

# **APPENDIX 11: POLICY AND PROCEDURES**

# **APPENDIX 11.1: OH&S POLICY O&M HSE AND QUALITY MANUAL**

**Karadeniz Holding and Group Companies are committed to conducting their business and operational activities by respecting and caring for people and assets. At Karadeniz Holding and Group Companies, maintaining the health, safety, security, and wellbeing of our employees, contractors, visitors, and communities that we engage with is one of our core values. Each level of management is responsible for protecting this value by setting an example through their Health and Safety leadership and providing a safe working environment for everybody. Every employee is responsible for acting safe by following established procedures, safe work practices, and regulatory requirements. Thus, our primary goal is to minimize accidents, harm to people, security breaches, and damage to the assets, which is why no business stage is of greater importance than achieving this goal.**

## **Karadeniz Holding and Group Companies Management;**

- is directly accountable for Health and Safety performance in its scope of authority and the continuous improvement of that performance through effective implementation of the Health and Safety Management System.
- provides all necessary resources to ensure maintaining safe working places.
- sets realistic targets for incidents, accidents, and Health and Safety performance to prevent recurrences and improve performance.
- inspects, improves, and develops Health and Safety Management System practices by regular reviews.
- maintains a healthy and safe working environment to prevent work related illnesses, injuries, and occupational diseases in all operations.
- carries out hazard identification and risk assessment studies on Health and Safety aspects in all fields and locations where the company operates.
- takes precautions against the risks of loss, accident, or property damage within the scope of Health and Safety principles by taking a proactive perspective with the participation of all employees.
- complies with the national and international legal requirements, compliance obligations, and other conditions related to Health and Safety.
- ensures relevant training is provided for employees to improve their competency by increasing knowledge and awareness throughout the entire operations.

## **All employees**

- are empowered to actively participate in Health and Safety processes and expected to stop and report any unsafe activity.
- are obliged to promptly report and communicate all Health and Safety incidents together with near misses and work-related illnesses.
- ensure that no task will start unless it is safe and compliant with the company policies, procedures, and regulatory requirements. If there is any uncertainty, true information shall be obtained from the proper authority, and measures are implemented prior to commencing work.
- are primarily responsible for their own Health and Safety, and those who could be affected by their actions.
- are expected to contribute to the hazard identification, risk assessment and risk mitigation studies.
- are encouraged to report Health and Safety related issues to management fearlessly and without any negative consequences by knowing that their employment in such cases is under the protection of the Health and Safety commitment of the company by this policy.
- are expected to support each other by supervision and discouraging unsafe behaviors without any prejudice and breeding blame culture within the organization.

**Karadeniz Holding and Group Companies encourage and guarantee that highest attention is paid to the maintenance of Health and Safety standards, including the allocation of all necessary resources and the use of latest technology to ensure a healthy and safe working atmosphere is maintained.**



Operations and Maintenance  
O&M MANUAL: HSE and Quality  
Manual



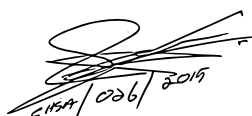
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## Revision History

Revision	Revision date	Details	Authorized	Name	Position
00	08/07/2021	First issue	LB	Lourens Bezuidenhout	Managing Director
01	19/07/2021	Second issue	LB	Lourens Bezuidenhout	Managing Director
02	01/09/2021	Third issue	LB	Lourens Bezuidenhout	Managing Director

## Distribution List

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## 1. Purpose

Karpowership South Africa was formed as part of the of the Risk Mitigation IPP procurement programme published by the Department of Mineral Resources and Energy, South Africa.

Subsequently a need has arose to establish a HSE and Quality maintenance and operational approach to ensure compliance to applicable legal and other requirements during the operation of the 3 power ships post the construction and commissioning phases.

## 2. Scope

This HSE and Quality Manual has been established to ensure that all operational and maintenance activities, which may have an impact on Occupational Health and Safety and Environmental aspects (or HSE), are carried out in a manner that meets or exceeds the intent of the:

- General Company Quality Management Approach
- Occupational Health and Safety Act, 85 of 1993
- Maritime Occupational Safety Regulations, 1994, R 1904
- Karpowership Occupational Health and Safety, Environment and Quality Policy and associated corporate requirements
- Relevant legislation and guidelines applicable to operational activities
- Environmental permits.

This standard applies to all O&M activities undertaken by Karpowership South Africa.

