Plan includes following:

- Fires & explosions.
- Hazardous spills.
- Medical emergencies.
- Rescue from Confined Space/ Work at height
- NORM emergencies
- Man overboard
- Ship/Asset drifting (Loose mooring lines)
- Security Breach
- Other accidents/incidents which lead to an emergency

1.3 Responsibilities

This ERP is prepared and kept updated by M.A.R.S. Europe EHS. Manager. It is done in coordination with regulations, site management, safety representative and relevant authorities. Site management is responsible for the execution of the ERP with the support of the QEHS Manager.

The Emergency Response Organization structure is presented in Appendix 1 "Incident Categories".

1.4 Terms and definitions

Term or Designations	Description / Definition
Audit	Systematic, internal documented process which obtains evidence and evaluates it objectively to determine whether or not the audit.

Adapted or Restricted Work Activity Case	Number of workdays where injured person of work-related incident which considers no lost workdays performs “adapted work” or “restricted work”.
Confined Space	Space that is large enough for an employee to enter and perform the assigned work, but that has a limited or restricted means for entry or exit.
Competent Person	Someone who by virtue of their training or experience, or a combination of both, has been deemed competent by the Company for specific function or functions through an assessment process.
Emergency Response Plan	Emergency Response Plan are a critical component of workplace safety. Response time is an important aspect of emergency response. This refers to how long it takes emergency responders to arrive at the scene of an emergency after the emergency response system has been activated.
Environmental incident – not contained	Situation, which results in negative impact for the environment (soil, air, water).
Environment - Contained Spills	A spill to environment which was contained and not with negative impact to environment. Example spill on the gravel and replace the gravel. The membrane will not allow the pollutant to go into soil.
First Aid	First aid is the emergency care or treatment given to someone who is ill or injured before regular medical aid can be obtained.
Fatality	An occurrence of death by accident
High Potential Near miss	A near miss with a higher degree potential to injury or damage materials. Such as life threatening, injury or destroy machines.
Medical Emergency case	Limited to treatment for only minor injuries with non-prescription medication and, if necessary, subsequent observation.
Hierarchy of controls	Risk should be reduced to the lowest reasonably practicable level by taking preventive measures, in order of priority.
Incident	An unexpected event that leads to a loss of status quo or increased risk regarding human wellbeing, energy yield, environmental safety, device integrity.
Lost time incident	Number of workdays where injured person of work-related incident was not able to perform his/her tasks and absent from work. Also “days away from

	work".
Loss Time Injury Frequency	Occurrence of the loss time injury per 1000 000 working hours.
Last Minute Risk Assessment (LMRA)	Short risk assessment, carried out by the person that executes a job, prior to start working (stop and think) and necessary to discover risk factors.
Major Injury	Any fracture, amputation, dislocation of the shoulder, hip, knee, or spine. Loss of sight (whether temporary or permanent). A chemical or hot metal burn to the eye or penetrating injury to the eye. Any injury resulting from an electric shock or electrical burn (including any electrical burn caused by arcing or arcing products) leading to unconsciousness or requiring resuscitation or admittance to hospital for more than 24 hours. Any burns bigger than 3% of total body coverage due to flames or chemicals Any other injury: • leading to hypothermia, heat-induced illness or to unconsciousness, • requiring resuscitation, or • requiring admittance to hospital for more than 24 hours. Loss of consciousness caused by asphyxia or by exposure to a harmful substance or biological agent. Either of the following conditions which result from the absorption of any substance by inhalation, ingestion or through the skin: • acute illness requiring medical treatment; or loss of consciousness. Acute illness which requires medical treatment where there is reason to believe that this resulted from exposure to a biological agent or its toxins or infected material.
Material Damage	Any damage to material, equipment, machines, such as tire damage, windows breaking, building material, short circuit.
Medical treatment case	All other cases that do not result in Days Away from Work or Restricted Duty but are more serious than Medical Emergency cases.

Medical evacuation	All emergency transports will be performed by public ambulance. Non-emergency medical evacuation may be accomplished by ambulance or private vehicle depending on the nature and severity of the injury/illness and availability of transportation. If possible, the decision should be made by a doctor or a paramedic.
Minor Injury	Injury not listed as major injury (see above)
Motor vehicle	Any self-propelled means of transportation, heavy equipment and other motor or electrically moveable equipment capable of transporting its operator and workers.
Near miss	Situation with potential negative consequences for the health/safety of the employees, the environment, assets, and reputation of the company.
Offshore Incident	Any incident occurred during an offshore visit of M.A.R.S Employees.
Risks and hazards	A hazard is a source or situation that can cause injury or illness to personnel or damage to property and is intrinsically linked with people, equipment, environment, products, and the organization. The risk is the probability or threat of a hazard resulting in an adverse event while causing injury, illness or property damage, damage to the reputation or the service a company provides. Example: Hazard = working at height, Risk = falling.
Total Recordable Incident	Loss time injury, medical treatment, restricted work case included in total recordable incident.
Total Recordable Incident Rate	Occurrence of total recordable incidents per 1000 000 working hours.
Working at height	Includes all situations where people are at risk of falling from one level to another and all circumstances where work is executed at height of > 2 m.

1.5 Abbreviations

AED	Automatic External Defibrillator
ASAP	As Soon As Possible
MDR	Master Document Register
EMT/Para	Emergency Medical Team/Paramedic
ERP	Emergency Response Plan
EHS/HSE	Health, Safety & Environment
ERT	Emergency Response Team
EST	Emergency Support Team
FA	Medical Emergency
M.A.R.S.	Modern American Recycling Services
MOB	Man Overboard
NOK	Next of Kin
NORM	Naturally Occurring Radioactive Material
SIS	Danish Health Authority
PoF	Port of Frederikshavn
PPE	Personal Protective Equipment
SOPEP	Ship Oil Pollution Emergency Plan

2.0 Emergency Procedures

2.1 Contact Information

Emergency number for Frederikshavn is: 112 (Ambulance, Fire Department, Police)

Addresses for M.A.R.S. Europe Management:

Sandholm 55h, 9900 Frederikshavn (Main Office)

Sandholm 60, 9900 Frederikshavn (Site Office)

Sandholm 55A, 9900 Frederikshavn (Client office/ Changing rooms)

M.A.R.S. Emergency Number:	Site Emergency Guard **+45 40 41 81 39**
M.A.R.S. QEHS Manager:	+45 40 41 02 17
M.A.R.S. CEO:	+45 53 36 51 79

2.1.1 Management Notification

In all emergencies, Site Emergency Number must be contacted ASAP. This person will then inform the ERT according to Appendix I "Incident Categories" responsibilities.

2.1.2 Client Notification

In case on emergency on an asset, QEHS Manager or M.A.R.S Europe's management is responsible to notify the client representative.

2.1.3 Next of Kin Notification (NOK)

M.A.R.S Europe's HR department is responsible for NOK notification of the injured person. (M.A.R.S Employees only). For subcontractors, M.A.R.S Europe will notify subcontractor management to assist.

2.2 General Emergency Guidelines

All emergencies must be immediately reported to the Site Emergency Guard. If is necessary the evacuation of the employees, from the area/asset, the general alarm shall be raised by the team supervisor (or employee/visitors/ if supervisor is not present in the area), and all personnel must report to muster station. The general alarm points are clearly marked, and employees familiarized with their presence and usage. (By conducting drills). A T-card system is monitoring all person on assets, which is installed in the Tally Station. At the muster point, the Site Emergency Guard is recording all person present, by considering the daily site presence (SmarTID), visitor logbook, and the On Scene Commander will coordinate the Search and Rescue operations, in case of a missing person.

2.3 Evacuation from site / buildings

The Site Assembly point (muster station) is clearly marked on site layout plan and is part of the site safety induction presentation. Site layout, buildings plans are presented in Appendix II Site/Building Layouts.

The main office / client office Muster point is in front of the building and is clearly marked with safety signs. A designated person is appointed by QEHS Manager, which ensures that the area was evacuated, and no persons are left behind. The designated person will be trained and familiarized with responsibilities and duties.

2.4 Evacuation from vessels/assets

During "Initial Make Safe" Process, the evacuation routes will be clearly marked, and employees familiarized with the safe evacuation. Safety signs and lights will be installed on evacuation routes. Specific vessels/assets drawings will be presented in Vessel/Asset Specific Emergency Response Plan.

2.5 Incidents

2.5.1 Risk Levels

There are 3 levels of emergency to be used per guidance listed below.

Type *(actual/potential)*	**Level 1**	**Level 2**	**Level 3**
Personal injury / Incidents	FAID, Near Miss	MTC/RWC High Potential Near Miss	LTI or Fatality
Environmental *Onsite = all is contained and cleaned, for onshore nothing is permeated into ground or water*	-Onsite spill -Mislabelled or miss handled waste	-Spill to environment -mislabelled hazardous waste shipped	-Spills to environment >1000 l -knowingly / willingly harming the environment with the examples of level 3 -incidents with heavy local or any regional environmental impact
Damage *(3rd party is, but not limited to, client, subcontractor, port or other vessels)*	Damage to asset <30.000 DKK	30.000 DKK< Damage to asset < 1.000.000 DKK	1.000.000 DKK < Damage to asset < 1.000.000 euro Damage to third party assets
Security (ISPS)	Attempt of unauthorised people accessing property	Unauthorised people on property	Attack on site, employees, or assets with malicious intent

All incidents are reported to the EHS Department who records and make incident investigation, reporting to clients and authorities. A copy of incident investigation report will be provided with client, according to the agreement.

A written notification report will be issued to clients within 24 hours for Medical Emergency/near miss/ minor oil spill investigations events, and 12 hours for medical treatment/ restricted work case investigation (verbal and written). For formal investigation notification will be issued ASAP via phone, followed by a written email.

The final investigation report will be issued withing 7 days for Medical Emergency /near miss/ minor oil spill, 14 days for medical treatment / restricted work case/ and for formal investigation 1 to 2 months, depending on documenting all events and evidence.

2.5.2 Incident reporting

The observation card system (paper/digital- "Mellora") is in place for fast reporting an incident. Site supervisors are equipped with work phones with Emergency Guard number, and training was provided with procedures above. All observations are monitored and tracked down, providing inputs for M.A.R.S Europe KPI.

- Report incident/ near miss / unsafe condition immediately to the Site Emergency Guard. (Via phone, face to face discussion, observation card system - paper/ digital)
- Take preventive and damage-limiting measures as soon as possible.

2.5.3 Communication

When reporting an incident, the communication must be clear, repeat the message, and share relevant facts. On the M.A.R.S. site, all supervisors are equipped with a working phone, and on the back of each employee's I.D. has marked Emergency Guard's names and numbers.

2.6 Emergency Response Teams

M.A.R.S Europe developed emergency response teams for fast reaction in managing emergencies. Further information regarding team members is presented in Appendix I "Incident Categories". Drills are performed according to annual drill schedule to increase the emergency team reaction. A drill report is completed, with lessons learned and corrective action, if exist.

2.7 Incident Categories

The incident categories are presented in Appendix 1 "Incident Categories".

Additional to M.A.R.S Europe's Emergency Spill/ Leak Response team, develop an emergency team, ready to take corrective actions. Drills are conducted on regular basis, together with subcontractors.

2.7.1 Spill/Leak on the ground / Vessel

Additional to M.A.R.S Europe's Emergency Spill/ Leak Response team, ready to take corrective actions. Drills are conducted on a regular basis. Refer to Chapter 5.1.3.