This standard identifies potential impacts and HSE and Quality risks related to operational and maintenance activities. The company recognizes that it is impossible to provide a rule to cover every possible task and therefore provides guidance in identifying, assessing and addressing potential safety hazards through the Job Safety Analysis (JSA) process.

## 3. General Company Quality Management Approach

Karpowership aims to create value to all stakeholders and contribute to the sustainable development by prioritizing legal obligations as well as being compliant with;

- ISO 9001 Quality Management
- ISO 14001 Environmental Management
- ISO 45001 Health and Safety Management System standards

In order to generate its products/services and perform operations on the basis of Group Company's vision, mission, strategy and values to undertake below commitments:

- To measure and continuously improve its financial, operational, occupational health and safety and environmental performances by planning our annual objectives within the scope of the Integrated Management System policy,
- To develop action plans for continuous process improvement by implementing health, security, environmental and social risk analysis at the facilities in line with the international standards
- To have respect for people and environment and to contribute to sustainable development by means of keeping our environmental impacts under control towards biodiversity and ecosystem protection
- To supply extensive, cutting-edge and professional trainings for all our employees and subcontractors who are involved in operational phases so as to assure the maximum interest in favor of our clients without disturbing local community and ecosystem during our operations,
- To enhance our cooperation with neighboring facilities, local and authorized administrations in the field of quality, occupational health & safety and environmental aspects, and to keep our mutual affinity at the highest level with all our shareholders,
- To keep pace with scientific and technological developments in global energy industry and with the changing conditions in our operating countries so as to adapt and promote the usage of relevant innovations for our working areas and partners,
- To provide our stakeholders the privilege to work in a transparent, reliable organization.

Karpowership has defined the required processes, interrelations between them and applications for these processes to comply with Integrated Management System established according to the beforementioned international standards.

## 4. Leadership

### 4.1 Leadership commitment

Karpowership South Africa is committed to establish, implement and maintain an effective management system, which meets the requirements of Stakeholders and Customer's and allows for continuous improvement.

We strive to implement and maintain, as far as is reasonably practicable, healthy working conditions for the prevention of work-related injury and ill health to persons through involvement of workers in the decision-making processes and protecting the environment.

Our aim is to ensure that through established standards and performance evaluations, the level of quality matches our customers and interested party's requirements and expectations.

For this reason, Karpowership South Africa has a Health, Safety, Environment and Quality (HSE and Quality) Management System that provides for policies, procedures, and work rules for eliminating accidents and injury / nonconformances at our facilities.

The HSE and Quality commitment to our employees, contractors, and our customers at Karpowership South Africa is our foremost business consideration. No person will be required to do a job that he or she considers unsafe. The company will comply with all applicable workplace environmental, HSE and Quality and health regulations and maintain occupational HSE and Quality and health standards that equal or exceed the best practices in the industry.

This puts upfront the priorities for the workplace HSE and Quality program and where it is in relation to production. A good operation has workplace HSE and Quality integrated fully into production.

We maintain a goal of **ZERO** workplace injuries/ non non-conformances which is consistent with our values and vision. To achieve this outcome, we pledge to do the following:

- Conduct business in a manner that actively integrates the elements of the Karpowership South Africa HSE and Quality Management System into all aspects of our operations;
- Comply with all applicable laws, regulations and statutory obligations;
- Striving towards customer satisfaction;
- Pro-actively identify and control hazards/risks in the workplace;
- Allocate responsibilities and accountabilities through job descriptions and performance monitoring;
- Support employees and contractors in their decision to stop work and intervene when unsafe acts or unsafe conditions are identified;
- Communicate and consult openly with employees, contractors and visitors to our work areas regarding Karpowership South Africa's HSE and Quality expectations;
- Develop processes that facilitate continual improvement in the HSE and Quality Management System as well as HSE and Quality performance;
- Provide the necessary resources and training to ensure that the objectives and targets derived from this Policy are achieved; and
- Maintain a pro-active leadership role in HSE and Quality management.

#### 4.2 Employees, contractors and customer leadership expectations

Employees, contractors, and our customers are to comply with the Karpowership South Africa policies, procedures, and work rules at all times.

#### 4.3 HSE and Quality Policy

Karpowership South Africa will establish a HSE and Quality Policy applicable to all levels in the organisation.

The OH&S policy will

- be available as documented information;
- be communicated to workers within the organization;
- be available to interested parties, as appropriate;
- be reviewed periodically to ensure that it remains relevant and appropriate.

#### 4.4 Individual Worker's Right and Responsibility to STOP work

Karpowership South Africa employees, contractors, and visitors need to understand that they have the right to stop work or refuse to work in situations that they do not understand or perceive to be unhealthful, unsafe or causing harm the environment, and to immediately bring these situations to the attention of those at imminent risk and to their direct supervision.

#### 4.5 Organisational roles, responsibilities and authorities

The top management of Karpowership South Africa needs to ensure that defined responsibilities and authorities are assigned to individuals in the organisation to carry out OHSMS-related activities under their control.

Ultimately the Master of the vessel is responsible for the safety of the vessel, its crew, and all other personnel on the vessel and will always have overriding authority. However, the Master will need to liaise closely with the project leader on the vessel (e.g., client representative) to gain full understanding of the activity and any constraints on the vessel.

An organisational structure, allocation of OSH responsibilities to employees linked to operational controls, and ways of ensuring competence, training and consultation will be defined.

The Karpowership South Africa legal framework is represented in the figure below.



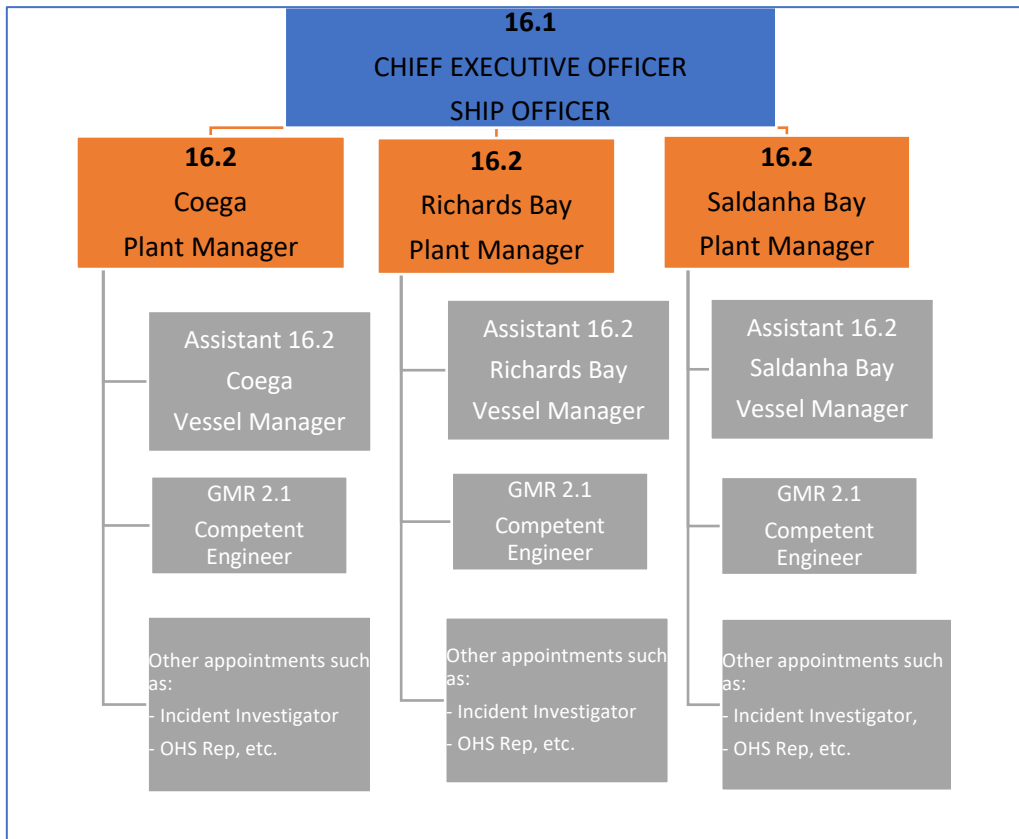


Figure 1 – Legal Framework

The various roles of our O&M management team will be defined within their respective appointment letters or job descriptions.

The following appointments will be in place.

Table 1 - Appointments required

Appointment description	Appointment required in terms of	Guidelines to consider
Assistant to the CEO	Occupational Health and Safety Act Section 16(2)	A CEO should assign duty to a responsible person for each of the sites.
Supervisor of Machinery	General Machinery Regulation 2(1)	A Competent person must be appointed as per the definition of competency set in the regulation.
Assistant Supervisor of Machinery	General Machinery Regulation 2(7)	A Competent person may be appointed, as per the definition of competency set in the regulation, to assist the supervisor.