2.7.2 NORM Emergency Response

The M.A.R.S. Europe site is in a fenced-off ISPS. area with cameras, lighting, alarm, and two security guards. In addition, a second lockable fence is in place and marks the NORM storage facility within site. Thus, all stored NORM is under double lock and stored in containers, which can be moved by forklift or reach stacker in case of fire or other emergencies. M.A.R.S. Europe site was built as a flood-proof area. Details can be found in C.O.W. I's Environmental Impact Assessment (V.V.M) made for the Municipality of Frederikshavn before the expansion of the harbor. The Environmental Approval issued to M.A.R.S. Europe by the Municipality of Frederikshavn is also mentioning that the area is flood-proof.

M.A.R.S Europe NORM emergency response team will ensure that the plan is followed, and all parties notified.

All operations will be performed over the decontamination process/ area. Refer to Chapter 5.1.6.

2.7.3 Ship/Asset Drifting (loose mooring lines)

M.A.R.S Europe is assessing daily the weather condition and prepare for heavy winds / bad weather in advance. A mooring plan will assess the maximum wind and direction which represent a risk for mooring lines. Mooring lines monitoring / checking is M.A.R.S Europe's daily standard practice. CCTV-system can always offer, a clear overview of the mooring lines condition, even by nighttime. An agreement was made by M.A.R.S Europe with local tugs company for emergency reason (Svitzer, L&N Supply Ships). Refer to Chapter 5.1.8.

2.7.4 Security breach on Ground / Vessel

The M.A.R.S. Europe site is in a fenced-off ISPS area with CCTV, lighting, alarm, movement sensors, two guards shift and is monitored 24/7 by port authority. The access to the yard is controlled by guards (visitors /cars/trucks) and magnetic ID cards (employees), allowing safe

monitoring. Port of Frederikshavn is managing the ISPS regulation on the site. Security rounds are part of M.A.R.S Europe's guards' daily tasks. In case of a security breach on ground level, the alarm will be raised by sensor automatically, and all parties involved will receive a notification on the phone. Refer to Chapter 5.1.9.

3.0 Records

Logs of drills and trainings are recorded in M.A.R.S. Europe Management System.

Emergency teams records are posted on the site Tally Station, vessels/assets Safety Points.

4.0 Authorization

This procedure must be revised at least every three years.

This procedure is approved by the company QEHS Manager.

Alexandru Simion 04.03.2025

QEHS Manager Date

5.0 APPENDIX

5.1 Appendix I “Incident Categories

5.1.1 Fire on the ground level

Fire discoverer (witness)			
Can the fire be extinguished without assistance?	YES	Use fire equipment to extinguish the fire, keep clear of the area	Fire extinguisher, Water Sprayer, Fire Hoses
	NO	Call emergency number (Give clear information)	**00 45 40 41 81 39**
Do the process field need to be evacuated? (Due to smoke)	YES	Press the evacuation alarm button Report to Muster station	
	NO	Use fire equipment to extinguish the fire, keep clear of the area	Fire extinguisher, Water Sprayer, Fire hoses
Was the fire extinguished?	YES	Standby in the area to ensure that fire will not start again	15 minutes waiting
	NO	Call emergency number Use fire equipment to extinguish the fire until emergency teams are in the area	Follow steps above

Emergency Guard Number

Are Emergency Services (Fire Department) needed?	YES	**Call Emergency Services (112)** **Call Duty On-Scene Commander / Fire Tractor / Fire Team / Medic**	**Information to give:** • Address (Where the fire has broken out) • What is burning • Number of persons in danger • Point of contact with Emergency Services
	NO	**Call Duty On-Scene Commander** **Call Fire Tractor** **Call Fire Team Members** **Call Site medic (if needed)** POB Control on Site Muster Station Information regarding the fire: • Where the fire has broken out/ Project • What is burning • Number of persons in danger • Type of assistance need it • Asset / Vessel evacuated?	**Fire Tractor Team:** **00 45 51 81 08 69** **Fire Tractor** **Fire Team:** **00 45 40 41 10 19** **Fire Team Member 1** **00 45 40 41 02 31** **Fire Team Member 2** **00 45 40 41 12 54** **Fire Team Member 3** **On-Scene Commander:** **00 45 29 44 16 22** **Commander 1** **00 45 40 41 11 45** **Commander 2** **Site Medic:** **00 45 30 30 27 64**
Are Emergency Services (Fire Department) on M.A.R.S Europe Site?	YES	Guide Emergency Services to the fire location	Create safe corridor(access) for Emergency Services Update Emergency Services with additional data Point of contact with Emergency Services
	NO	Guide Fire Tractor Team to the fire location	Point of contact with Fire Tractor Team Muster station counter (Count POB)
Inform M.A.R.S Management about Fire	YES	Notify M.A.R.S. Management about the Fire Continuous Updates from the area	**00 45 40 41 10 19** **EHS office**
Inform M.A.R.S Supervisors about Fire	YES	Notify Site Supervisors about the Fire	Radio Channel 1

On-Scene Commander (Assembly in max 5 minutes)			
Command / Coordinate the site fire extinguishing operations	YES	Report to Fire area (Wear the On-Scene Commander Visible Vest) Evacuate the area Take control of the operations Assess the event needs Coordinate crane/excavator assistance (if needed) Provide additional fire equipment's, if needed Coordinate with Site Medic	Radio Channel 1
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Direct communication with Emergency Number Guard	YES	Continuous update regarding the event Notify if Emergency Services are needed	**00 45 40 41 81 39** Radio Channel 1
Direct communication with Fire Tractor Team / Fire Team	YES	Continuous update regarding the event Coordinate the Fire Tractor Team / Fire Team Provide additional fire equipment's, if needed	Radio Channel 1
Ensure that the fire area is clear	YES	Monitor the barrier (Install additional barriers) Assess the weather condition (Wind)	Evacuate the adjacent area where smoke present a risk

Fire Tractor Team (Assembly in max 5 minutes)			
Fire Tractor Team	YES	**Fire Tractor Member 1: Storekeeper** **Fire Tractor Member 2: Maintenance**	**00 45 51 81 08 69** **00 45 40 12 97 84**
Report to fire tractor station	YES	Start Fire Tractor (5 minutes KPI) Communicate with On-Scene Commander	Radio Channel 1
Direct communication with On-Scene Commander	YES	Continuous update from the area Request for assistance, if needed	Radio Channel 1
Extinguish the fire / Limit the spread of fire	YES	Use fire equipment available	Fire Tractor
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Ensure that area is safe for resuming operations	YES	Monitor the area and existing risks Communicate with On-Scene Commander	Radio Channel 1
Check equipment after usage	YES	Refill tractor's water tank Check equipment integrity	

Fire Team (Assembly in max 10 minutes)			
Fire Team Members	YES	**Fire Team Member 1** **Fire Team Member 2** **Fire Team Member 3** **Fire Team Member 4**	**00 45 40 41 02 31** **00 45 40 41 10 19** **00 45 40 41 12 54** **00 45 40 41 02 31**
Report to fire station	YES	Equip with fire equipment (5 minutes KPI) Communicate with On-Scene Commander	Radio Channel 1
Direct communication with On-Scene Commander	YES	Continuous update from the area Request for assistance, if needed	Radio Channel 1
Extinguish the fire / Limit the spread of fire	YES	Use fire equipment available	Fire extinguisher, Fire Blankets, Fire Hose, Water Sprayer
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Ensure that area is safe for resuming operations	YES	Monitor the area and existing risks Communicate with On-Scene Commander	Radio Channel 1
Check equipment after usage	YES	Refill BA Bottles Check equipment integrity Arrange equipment in the Fire Station	

Site Medic (Assembly in max 10 minutes)			
Report to the Medical Emergency Van (Site Ambulance)	YES	Check Medical Emergency equipment Communicate with On-Scene Commander	Radio Channel 1
Assist On-Scene Commander	YES	Stand-by in the fire area Ready to apply Medical Emergency treatment, if needed	Radio Channel 1
Check the Tally Station POB	YES	Start Search for missing persons Process Report to Emergency Number Guard	**00 45 40 41 81 39** Radio Channel 1

QEHS Manager (Assembly in max 10 minutes)			
Report to the site area	YES	Direct communication with Emergency Number Guard	**00 45 40 41 81 39**
Notify Senior Management	YES	Brief description of the event Event Status	Phone
Assist On-Scene Commander / Medic	YES	Stand-by in the fire area Ready to apply Medical Emergency treatment, if needed	Radio Channel 1
Notify Client Representative	YES	Brief description of the event Event Status	Phone / E-mail (As per Project EHS Plan)
Start Event Investigation	YES	Collect evidence, witness statement, map event	
Meeting with Emergency Services / Site Emergency Response Team	YES	Feedback and Lesson Learned	On site planned meeting

5.1.2 Fire on the assets /Vessels

Fire discoverer (witness)			
Can the fire be extinguished without assistance?	YES	Use fire equipment to extinguish the fire, keep clear of the area	Fire extinguisher, Water Sprayer, Fire Hoses
	NO	Call emergency number (Give clear information)	**00 45 40 41 81 39**
Do the process field need to be evacuated? (Due to smoke)	YES	Press the evacuation alarm button Report to Muster station	
	NO	Use fire equipment to extinguish the fire, keep clear of the area	Fire extinguisher, Water Sprayer, Fire hoses
Was the fire extinguished?	YES	Standby in the area to ensure that fire will not start again	15 minutes waiting
	NO	Call emergency number Use fire equipment to extinguish the fire until emergency teams are in the area	Follow steps above

Emergency Guard Number

Are Emergency Services (Fire Department) needed?	YES	**Call Emergency Services (112)** **Call Duty On-Scene Commander / Fire Team / Medic**	**Information to give:** • Address (Where the fire has broken out) • What is burning • Number of persons in danger • Point of contact with Emergency Services
	NO	**Call Duty On-Scene Commander** **Call Fire Team Members** **Call Site medic (if needed)** POB Control on Site Muster Station Information regarding the fire: • Where the fire has broken out/ Project • What is burning • Number of persons in danger • Type of assistance need it • Asset / Vessel evacuated?	**Fire Team:** **00 45 40 41 10 19** **Fire Team Member 1** **00 45 40 41 02 31** **Fire Team Member 2** **00 45 40 41 12 54** **Fire Team Member 3** **On-Scene Commander:** **00 45 29 44 16 22** **Commander 1** **00 45 40 41 11 45** **Commander 2** **Site Medic:** **00 45 30 30 27 64**
Are Emergency Services (Fire Department) on M.A.R.S Europe Site?	YES	Guide Emergency Services to the fire location	Create safe corridor(access) for Emergency Services Update Emergency Services with additional data Point of contact with Emergency Services
	NO	Guide Fire Team to the fire location	Point of contact with Fire Team Muster station counter (Count POB)
Inform M.A.R.S Management about Fire	YES	Notify M.A.R.S. Management about the Fire Continuous Updates from the area	**00 45 40 41 10 19** **EHS office**
Inform M.A.R.S Supervisors about Fire	YES	Notify Site Supervisors about the Fire	Radio Channel 1

On-Scene Commander (Assembly in max 5 minutes)			
Command / Coordinate the site fire extinguishing operations	YES	Report to Fire area (Wear the On-Scene Commander Visible Vest) Evacuate the area Take control of the operations Assess the event needs Coordinate crane/excavator assistance (if needed) Provide additional fire equipment's, if needed Coordinate with Site Medic	Radio Channel 1
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Direct communication with Emergency Number Guard	YES	Continuous update regarding the event Notify if Emergency Services are needed	**00 45 40 41 81 39** Radio Channel 1
Direct communication with Fire Team	YES	Continuous update regarding the event Coordinate the Fire Team Provide additional fire equipment's, if needed	Radio Channel 1
Ensure that the fire area is clear	YES	Monitor the barrier (Install additional barriers) Assess the weather condition (Wind)	Evacuate the adjacent area where smoke present a risk

Fire Team (Assembly in max 10 minutes)			
Fire Team Members	YES	**Fire Team Member 1** **Fire Team Member 2** **Fire Team Member 3** **Fire Team Member 4**	**00 45 40 41 02 31** **00 45 40 41 10 19** **00 45 40 41 12 54** **00 45 40 41 02 31**
Report to fire station	YES	Equip with fire equipment (5 minutes KPI) Communicate with On-Scene Commander	Radio Channel 1
Direct communication with On-Scene Commander	YES	Continuous update from the area Request for assistance, if needed	Radio Channel 1
Extinguish the fire / Limit the spread of fire	YES	Use fire equipment available	Fire extinguisher, Fire Blankets, Fire Hose, Water Sprayer
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Ensure that area is safe for resuming operations	YES	Monitor the area and existing risks Communicate with On-Scene Commander	Radio Channel 1
Check equipment after usage	YES	Refill BA Bottles Check equipment integrity Arrange equipment in the Fire Station	

Site Medic (Assembly in max 10 minutes)			
Report to the Medical Emergency Van (Site Ambulance)	YES	Check Medical Emergency equipment Communicate with On-Scene Commander	Radio Channel 1
Assist On-Scene Commander	YES	Stand-by in the fire area Ready to apply Medical Emergency treatment, if needed	Radio Channel 1
Check the Tally Station POB	YES	Start Search for missing persons Process Report to Emergency Number Guard	**00 45 40 41 81 39** Radio Channel 1

QEHS Manager (Assembly in max 10 minutes)			
Report to the site area	YES	Direct communication with Emergency Number Guard	**00 45 40 41 81 39**
Notify Senior Management	YES	Brief description of the event Event Status	Phone
Assist On-Scene Commander / Medic	YES	Stand-by in the fire area Ready to apply Medical Emergency treatment, if needed	Radio Channel 1
Notify Client Representative	YES	Brief description of the event Event Status	Phone / E-mail (As per Project EHS Plan)
Start Event Investigation	YES	Collect evidence, witness statement, map event	
Meeting with Emergency Services / Site Emergency Response Team	YES	Feedback and Lesson Learned	On site planned meeting

5.1.3 Spill / Leak on the Ground / Vessel

Spill / Leak discoverer (witness)			
Can the spill / leak be contained without Emergency Spill Response Team) assistance?	YES	Use SOPEP equipment (Yellow bins on the ground/vessels)	Gloves, suites, rags, sand, oil absorbents 
	NO	Call emergency number (Give clear information)	**00 45 40 41 81 39**
Does the area need to be evacuated?	YES	Press the evacuation alarm button Report to Muster station	
	NO	Use SOPEP equipment (Yellow bins on the ground/vessels)	Gloves, suites, rags, sand, oil absorbents
Was the spill / leak was contained?	YES	Ensure the area is cleaned	No residues left in the area
	NO	Use SOPEP equipment (Yellow bins on the ground/vessels)	Gloves, suites, rags, sand, oil absorbents

Emergency Number Guard

Are Emergency Services (Authorities) needed?	YES	**Call Emergency Services (112)** **Call Site Spill Emergency Response Team to assist** **Stop drainage pumps by raising the High-Water Limit alarm from both 2 water tanks.**	**Information to give:** • Address (Where the spill/leak happened) • Type of the accident • Number of persons in danger • Point of contact with Emergency Services
	NO	**Call Duty On-scene Commander** **Call Site Spill Emergency Response Team** Information regarding the spill / leak: • Where the spill /leak happened • Type of the accident • Number of persons in danger • Type of assistance need it • Asset / Vessel evacuated?	**Spill Response Team:** **00 45 40 41 02 31 Spill Team Member 1** **00 45 40 13 16 79 Spill Team Member 2** **On-Scene Commander:** **00 45 40 41 85 55 Commander 1** **00 45 40 41 06 76 Commander 2** **Site Medic:** **00 45 30 30 27 64**
Are Emergency Services (Authorities) on M.A.R.S Europe Site?	YES	Guide Emergency Services to the Spill/ Leak location	Create safe corridor(access) for Emergency Services Update Emergency Services with additional data Contact point with Emergency Services
	NO	Guide Site Spill Emergency Response Team to the spill/leak location	Update Emergency Services with additional data Contact Point with Site Emergency Response Team. Muster station counter (Count POB)
Inform M.A.R.S Management about Leak/Spill	YES	Notify M.A.R.S. Management about the Spill / Leak Continuous Updates from the area	**QEHS Manager:** **00 45 40 41 02 17**
Inform M.A.R.S Supervisors about Leak / Spill	YES	Notify Site Supervisors about the Spill / Leak	Radio Channel 1

On-Scene Commander (Assembly in max 10 minutes)			
Command / Coordinate the site spill/leak operations	YES	Report to spill/leak area (On Scene Commander Vest) Take control of the operations Assess the event needs Coordinate crane/excavator assistance Provide additional SOPEP equipment's, if needed Coordinate Spill Response Team / Site Medic	Radio Channel 1
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Direct communication with Emergency Number Guard	YES	Continuous update regarding the event Notify if Emergency Services are needed	**00 45 40 41 81 39** Radio Channel 1
Ensure that the spill/leak area is clear	YES	Monitor the barrier (Install additional barriers) Assess the weather condition	

Spill Response Team (Assembly in max 10 minutes)			
Spill Response Team	YES	**Spill Team Member 1** **Spill Team Member 2**	**00 45 40 41 02 31** **00 45 40 13 16 79**
Report to spill /leak location	YES	Present on the spill/leak area (5 minutes KPI) Communicate with On-Scene Commander Ensure SOPEP kits are on the locatio	Radio Channel 1
Direct communication with On-Scene Commander	YES	Continuous update from the area Request for assistance, if needed	Radio Channel 1
Limit / Contain the spread of leak/spill	YES	Use SOPEP equipment available	Tally Station, Safety Cabinets, Yellow containers
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Ensure that area is safe for resuming operations	YES	Monitor the area and existing risks Communicate with On-Scene Commander	Radio Channel 1
Check equipment after usage	YES	Refill SOPEP kits Check equipment integrity	

Site Medic (Assembly in max 10 minutes)			
Report to the Medical Emergency Van (Site Ambulance)	YES	Check Medical Emergency equipment Communicate with On-Scene Commander	Radio Channel 1
Assist On-Scene Commander	YES	Stand-by in the spill/leak area Ready to apply Medical Emergency treatment, if needed	Radio Channel 1
Record event timeline	YES	Log event relevant timeline Report as observation Card	"Mellora" Observation Card System

QEHS Manager (Assembly in max 10 minutes)			
Report to the site area	YES	Direct communication with Emergency Number Guard	**00 45 40 41 81 39**
Notify Senior Management	YES	Brief description of the event Event Status	Phone
Assist On-Scene Commander / Medic	YES	Stand-by in the leak / spill area Ready to apply Medical Emergency treatment, if needed	Radio Channel 1
Notify Client Representative	YES	Brief description of the event Event Status	Phone / E-mail (As per Project EHS Plan)
Start Event Investigation	YES	Collect evidence, witness statement, map event	
Meeting with Emergency Services / Site Emergency Response Team	YES	Feedback and Lesson Learned	On site planned meeting

5.1.4 Medical Emergencies on the Ground / Vessel

Medical Emergency discoverer (witness)			
Can the Medical Emergency be applied by discoverer (witness) on the area?	YES	Apply Medical Emergency	Use Medical Emergency kits (Safety Cabinets / Tally Station)
	NO	Call emergency number (Give clear information)	**00 45 40 41 81 39**
Can the injured person be moved to Site Medic Container?	YES	Assist injured person to be moved to Site Medic Container	Don't leave the injured person alone
	NO	Call emergency number (Give clear information)	**00 45 40 41 81 39**
Does the injured person need to be evacuated to the hospital?	YES	Call emergency number (Give clear information, informing that emergency services are needed)	**00 45 40 41 81 39**
	NO	Apply Medical Emergency	Medical Emergency Kits
Was the Medical Emergency applied?	YES	Standby with injured person until is fully recovered (if needed)	30 minutes waiting
	NO	Follow steps above	
Can the injured person resume work?	YES	Inform Team supervisor about Medical Emergency applied	Contact team supervisor
	NO	Call emergency number (Give clear information)	Follow steps above

Emergency Number Guard			
Are Emergency Services (Ambulance/Paramedic) needed?	YES	**Call Emergency Services (112)** **Call Site Medic**	**Information to give:** • Address (Where the Medical Emergency has happened) • What is the injury • Number of persons in danger • Point of contact with Emergency Services
	NO	**Call Site Medic** Information regarding the Medical Emergency	**Site Medic:** **00 45 30 30 27 64** **Information to give:** • Where the Medical Emergency has happened • What is the injury • Number of persons in danger • Type of assistance need it • Injured person needs evacuation from area?
Are Emergency Services (Ambulance/Paramedic) on M.A.R.S Europe Site?	YES	Guide Emergency Services to the Medical Emergency location	Create safe corridor(access) for Emergency Services Update Emergency Services with additional data Contact point with Emergency Services
	NO	Guide Site Medic to Medical Emergency location	Update Emergency Services with additional data Contact Point with Site Medic.
Inform M.A.R.S Management about Medical Emergency	YES	Notify M.A.R.S. Management about the Medical Emergency Continuous Updates from the area	**QEHS Manager:** **00 45 40 41 02 17**
Inform M.A.R.S Supervisors about Medical Emergency	YES	Notify Site Supervisors about the Medical Emergency	Radio Channel 1

Site Medic (Assembly in max 10 minutes)			
Report to the Medical Emergency Van (Site Ambulance)	YES	Check Medical Emergency equipment Communicate with Emergency Number Guard	Radio Channel 1
Applied Medical Emergency on the location for the injured person	YES	Communicate with Emergency Number Guard	Radio Channel 1
Cooperate with Emergency Services (Ambulance/Paramedic) (if exist)	YES	Assist / Support Emergency Services on the area	Direct Communication
Coordinate the Medical Emergency Stretcher Team	YES	Communicate / guide Stretcher Team	Direct Communication, Radio Channel 1
Coordinate with On-Scene Commander (if exist, depending on emergency)	YES	Communicate Needs on Crane, Man-basket	Radio Channel 1
Check Medical Emergency equipment after usage	YES	Refill used equipment Update inventory list	Radio Channel 1
Record/ Report the Medical Emergency	YES	Update the Medical Emergency list Observation Card	"Mellora" Observation Card System

Medical Emergency Stretcher Team (Assembly in max 10 minutes)			
Medical Emergency Stretcher Team	YES	Stretcher Team Leader: Cleaner Stretcher Team Members	00 45 40 13 16 79
Report to Medical Emergency Point	YES	(5 minutes KPI) Communicate with Site Medic	Radio Channel 1
Cooperate with the Site Medic	YES	Continuous update from the area Assist Site Medic	Radio Channel 1
Stretcher on the Medical Emergency Point	YES	Use Stretcher	Use stretcher for the location area or from Site Ambulance
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Check equipment after usage	YES	Check equipment integrity	