Appointment description	Appointment required in terms of	Guidelines to consider
Pressure Vessel Inspector	Pressure Equipment Regulation 11(1)(d).	An Approved Inspection Authority must be appointed by the 16.2 or GMR 2(1) Appointee (representing the user), to perform the inspections at intervals not exceeding 36 months.
Pressure Piping Inspector	Pressure Equipment Regulation 11(1)(e) read with note (h) of the regulation.	A Competent inspector must be appointed by the GMR 2(1) Appointee, as per the definition of competency set in General Machinery Regulation 1, to perform the inspection. Inspections as per risk-based intervals
Diving Contractor	Diving Regulation 4(1)	A single diving contractor must be appointed per diving project.
Incident investigator	General Administrative Regulation 9(2)	Refer to section 24 and 25 of the OHS Act which incidents and occupational diseases are reportable and Section 259 of the Merchant Shipping Act, 1951 (Act No. 57 of 1951)
Lifting Tackle inspector	Driven Machinery Regulation 18(10)(e)	A Competent person must be appointed, for the inspection of lifting tackle, as per the definition of competency set in the regulation.
Competent lift service provider	Lift, Escalator and Passenger Conveyor Regulations 7(1)	A Competent lift service provider must be designated, for the inspection of lift at least every 24 months, as per the definition of competency set in the regulation.

Appointment description	Appointment required in terms of	Guidelines to consider
Occupational H&S committee member	OHS Act Section 19(3) & Maritime Occupational Safety Regulations, 1994, Section 11	Where two or more health and safety representatives have been designated, establish one or more health and safety committees
Occupational representatives	H&S OHS Act Section 17(1) & Maritime Occupational Safety Regulations, 1994, Section 12	In a ship carrying fewer than 16 crew members, one safety representative; or in a ship carrying more than 15 crew members, one safety representative, to be elected by the officers, and one safety representative to be elected by the crew, or in a ship carrying more than 30 crewmembers, one safety representative, to be elected by the crew in each of the deck, engine and catering departments; and general purpose crews shall for this purpose be included in the deck apartment.
Safety Officer	Maritime Occupational Safety Regulations, 1994, Regulation 10	Offshore installations more than 500 meters from shore. Duties per section 10 of the Maritime Occupational Safety Regulations, 1994
Scaffolding Supervisor	Construction Regulation 16(1) (SANS 10085-1:2004)	The following persons must be competent a) Scaffold erectors b) Team leaders c) Inspectors

Appointment description	Appointment required in terms of	Guidelines to consider
Suspended platform Supervisor	Construction Regulation 17(1)	The following persons must be competent a) Suspended platform erectors b) Suspended platform operators c) Suspended platform inspectors
Suspended platform performance tester	Construction Regulation 17(8)(c)	Competent person to be appointed

#### 4.6 HSE and Quality Management System

Karpowership South Africa will establish, implement, maintain and continually improve a HSE and Quality management system in line with the requirements of recognised HSE and Quality international standard requirements.

### 5. Planning

This section contains requirements, rules and guidelines for the planning of work to ensure the safety of the workers and the proper operation of equipment. Planning in HSE and Quality management systems is often viewed as something which relates mainly to setting up the system. However, HSE and Quality planning in this context is an ongoing activity which must continue throughout the life of the system in the never-ending PDCA cycle.