QEHS Manager (Assembly in max 10 minutes)			
Report to the site area	YES	Direct communication with Emergency Number Guard	**00 45 40 41 81 39**
Notify Senior Management	YES	Brief description of the event Event Status	Phone
Assist On-Scene Commander / Medic	YES	Stand-by in the Medical Emergency area Ready to apply Medical Emergency treatment, if needed	Radio Channel 1
Notify Client Representative	YES	Brief description of the event Event Status	Phone / E-mail (As per Project EHS Plan)
Start Event Investigation	YES	Collect evidence, witness statement, map event	
Meeting with Emergency Services / Site Emergency Response Team	YES	Feedback and Lesson Learned	On site planned meeting

5.1.5 Rescue from Confined Space / Work at height

Discoverer (witness)			
Can the person in danger, be rescued without assistance? (**DO NOT** go inside of confined space, without proper equipment)	YES	Use rescue equipment (Emergency equipment station)	Safety Harness, Ladders
	NO	Call emergency number (Give clear information)	**00 45 40 41 81 39**
Does the person in danger needs external emergency services	YES	Call emergency number (Specify the needs of external emergency services)	**00 45 40 41 81 39**
	NO	Call emergency number (Give clear information)	**00 45 40 41 81 39**

Emergency Number Guard

Are Emergency Services (Ambulance / Fire Department) needed?	YES	**Call Emergency Services (112)** **Call Site Emergency Response Team to assist**	**Information to give:** • Address (Where the event has happened) • Type of event • Number of persons in danger • Point of contact with Emergency Services
	NO	**Call Site Emergency Response Team** **Information to give:** • Where the event has happened • Type of event • Number of persons in danger Type of assistance need it	**Emergency Team:** **00 45 40 41 10 19 Team Member 1** **00 45 40 41 02 31 Team Member 2** **00 45 40 41 12 54 Team Member 3** **On-Scene Commander:** **00 45 29 44 16 22 Commander 1** **00 45 40 41 11 45 Commander 2** **Site Medic:** **00 45 30 30 27 64**
Are Emergency Services (Ambulance / Fire Department) on M.A.R.S Europe Site?	YES	Guide Emergency Services to the event location	Create safe corridor(access) for Emergency Services Update Emergency Services with additional data Contact point with Emergency Services
	NO	Guide Site Emergency Response Team to the event location	Update Emergency Services with additional data Contact Point with Site Emergency Response Team.
Inform M.A.R.S Management about event	YES	Notify M.A.R.S. Management about the event Continuous Updates from the area	**QEHS Manager:** **00 45 40 41 02 17**
Inform M.A.R.S Supervisors about event	YES	Notify Site Supervisors about the event	Radio Channel 1

On-Scene Commander (Assembly in max 10 minutes)			
Command / Coordinate the event operations	YES	Report to event area (On-scene Commander Vest) Take control of the operations Assess the event needs Coordinate crane assistance / man basket Provide additional rescue equipment's, if needed Coordinate with Site Medic	Radio Channel 1
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Direct communication with Emergency Number Guard	YES	Continuous update regarding the event Notify if Emergency Services are needed	**00 45 40 41 81 39** Radio Channel 1
Direct communication with Emergency Team Members	YES	Continuous update regarding the event Coordinate the Emergency Team Members Provide additional rescue equipment's, if needed	Radio Channel 1
Ensure that the event area is clear	YES	Monitor the barrier (Install additional barriers)	

Emergency Team (Assembly in max 10 minutes)			
Emergency Team Members	YES	**Team Member 1** **Team Member 2** **Team Member 3** **Team Member 4**	**00 45 40 41 02 31** **00 45 40 41 10 19** **00 45 40 41 12 54** **00 45 40 41 02 31**
Report to emergency equipment station	YES	Equip with rescue equipment (5 minutes KPI) Communicate with On-Scene Commander Tripod, Rescue Kits Rescue equipment's (in site ambulance car)	Radio Channel 1
Direct communication with On-Scene Commander	YES	Continuous update from the area Request for assistance, if needed	Radio Channel 1
Rescue the person in danger	YES	Use rescue equipment available	Tripods, ladders, BA sets, stretcher, safety harness
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Ensure that area is safe for resuming operations	YES	Monitor the area and existing risks Communicate with On-Scene Commander	Radio Channel 1
Check equipment after usage	YES	Refill BA Bottles Check equipment integrity Arrange equipment in the Emergency equipment Station	

Site Medic (Assembly in max 10 minutes)			
Report to the Medical Emergency Van (Site Ambulance)	YES	Check Medical Emergency equipment Communicate with On-Scene Commander	Radio Channel 1
Assist On-Scene Commander	YES	Stand-by in the event area Ready to apply Medical Emergency treatment, if needed	Radio Channel 1
Record event timeline	YES	Log event relevant timeline Report as observation Card	"Mellora" Observation Card System

QEHS Manager (Assembly in max 10 minutes)			
Report to the site area	YES	Direct communication with Emergency Number Guard Check POB	**00 45 40 41 81 39**
Notify Senior Management	YES	Brief description of the event Event Status	Phone
Assist On-Scene Commander / Medic	YES	Stand-by in the event area Ready to apply Medical Emergency treatment, if needed	Radio Channel 1
Notify Client Representative	YES	Brief description of the event Event Status	Phone / E-mail (As per Project EHS Plan)
Start Event Investigation	YES	Collect evidence, witness statement, map event	
Meeting with Emergency Services / Site Emergency Response Team	YES	Feedback and Lesson Learned	On site planned meeting

5.1.6 NORM Emergency Response

NORM discoverer (witness)			
NORM incident (NORM Contamination, fire in NORM area, accidental radiation, environmental pollution)	YES	Call emergency number (Give clear information) Information to give:	**00 45 40 41 81 39** • Address (Where the incident has happened) • Type of incident • Number of persons in danger
Evacuate the area	YES	Press the evacuation alarm button Report to Muster station	

Emergency Number Guard

Are Emergency Services (Ambulance/Paramedic, Fire Department) needed?	YES	**Call Emergency Services (112)** **Call Site Medic**	**Information to give:** • Address (Where the incident has happened) • Type of incident (Refer to NORM) • Number of persons in danger • Point of contact with Emergency Services
	NO	**Call Site Medic** **Call Duty On-Scene Commander** **Call Site NORM Emergency Response Team** **Information to give:** • Address (Where the incident has happened) • Type of incident • Number of persons in danger • Point of contact with Emergency Services	**Site Medic:** **00 45 30 30 27 64** **On-Scene Commander:** **00 45 29 44 16 22** **Commander 1** **00 45 40 41 11 45** **Commander 2** **NORM Emergency Response Team:** **00 45 40 41 10 19** **NORM Team Member 1** **00 45 40 41 02 31** **NORM Team Member 2** **00 45 40 41 12 54** **NORM Team Member 3** **00 45 40 41 02 31** **NORM Team Member 4**
Are Emergency Services (Ambulance/Paramedic, Fire Department) on M.A.R.S Europe Site?	YES	Guide Emergency Services to the incident location	Create safe corridor(access) for Emergency Services Update Emergency Services with additional data Contact point with Emergency Services
	NO	Guide Site Medic / NORM Emergency response team to the incident	Update Emergency Services with additional data Contact Point with Site Medic.
Inform M.A.R.S Management about NORM Incident	YES	Notify M.A.R.S. Management about the NORM incident Continuous Updates from the area	**QEHS Manager:** **00 45 40 41 02 17**
Inform M.A.R.S Supervisors about NORM Incident	YES	Notify Site Supervisors about the NORM incident	Radio Channel 1

On-Scene Commander (Assembly in max 10 minutes)			
Command / Coordinate the site NORM operations	YES	Report to area (On-scene Commander Vest) Take control of the operations Assess the event needs Cooperate with NORM Team Coordinate required assistance Provide additional equipment's, if needed Coordinate with Site Medic Call S.I.S. (The National Board of Health Radiation Protection)	Radio Channel 1 **00 45 44 94 37 73**
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Direct communication with Emergency Number Guard	YES	Continuous update regarding the event Notify if Emergency Services are needed	**00 45 40 41 81 39** Radio Channel 1
Check the Tally Station POB	YES	Search for missing persons Report to Emergency Number Guard	**00 45 40 41 81 39** Radio Channel 1
Direct communication with NORM Team Members	YES	Continuous update regarding the event Coordinate the NORM Team Members Provide additional equipment's, if needed	Radio Channel 1
Ensure that the incident area is clear	YES	Monitor the barrier (Install additional barriers) Assess the weather condition (Wind)	

NORM Team (Assembly in max 10 minutes)			
NORM Team Members	YES	**NORM Team Member 1** **NORM Team Member 2** **NORM Team Member 3** **NORM Team Member 4**	**00 45 40 41 02 31** **00 45 40 41 10 19** **00 45 40 41 12 54** **00 45 40 41 02 31**
Report to NORM station	YES	Equip with NORM equipment (5 minutes KPI) Fresh air supply (BA sets) Communicate with On-Scene Commander	Radio Channel 1
Direct communication with On-Scene Commander	YES	Continuous update from the area Request for assistance, if needed	Radio Channel 1
Assist with NORM containment Removed injured persons	YES	Use equipment available	
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Ensure that area is safe for resuming operations	YES	Monitor the area and existing risks Communicate with On-Scene Commander	Radio Channel 1
Check equipment after usage	YES	Refill BA Bottles Check equipment integrity Arrange equipment in the NORM Station	

Site Medic (Assembly in max 10 minutes)			
Report to the Medical Emergency Van (Site Ambulance)	YES	Check Medical Emergency equipment Communicate with Emergency Number Guard	Radio Channel 1
Applied Medical Emergency on the location for the injured person (Only with proper PPE, and after decontamination area) (if needed)	YES	Communicate with Emergency Number Guard	Radio Channel 1
Cooperate with Emergency Services (Ambulance/Paramedic, Fire Department) (if exist)	YES	Assist / Support Emergency Services on the area	Direct Communication
Coordinate with On-Scene Commander (if exist, depending on emergency)	YES	Communicate Needs on Crane, Man-basket	Radio Channel 1
Check Medical Emergency equipment after usage	YES	Refill used equipment Update inventory list	Radio Channel 1
Check the Tally Station POB	YES	Search for missing persons Report to Emergency Number Guard	**00 45 40 41 81 39** Radio Channel 1

QEHS Manager (Assembly in max 10 minutes)			
Report to the site area	YES	Direct communication with Emergency Number Guard	**00 45 40 41 81 39**
Notify Senior Management	YES	Brief description of the event Event Status	Phone
Assist On-Scene Commander / Medic	YES	Stand-by in the Medical Emergency area Ready to apply Medical Emergency treatment, if needed	Radio Channel 1
Notify Client Representative	YES	Brief description of the event Event Status	Phone / E-mail (As per Project EHS Plan)
Start Event Investigation	YES	Collect evidence, witness statement, map event	
Meeting with Emergency Services / Site Emergency Response Team	YES	Feedback and Lesson Learned	On site planned meeting