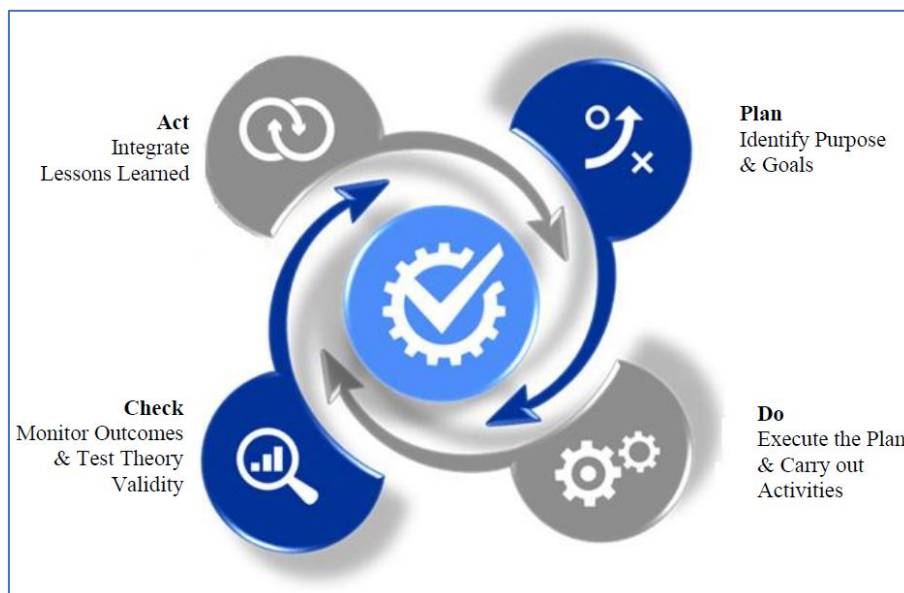


Figure 2 - PDCA Cycle

## 5.1 Risks and Opportunity

Karpowership South Africa is responsible and accountable for ensuring that effective procedures and assessment systems are in place to control hazards/aspects and to mitigate risks/impacts to as low a level as is reasonably practical.

The determination of risks and opportunities will be carried out at both at strategic and operational levels:

- those directly related to operational processes are defined as “HSE and Quality risks” and “HSE and Quality opportunities”
- those related to strategic levels are defined as “other risks to the “HSE and Quality Management System” and “other opportunities to the HSE and Quality Management System”.

The process of analysing and managing risk will follow the following steps:

- Establishing the context of the risk assessment, including acceptability criteria for the risk analysis. The criteria will include potential Health and Safety hazards and Environmental aspects. The methodology used for risk assessments and the criteria will be documented.
- Identifying hazards/aspects (sources of potential to cause injury or ill health or an impact on the environment), determining risk scenarios and selecting a suitable level of risk evaluation;

Once all hazards are identified, Karpowership South Africa will conduct a risk assessment at two levels:

- assess HSE and Quality risks from the identified hazards/impacts, taking into account the effectiveness of existing controls
- determine and assess the other risks to the system operations of the HSE and Quality Management System
- Evaluating risks/impacts by qualitative or quantitative assessment(s) and assigning ratings (classification);
- Recording the risk analysis in a risk register;
- Managing risks (prioritizing for action) according to their classification;
- Identifying and implementing controls to ensure that risk levels are as low as reasonably practicable (ALARP), the following hierarchy of controls must be applied:
  - Elimination of the risk scenario.
  - Substitution with a less hazardous material, process or equipment.
  - Isolation – isolating the hazard from the person or the person from the hazard.
  - Engineering – redesigning equipment / work processes or introducing engineering / process controls.
  - Administration – introducing administrative controls or management strategies e.g. permit systems, procedures, training, etc.
  - Personal Protective Equipment (PPE) – issuing and use of PPE as a last resort.
- Developing action plans for reducing risk levels / managing risks;
  - Verifying the completion of actions;

- Re-evaluating the risks and classifications as appropriate; and
- Reviewing and updating the risk register.

Karpowership South Africa will in a similar way, establish a process to determine and assess:

- opportunities to improve HSE and Quality performance during the implementation of planned changes, its policies, processes or activities. These opportunities may involve the adaptation of work, work organisation and work environment to workers, and the elimination of hazards/impacts and reduction of HSE and Quality risks;
- other opportunities for improving the system operations of the HSE and Quality Management System.

Karpowership South Africa will conduct a baseline risk assessment which identifies foreseeable hazards and risks for its operations. Detailed issued base risk assessments needs to be compiled for high risk tasks.

To align with legal requirements and to minimize risks a baseline risk assessment have been prepared. **Refer Risk Assessment Document OX-BRA-KAR-001.**

The Karpowership South Africa's Deck Officers, EHS Representatives, supervisory personnel, technical experts (as required) and workforce personnel directly involved with the task being examined must participate in the risk assessment processes.

A Job Safety Analysis (JSA) will at least:

- Be accompanied by a work method statement where possible (the work method statement will describe in detail the specific job or task to be performed);
- Provide a breakdown of every job or task into specific steps;
- Identify the hazards/aspects or potential hazards/aspects associated with each step;
- Assess the risk/impact that every hazard/aspect identified presents;
- Include consideration of possible exposure to noise, heat, dust, fumes, vapors, gas, chemical handling / use, ergonomics, vibration or any other identified health exposure risk on site; and
- Emissions to air, release to water, releases to land, use of raw materials and natural resources, use of energy, energy emitted (e.g. heat, radiation, vibration (noise), light), generation of waste and/or by-products and use of space;
- Describe how each identified hazard will be controlled to the extent that the residual risk is as low as reasonably practicable (ALARP) to allow work to commence and be completed safely.