5.1.7 Man overboard (MOB)

Discoverer (witness)			
Can the discoverer (witness) help person in danger?	YES	Throw lifebuoy, lifejacket, lanyard	Lifebuoy, Lifejacket close to the mooring area
		Call emergency number (Give clear information)	**00 45 40 41 81 39**
Person in danger is equipped with lifesaving appliances (lifejacket)	YES	Assist person in danger	Keep eye contact with person in danger
	NO	Throw lifebuoy, lifejacket, lanyard Call emergency number (Give clear information)	**00 45 40 41 81 39**
Does the person in danger need to be evacuated to the hospital?	YES	Call emergency number (Give clear information, informing that emergency services are needed)	**00 45 40 41 81 39**
	NO	Apply Medical Emergency	Medical Emergency Kits
Was the person in danger rescued?	YES	Standby until is fully recovered (if needed) Visit Site Medic	
	NO	Follow steps above	Keep eye contact with person in danger

Emergency Number Guard

Are Emergency Services (Ambulance/Paramedic, Fire Department) needed?	YES	**Call Emergency Services (112)** **Call On-Scene Commander** **Call Site Medic** **Call MOB Response Team**	**Information to give:** • Address (Where the event has happened) • What is the injury • Number of persons in danger • Point of contact with Emergency Services
	NO	**Call On-Scene Commander** **Call MOB Response Team** **Call Site Medic** Information regarding the MOB • Where the event has happened • What is the injury • Number of persons in danger • Type of assistance need it	**On-Scene Commander:** **00 45 29 44 16 22** **Commander 1** **00 45 40 41 11 45** **Commander 2** **MOB Team Leader** **00 45 93 90 88 94** **Site Medic:** **00 45 30 30 27 64**
Are Emergency Services (Ambulance/Paramedic, Fire Department) on M.A.R.S Europe Site?	YES	Guide Emergency Services to the MOB location	Create safe corridor(access) for Emergency Services Update Emergency Services with additional data Contact point with Emergency Services
	NO	Guide MOB Team Leader / Site Medic to MOB location	Update Emergency Services with additional data Contact Point with Site Medic/ MOB Team Leader
Inform M.A.R.S Management about MOB	YES	Notify M.A.R.S. Management about the MOB Continuous Updates from the area	**QEHS Manager:** **00 45 40 41 02 17**
Inform M.A.R.S Supervisors about MOB	YES	Notify Site Supervisors about the MOB	Radio Channel 1

MOB Response Team (Assembly in max 10 minutes)			
MOB Response Team	YES	**MOB Team Leader** **MOB Team Member 1** **MOB Team Member 2**	**00 45 93 90 88 94**
Report to MOB location	YES	Deploy MOB Boat (5 minutes KPI) Communicate with Emergency Number Guard	Radio Channel 1
Rescue person in danger	YES	Rescue Equipment (Nets, Hook) Medical Emergency	MOB boat equipment Medical Emergency kit
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Check equipment after usage	YES	MOB equipment Check equipment integrity Clean MOB Boat	

Site Medic (Assembly in max 10 minutes)			
Report to the Medical Emergency Van (Site Ambulance)	YES	Check Medical Emergency equipment Communicate with Emergency Number Guard	Radio Channel 1
Applied Medical Emergency on the location for the person in danger (if needed)	YES	Communicate with Emergency Number Guard	Radio Channel 1
Cooperate with Emergency Services (Ambulance/Paramedic) (if exist)	YES	Assist / Support Emergency Services on the area	Direct Communication
Coordinate with MOB Team Leader	YES	Communicate / Assist with Medical Emergency	Radio Channel 1
Check Medical Emergency equipment after usage	YES	Refill used equipment Update inventory list	Radio Channel 1

QEHS Manager (Assembly in max 10 minutes)			
Report to the site area	YES	Direct communication with Emergency Number Guard	**00 45 40 41 81 39**
Notify Senior Management	YES	Brief description of the event Event Status	Phone
Assist MOB Team leader / Medic	YES	Stand-by in the Medical Emergency area Ready to apply Medical Emergency treatment, if needed	Radio Channel 1
Notify Client Representative	YES	Brief description of the event Event Status	Phone / E-mail (As per Project EHS Plan)
Start Event Investigation	YES	Collect evidence, witness statement, map event	
Meeting with Emergency Services / Site Emergency Response Team	YES	Feedback and Lesson Learned	On site planned meeting

5.1.8 Vessel/Asset Drifting (Loose Mooring lines)

Vessel/Asset Drifting Discoverer (witness)			
Mooring failure	YES	Call emergency number (Give clear information)	**00 45 40 41 81 39**
Vessel (asset) needs to be evacuated?	YES	Press the evacuation alarm button Report to Muster station (Evacuate the platform only if is safe)	

Emergency Number Guard

Call emergency teams	YES	**Call Site Mooring Emergency Response Team** **Call On-Scene Commander** **Call Site medic (if needed)** Information regarding the Mooring Failure: • Where the mooring line has broken out • How many mooring lines failure? • Number of persons in danger • Type of assistance need it • Asset / Vessel evacuated?	**00 45 93 90 88 94** **Mooring Team Leader** **00 45 30 30 27 64** **On-Scene Commander** **00 45 30 30 27 64** **Site Medic**
Are Svitzer, L&N Supply Ships on M.A.R.S Europe Site?	YES	Guide Svitzer, L&N Supply Ships to mooring failure area	Create safe corridor(access) for Emergency Services Update Emergency Services with additional data Point of contact with Emergency Services
	NO	Guide Site Mooring Emergency Response Team	Point of contact with Mooring Failure Team Leader
Inform M.A.R.S Management about event	YES	Notify M.A.R.S. Management about the event Continuous Updates from the area	**00 45 40 41 10 19** **EHS office**
Inform M.A.R.S Supervisors about event	YES	Notify Site Supervisors about the event	Radio Channel 1

On-Scene Commander (Assembly in max 5 minutes)			
Command / Coordinate the mooring operations	YES	Report to mooring failure area Take control of the operations Assess the event needs Coordinate crane/excavator/Stucker assistance (if needed) Provide additional mooring equipment Coordinate with Emergency Services (Svitzer, L&N Supply Ships) Assess weather condition (wind, waves)	Radio Channel 1
Are Svitzer, L&N Supply Ships needed?	YES	Call Emergency Services (Svitzer, L&N Supply Ships) for tug assistance Call Site Mooring Emergency Response Team to assist	**Information to give:** • Address (Where the mooring line has broken out) • How many mooring lines failure? • Number of persons in danger Point of contact with Emergency Services
Cooperate with Emergency Services (Svitzer, L&N Supply Ships)	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Direct communication with Emergency Number Guard	YES	Continuous update regarding the event Notify if Emergency Services are needed	**00 45 40 41 81 39** Radio Channel 1
Direct communication with Mooring Failure Team	YES	Continuous update regarding the event Coordinate the Mooring Failure Team Provide additional mooring equipment's	Radio Channel 1
Ensure that the area is clear	YES	Monitor the barrier (Install additional barriers) Assess the weather condition (Wind)	Evacuate the adjacent area, if needed

Mooring Team (Assembly in max 10 minutes)			
Mooring Team	YES	**Mooring Failure Team Leader:** **Mooring Failure Member 1** **Mooring Failure Member 2** **Mooring Failure Member 3** **Mooring Failure Member 4**	00 45 93 90 88 94
Report to mooring failure area	YES	Start mooring operation (5 minutes KPI) Communicate with On-Scene Commander	Radio Channel 1
Direct communication with On-Scene Commander	YES	Continuous update from the area Request for assistance, if needed	Radio Channel 1
Install / reinforce mooring arrangements	YES	Use spare mooring lines	Workshop
Cooperate with Emergency Services (Svitzer, L&N Supply Ships)	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Ensure that area is safe for resuming operations	YES	Monitor the area and existing risks Communicate with On-Scene Commander	Radio Channel 1
Check equipment after usage	YES	Check equipment integrity Check mooring lines	

QEHS Manager (Assembly in max 10 minutes)			
Report to the site area	YES	Direct communication with Emergency Number Guard	**00 45 40 41 81 39**
Notify Senior Management	YES	Brief description of the event Event Status	Phone
Coordinate with On-Scene Coordinator	YES	Conduct investigation	Radio Channel 1
Notify Client Representative	YES	Brief description of the event Event Status	Phone / E-mail (As per Project EHS Plan)
Start Event Investigation	YES	Collect evidence, witness statement, map event Conduct investigation	
Assist Emergency Services (Svitzer, L&N Supply Ships)	YES	Feedback and Lesson Learned	On site planned meeting

5.1.9 Security breach on Ground / Vessel

Discoverer (witness)			
Security breach was observed	YES	Call emergency number (Give clear information)	**00 45 40 41 81 39**

Emergency Number Guard			
Are Emergency Services (Police) needed?	YES	**Call Emergency Services (112)** **Call QEHS Manager** **Information to give:** • Address (Where has happened) • Number of persons in danger • Point of contact with Emergency Services	**QEHS Manager:** **00 45 40 41 02 17**
	NO	Call Site Manager Information regarding the Security Breach	**Site Manager:** **00 45 30 30 27 64**
Are Emergency Services (Police) on M.A.R.S Europe Site?	YES	Guide Emergency Services to the Security Breach location	Create safe corridor(access) for Emergency Services Update Emergency Services with additional data Contact point with Emergency Services
	NO	Guide Site Manager to Security Breach location	Update Emergency Services with additional data Contact Point with Site Medic.
Inform M.A.R.S Management about Security Breach	YES	Notify M.A.R.S. Management about the Security Breach Continuous Updates from the area	**QEHS Manager:** **00 45 40 41 02 17**

QEHS Manager (Assembly in max 10 minutes)			
Report to the site area	YES	Direct communication with Emergency Number Guard	**00 45 40 41 81 39**
Notify Senior Management	YES	Brief description of the event Event Status	Phone
Coordinate with Site Manager	YES	Conduct investigation	Radio Channel 1
Notify Client Representative	YES	Brief description of the event Event Status	Phone / E-mail (As per Project EHS Plan)
Start Event Investigation	YES	Collect evidence, witness statement, map event	
Assist Emergency Services (Police)	YES	Conduct investigation Collect witness statement / proofs Feedback and Lesson Learned	On site planned meeting

5.1.10 Infectious Disease

Infectious Disease Response Team (Assembly in max 1 hour)			
Infectious Disease Response Team	YES	**Infectious Disease Team Leader (HR)** **Infectious Disease Team Member 1 (HR)** **Infectious Disease Team Member 2 (Site Medic)**	**00 45 30 30 77 63** **00 45 40 41 04 63** **00 45 30 30 27 64**
Meeting to evaluate the Infectious Disease risk and mitigating actions	YES	Communicate with CEO	Direct Communication on site/ office
Meeting to inform site management / EHS	YES	Communicate with site managers	Direct Communication on site/ office
Cooperate with Emergency Services (if needed)	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site

QEHS Manager (Assembly in max 1 hour)			
Notify Client Representative	YES	Brief description of the event Event Status	Phone / E-mail (As per Project EHS Plan)
Meeting with Infectious Disease Response Team	YES	Procedures development Action plan	On site/office planned meeting
Coordinate restrictive measures into the field (if needed)	YES	Corrective measures	On site/office

5.1.11 Serious Injury / Death

Serious Injury/Death discoverer (witness)			
Can the Medical Emergency be applied by discoverer (witness) on the area?	YES	Apply Medical Emergency	Use Medical Emergency kits (Safety Cabinets / Tally Station)
	NO	Call emergency number (Give clear information)	**00 45 40 41 81 39**
Can the injured person be moved to Site Medic Container?	YES	Assist injured person to be moved to Site Medic Container	Don't leave the injured person alone
	NO	Call emergency number (Give clear information)	**00 45 40 41 81 39**
Does the injured person need to be evacuated to the hospital?	YES	Call emergency number (Give clear information, informing that emergency services are needed)	**00 45 40 41 81 39**
	NO	Apply Medical Emergency	Medical Emergency Kits
Was the Medical Emergency applied?	YES	Standby with injured person until is fully recovered (if needed)	30 minutes waiting
	NO	Follow steps above	
Can the injured person resume work?	YES	Inform Team supervisor about Medical Emergency applied	Contact team supervisor
	NO	Call emergency number (Give clear information)	Follow steps above

Emergency Number Guard

Are Emergency Services (Ambulance/Paramedic) needed?	YES	**Call Emergency Services (112)** **Call Site Medic**	**Information to give:** • Address (Where the Medical Emergency has happened) • What is the injury/death • Number of persons in danger • Point of contact with Emergency Services
	NO	**Call Site Medic** Information regarding the Medical Emergency	**Site Medic:** **00 45 30 30 27 64** **Information to give:** • Where the Medical Emergency has happened • What is the injury/death • Number of persons in danger • Type of assistance need it • Injured person needs evacuation from area?
Are Emergency Services (Ambulance/Paramedic) on M.A.R.S Europe Site?	YES	Guide Emergency Services to the Medical Emergency location	Create safe corridor(access) for Emergency Services Update Emergency Services with additional data Contact point with Emergency Services
	NO	Guide Site Medic to Medical Emergency location	Update Emergency Services with additional data Contact Point with Site Medic.
Inform M.A.R.S Management about Medical Emergency	YES	Notify M.A.R.S. Management about the Medical Emergency Continuous Updates from the area	**QEHS Manager:** **00 45 40 41 02 17**
Inform M.A.R.S Supervisors about Medical Emergency	YES	Notify Site Supervisors about the Medical Emergency	Radio Channel 1

Site Medic (Assembly in max 10 minutes)			
Report to the Medical Emergency Van (Site Ambulance)	YES	Check Medical Emergency equipment Communicate with Emergency Number Guard	Radio Channel 1
Applied Medical Emergency on the location for the injured person	YES	Communicate with Emergency Number Guard	Radio Channel 1
Cooperate with Emergency Services (Ambulance/Paramedic) (if exist)	YES	Assist / Support Emergency Services on the area	Direct Communication
Coordinate the Medical Emergency Stretcher Team	YES	Communicate / guide Stretcher Team	Direct Communication, Radio Channel 1
Coordinate with On-Scene Commander (if exist, depending on emergency)	YES	Communicate Needs on Crane, Man-basket	Radio Channel 1
Check Medical Emergency equipment after usage	YES	Refill used equipment Update inventory list	Radio Channel 1
Record/ Report the Medical Emergency	YES	Update the Medical Emergency list Observation Card	“Mellora” Observation Card System
Isolate the area in case of fatality	YES	Assist / Support Emergency Services on the area	Direct Communication

Serious Injury Stretcher Team (Assembly in max 10 minutes)			
Medical Emergency Stretcher Team	YES	Stretcher Team Leader: Cleaner Stretcher Team Members	00 45 40 13 16 79
Report to Medical Emergency Point	YES	(5 minutes KPI) Communicate with Site Medic	Radio Channel 1
Cooperate with the Site Medic	YES	Continuous update from the area Assist Site Medic	Radio Channel 1
Stretcher on the Medical Emergency Point	YES	Use Stretcher	Use stretcher for the location area or from Site Ambulance
Cooperate with Emergency Services	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Check equipment after usage	YES	Check equipment integrity	

QEHS Manager (Assembly in max 10 minutes)			
Report to the site area	YES	Direct communication with Emergency Number Guard	**00 45 40 41 81 39**
Notify Senior Management	YES	Brief description of the event Event Status In case of fatality, notify HR Department, to share NOK with emergency authorities	Phone
Assist On-Scene Commander / Medic	YES	Stand-by in the Medical Emergency area Ready to apply Medical Emergency treatment, if needed	Radio Channel 1
Notify Client Representative	YES	Brief description of the event Event Status	Phone / E-mail (As per Project EHS Plan)
Start Event Investigation	YES	Collect evidence, witness statement, map event	
Meeting with Emergency Services / Site Emergency Response Team	YES	Feedback and Lesson Learned	On site planned meeting

HR Department (In case of Fatality)			
Notify Senior Management	YES	Brief description of the event Event Status	Phone
Emergency Services	YES	Share NOK with emergency authorities	Radio Channel 1

Contact Emergency Number Guard		Collect POB	Mail
Prepare for Relative Response		Communicate with Emergency Services and MARS Management	Direct Communication
Receive Visitor/Clients		Meet visitors at the reception	Direct Contact
Contact emergency health services (Dansk Krisekorps)		To assist the victims/ relatives	Phone 00 45 70 22 76 10
Prepare Incident commander room		Assist with communication / software / supplies	

5.1.12 Extreme weather (Ice, Snow, Extreme storms, e.q)

Depending on the extreme weather conditions, plan will be developed, and written instruction will be clearly defined, with responsibilities.

MARS Management (Assembly in max 10 minutes)			
Meeting to assess the severe weather condition	YES	Direct communication with Site Management	Phone
Cold Environment	YES	Provide site with Hot Drinks for cold environments. More breaks to warm up	
Hot environment	YES	Provide site with Water breaks, Salt Tablet, Ice cream, Breaks	

Emergency Number Guard (Extreme weather, loosing assets mooring)

Call emergency teams	YES	**Call Site Mooring Emergency Response Team** **Call On-Scene Commander** **Call Site medic (if needed)** Information regarding the Mooring Failure: • Where the mooring line has broken out • How many mooring lines failure? • Number of persons in danger • Type of assistance need it • Asset / Vessel evacuated?	**00 45 93 90 88 94** **Mooring Team Leader** **00 45 30 30 27 64** **On-Scene Commander** **00 45 30 30 27 64** **Site Medic**
Are Svitzer, L&N Supply Ships on M.A.R.S Europe Site?	YES	Guide Svitzer, L&N Supply Ships to mooring failure area	Create safe corridor(access) for Emergency Services Update Emergency Services with additional data Point of contact with Emergency Services
	NO	Guide Site Mooring Emergency Response Team	Point of contact with Mooring Failure Team Leader
Inform M.A.R.S Management about event	YES	Notify M.A.R.S. Management about the event Continuous Updates from the area	**00 45 40 41 10 19** **EHS office**
Inform M.A.R.S Supervisors about event	YES	Notify Site Supervisors about the event	Radio Channel 1

On-Scene Commander (Assembly in max 5 minutes) (Extreme weather, loosing assets mooring)

Command / Coordinate the mooring operations	YES	Report to mooring failure area. Take control of the operations Assess the event needs Coordinate crane/excavator/Stucker assistance (if needed) Provide additional mooring equipment Coordinate with Emergency Services (Svitzer, L&N Supply Ships)	Radio Channel 1

		Assess weather condition (wind, waves)	
Are Svitzer, L&N Supply Ships needed?	YES	Call Emergency Services (Svitzer, L&N Supply Ships) for tug assistance Call Site Mooring Emergency Response Team to assist	**Information to give:** • Address (Where the mooring line has broken out) • How many mooring lines failure? • Number of persons in danger Point of contact with Emergency Services
Cooperate with Emergency Services (Svitzer, L&N Supply Ships)	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Direct communication with Emergency Number Guard	YES	Continuous update regarding the event Notify if Emergency Services are needed	**00 45 40 41 81 39** Radio Channel 1
Direct communication with Mooring Failure Team	YES	Continuous update regarding the event Coordinate the Mooring Failure Team Provide additional mooring equipment's	Radio Channel 1
Ensure that the area is clear	YES	Monitor the barrier (Install additional barriers) Assess the weather condition (Wind)	Evacuate the adjacent area, if needed

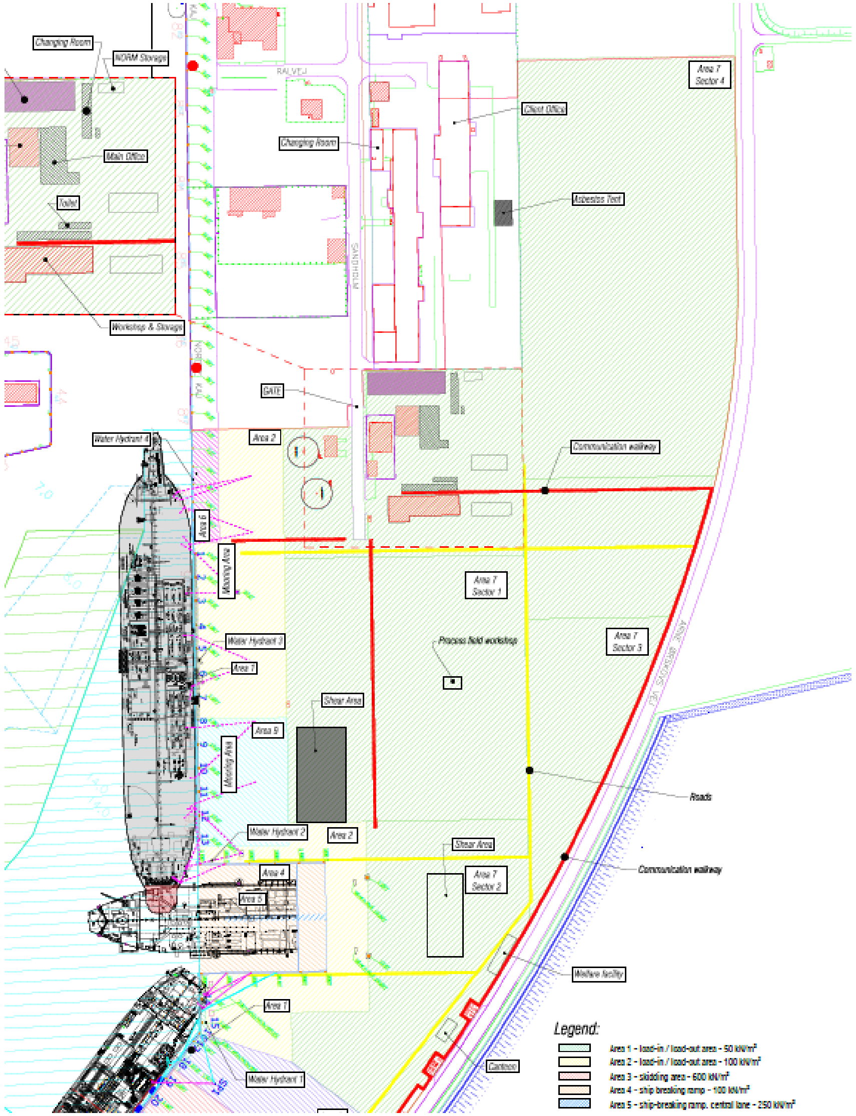
Mooring Team (Assembly in max 10 minutes) **(Extreme weather, loosing assets mooring)**			
Mooring Team	YES	**Mooring Failure Team Leader:** **Mooring Failure Member 1** **Mooring Failure Member 2** **Mooring Failure Member 3** **Mooring Failure Member 4**	**00 45 93 90 88 94**
Report to mooring failure area	YES	Start mooring operation (5 minutes KPI) Communicate with On-Scene Commander	Radio Channel 1

Direct communication with On-Scene Commander	YES	Continuous update from the area Request for assistance, if needed	Radio Channel 1
Install / reinforce mooring arrangements	YES	Use spare mooring lines	Workshop
Cooperate with Emergency Services (Svitzer, L&N Supply Ships)	YES	Assist / Support Emergency Services on the area Guide Emergency Services on the area	Direct Communication on site
Ensure that area is safe for resuming operations	YES	Monitor the area and existing risks Communicate with On-Scene Commander	Radio Channel 1
Check equipment after usage	YES	Check equipment integrity Check mooring lines	

QEHS Manager (Assembly in max 10 minutes)			
Report to the site area	YES	Direct communication with Emergency Number Guard	**00 45 40 41 81 39**
Notify Senior Management	YES	Brief description of the event Event Status	Phone
Coordinate with On-Scene Coordinator	YES	Conduct investigation	Radio Channel 1
Notify Client Representatives	YES	Brief description of the event Event Status	Phone / E-mail (As per Project EHS Plan)
Start Event Investigation	YES	Collect evidence, witness statement, map event Conduct investigation	
Assist Emergency Services (Svitzer, L&N Supply Ships)	YES	Feedback and Lesson Learned	On site planned meeting

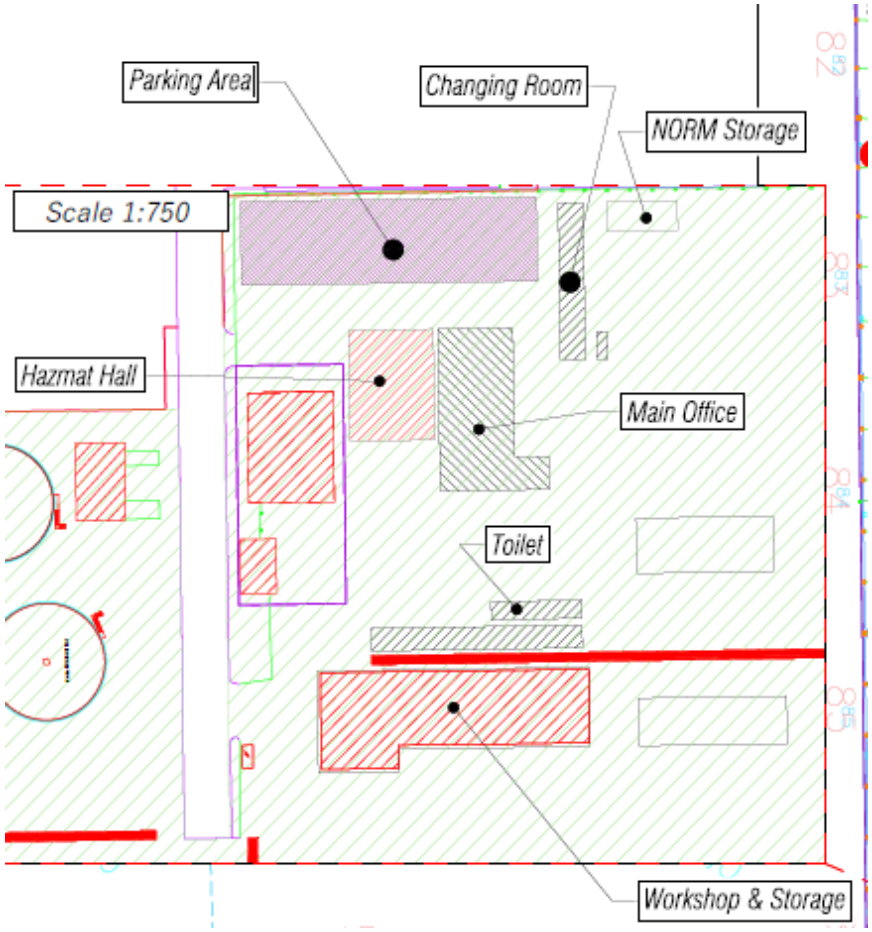
5.2 Appendix II “Site/Building layout”

5.2.1 Site Layout



Changing Room
NORM Storage
Main Office
Toilet
Workshop & Storage
Changing Room
Client Office
Asbestos Tent
Area 7 Sector 4
GATE
Water Hydrant 4
Area 2
Communication walkway
Area 6
Mooring Area
Area 7 Sector 1
Process field workshop
Area 7 Sector 3
Water Hydrant 3
Area 1
Shear Area
Area 5
Mooring Area
Roads
Water Hydrant 2
Area 2
Shear Area
Area 4
Area 5
Area 7 Sector 2
Communication walkway
Welfare facility
Area 1
Water Hydrant 1
Canteen
Legend:
Area 1 - load-in / load-out area - 50 kN/m²
Area 2 - load-in / load-out area - 100 kN/m²
Area 3 - skidding area - 600 kN/m²
Area 4 - ship breaking ramp - 100 kN/m²
Area 5 - ship-breaking ramp. central lane - 250 kN/m²

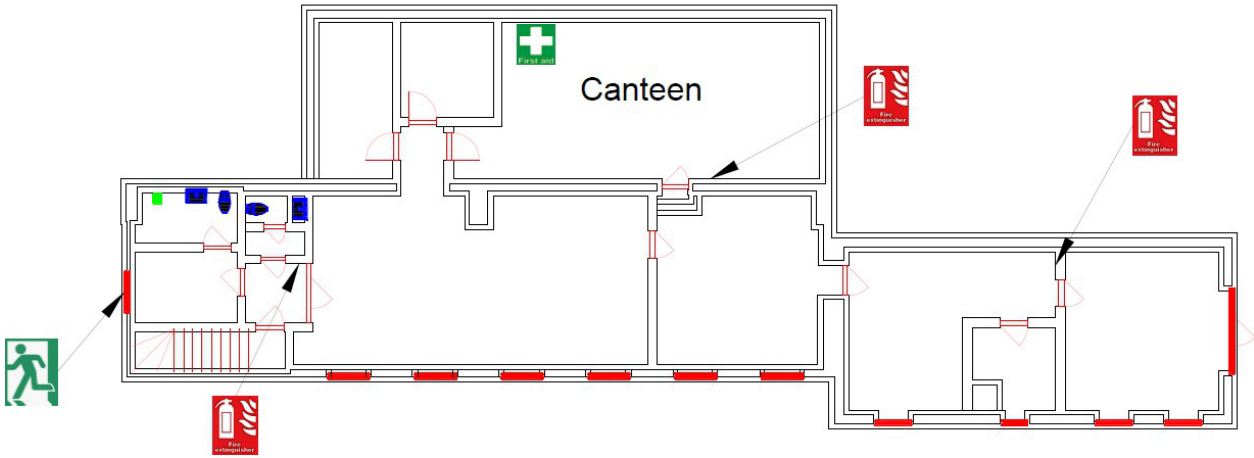
5.2.2 Site Offices Layouts



5.2.3 Client Office Layout

Sandholm 55H

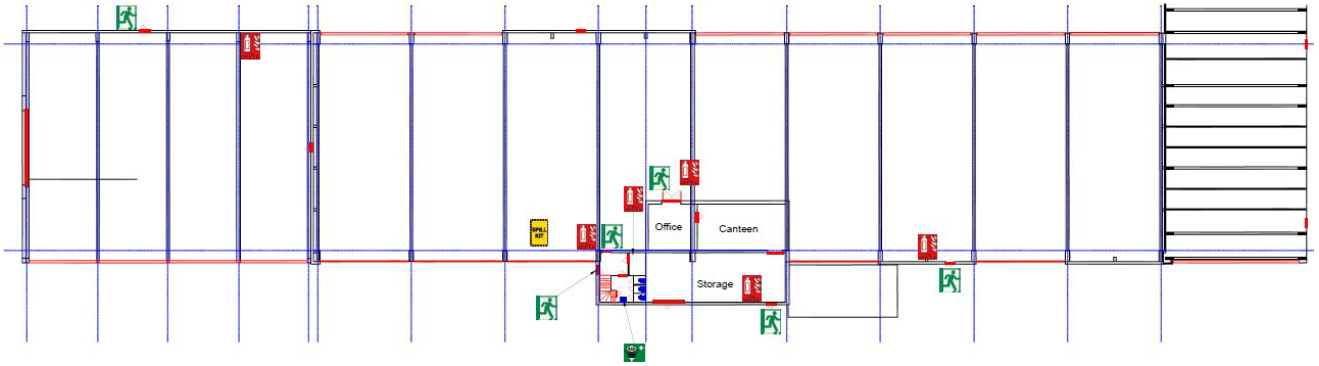
1st Floor - Admin Office



5.2.4 Warehouse Layout

Sandholm 55H

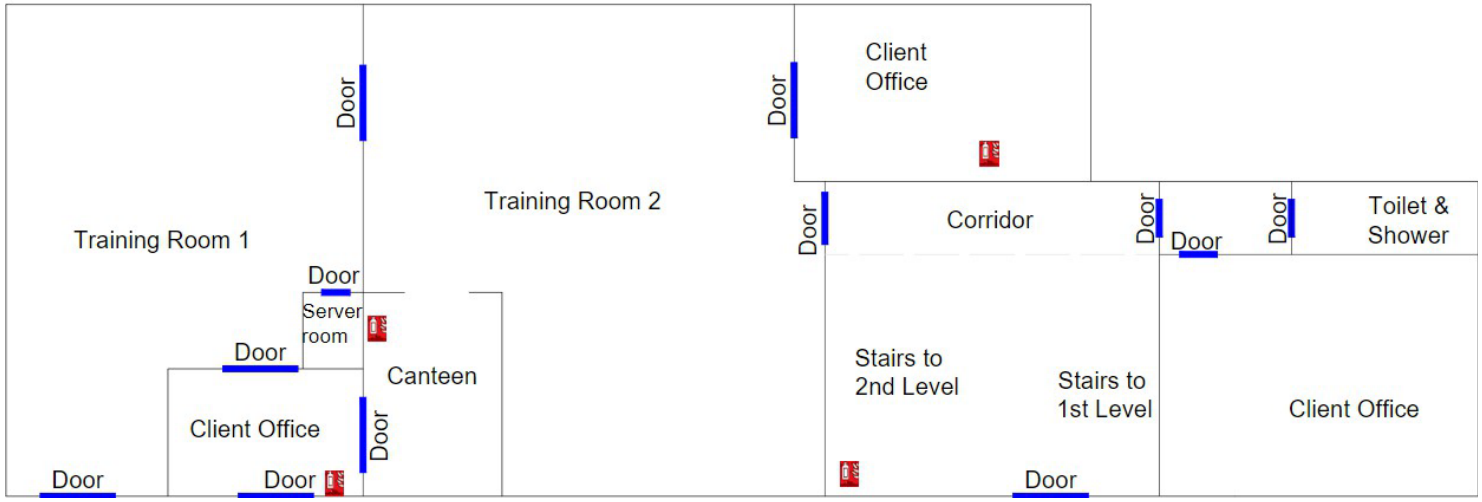
Ground Floor - Warehouse, Office & Canteen



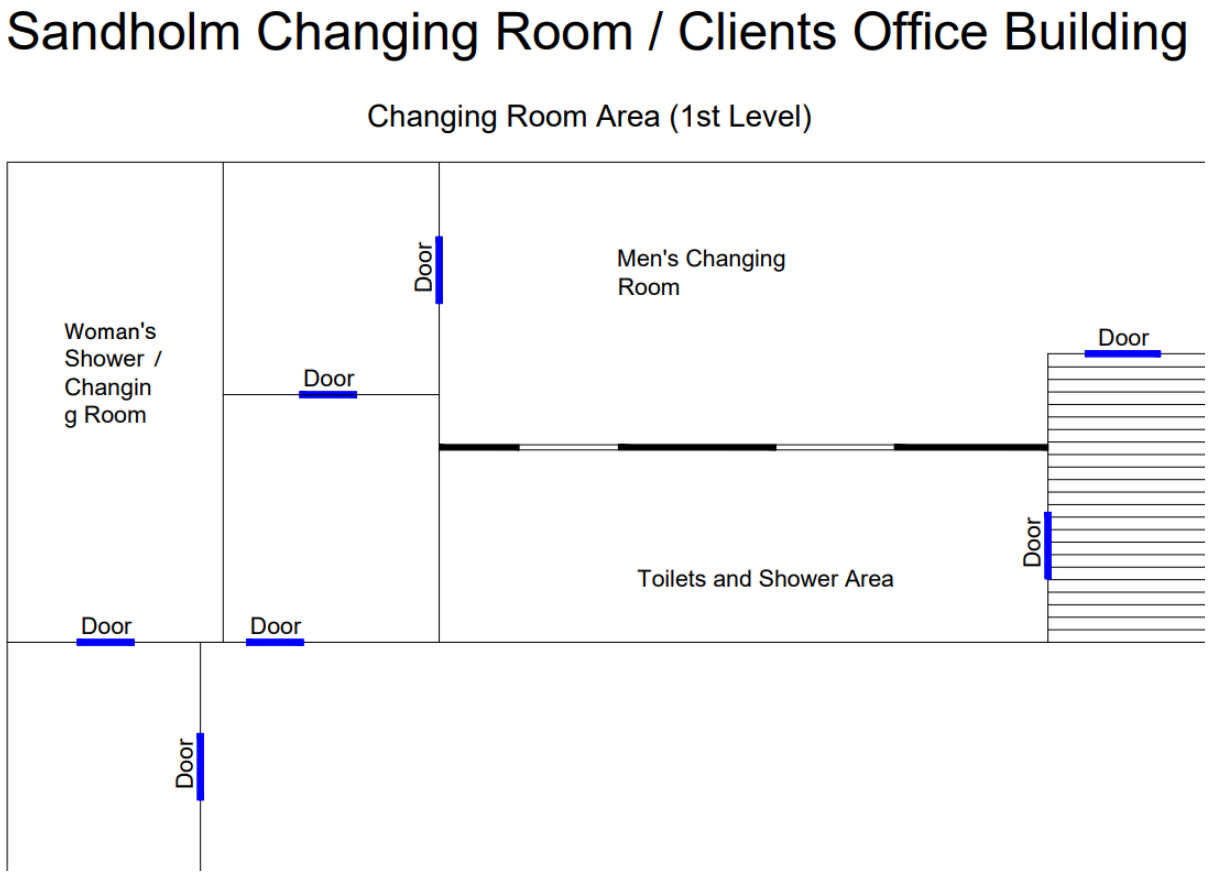
5.2.5 Client Office Layout

Sandholm Changing Room / Clients Office Building

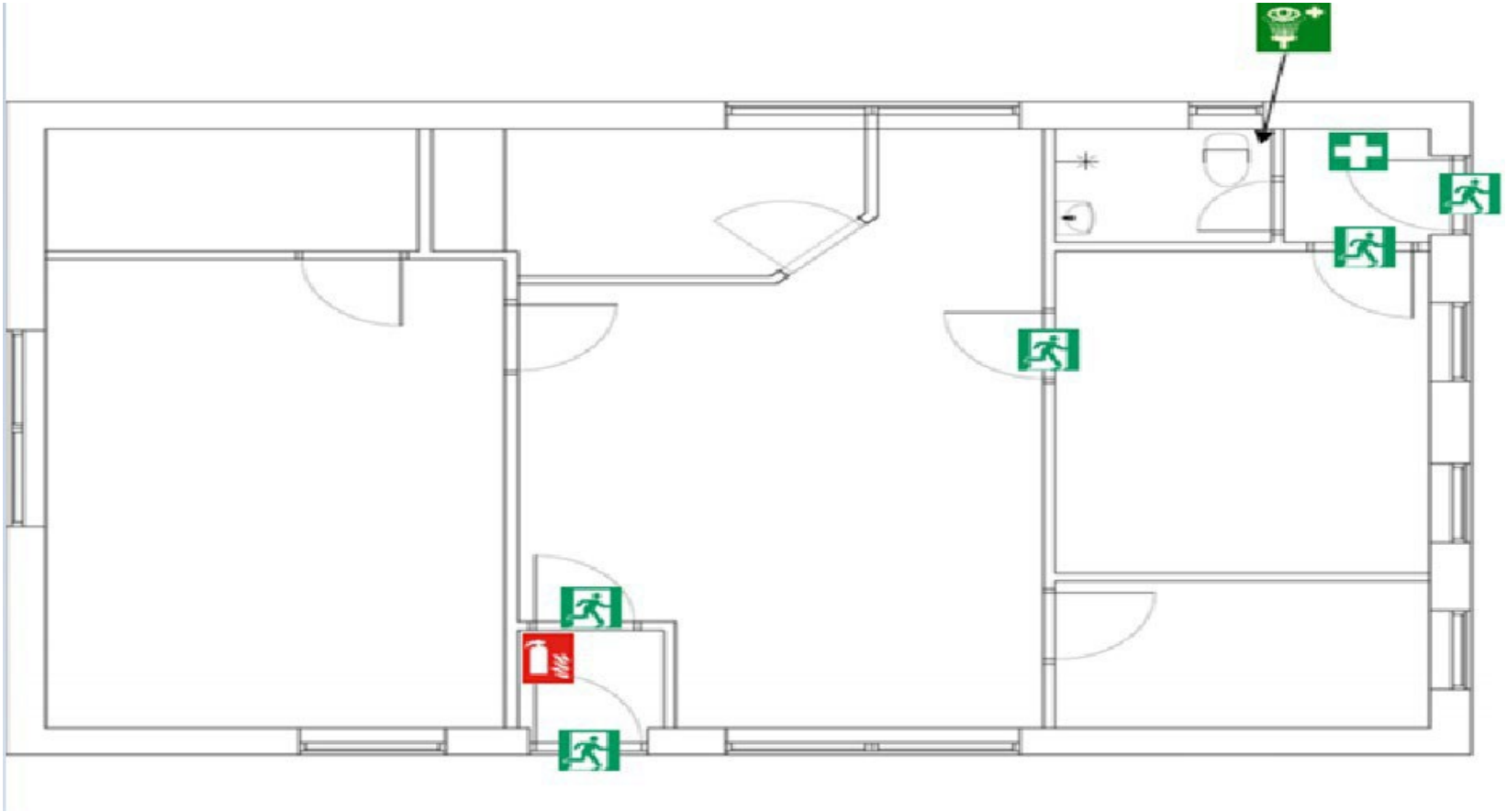
Clients Office (2nd Level)



5.2.6 Changing rooms Layout

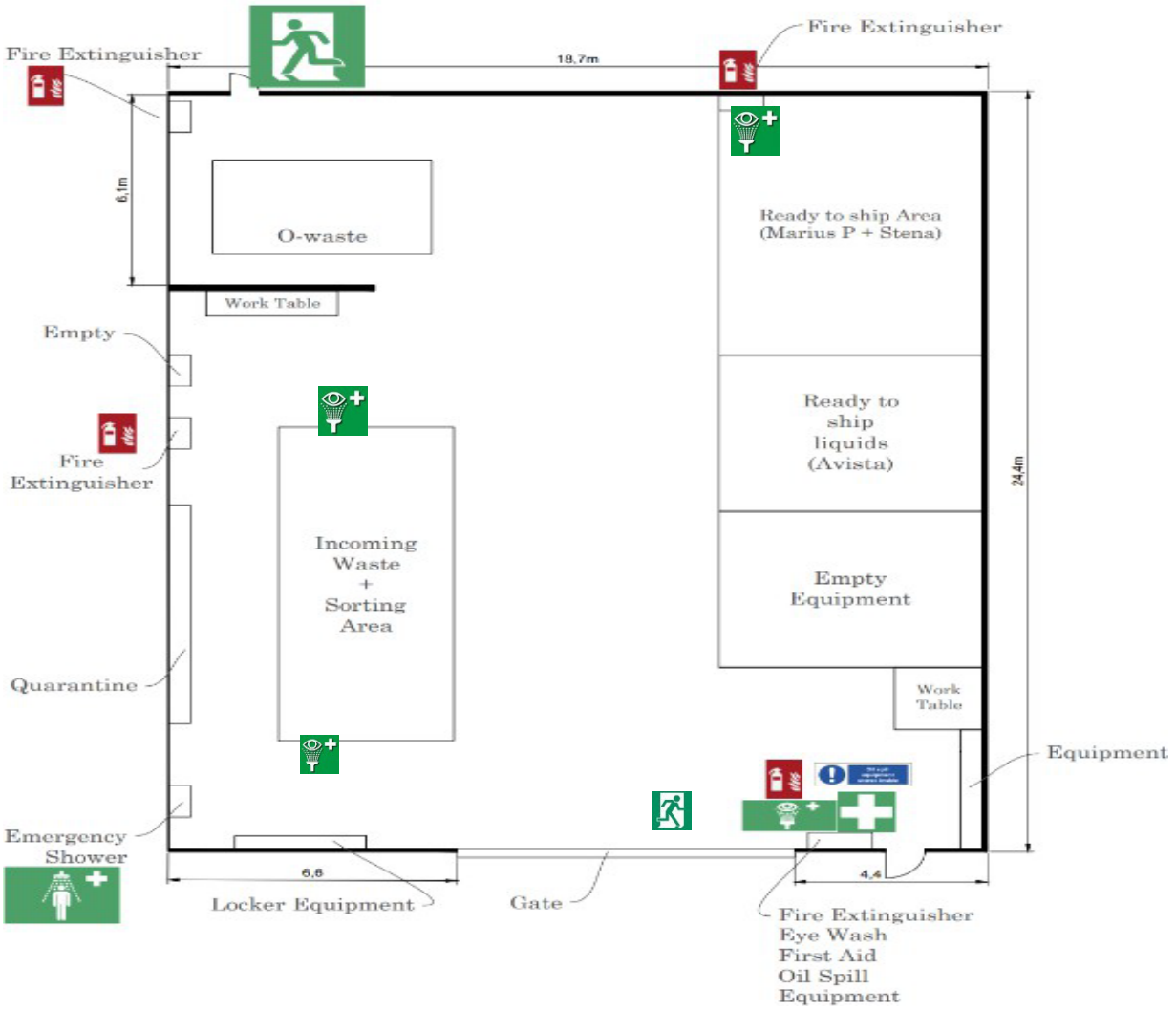


5.2.7 Site Office Layout



5.2.8 Hazardous Warehouse Layout

Hazmat Hall - Layout



5.3 Site Main Office

5.4 Appendix III "Symbol List"

Defibrillator 

Fire extinguisher 

Medical Emergency Kit 

Emergency Spill Kit 

Eye Wash Station 

Muster (Assembly) Point 

Emergency Shower 

Emergency Exit