Particularly for significant risks, Karpowership South Africa will develop action plans (in writing) to reduce the risks to levels as low as is reasonably practicable.

After every completed accident or incident investigation Karpowership South Africa will ensure a review is undertaken of all applicable Job Safety Analysis (JSA) incorporating all the lessons learned and action items.

The following high risks tasks have been identified. **(Note that this listing is not comprehensive and does not cover all risks):**

Table 2 - High risk tasks

Hazard	Countermeasure
<i>Working alone:</i> There is a danger that, when working alone, you might become trapped or injured and be unable to call for assistance.	<i>Working alone:</i> Avoid working alone, but if you have to, maintain good communications with someone responsible for checking on your safety and always notify someone else of your intentions and location before you start. Remember to check your radio before leaving the office.
<i>Lighting:</i> It is the responsibility of the vessel's master to provide adequate lighting — but this is not always possible.	<i>Lighting:</i> If adequate light is not available, e.g. by opening hatches or doorways, a suitable IS torch or working light may be used.
<i>Slips and falls:</i> The deck of the vessel might be wet or coated with oil or fish residues which add to the risk of slipping.	<i>Slips and falls:</i> Wear appropriate anti-static non-slip shoes/boots. Pay particular attention in the vicinity of deck machinery, where lubricants may be spilt, or if leaking cargo is identified.
<p><i>Machinery:</i> A variety of machinery may be in use when the vessel is berthed, including:</p> <ul style="list-style-type: none"> <li>• ventilation equipment;</li> <li>• generators;</li> <li>• winches;</li> <li>• cargo-moving machinery, including fork-lift trucks, cranes, conveyors or elevators.</li> </ul>	<i>Machinery:</i> Keep well away from moving machinery and wear high-visibility clothing and a safety helmet. Remember: the operator may have a limited view, particularly in the hold. You must observe any instructions from officers or crew. Remember: in tidal basins the ship's mooring lines may require frequent adjustment using winches. Keep well away from these operations.
<i>Ship's equipment:</i> You may be offered the chance to use safety equipment supplied by the vessel. However, you should not do so unless you have been trained how to	<i>Ship's equipment:</i> It should not be necessary to use equipment supplied by the master of the vessel. If needed, official equipment should always be used — with the appropriate training.

Hazard	Countermeasure
use it and are satisfied that it is in working order.	
<p><i>Cold stores:</i> Cold stores may have self-locking mechanisms and may contain a special atmosphere to preserve the goods. They are often maintained at -25 °C or lower.</p>	<p><i>Cold stores:</i></p> <ul style="list-style-type: none"> <li>• Always station someone outside the door to call for assistance if you get into difficulty.</li> <li>• Check that there is adequate oxygen and that there are no other hazardous gases in the store before you enter.</li> <li>• Wear insulation clothing to protect you from the cold.</li> <li>• Limit the amount of time you spend in the cold store to make sure your core body temperature does not drop too low.</li> </ul>
<p><i>Contact with oils and other spills:</i> You might come across oil spills or leaking cargo. The oil or cargo could be hazardous, either by contact or by inhalation.</p>	<p><i>Contact with oils and other spills:</i> If you see a spillage or leak from a container, check to see if it has been identified. Unless it has been absolutely ruled safe by a competent person, withdraw immediately and notify the master. Avoid all contact with spills even if they are deemed safe, as you may suffer a skin reaction. Seek proper medical attention if any symptoms occur.</p> <p><b>Remember: even chemicals that are safe on their own may react together (or with atmospheric water vapour) releasing toxic fumes or giving off sufficient heat to cause injury or start a fire.</b></p>
<p><i>Excessive noise:</i> Many items of noisy machinery may be at work on a vessel even when it is berthed, including:</p> <ul style="list-style-type: none"> <li>• ventilation equipment;</li> <li>• generators;</li> <li>• winches;</li> <li>• cargo-moving machinery, including fork-lift trucks,</li> </ul>	<p><i>Excessive noise:</i> You should assess the risk and limit exposure or use ear-defenders. Prolonged exposure to even moderate noise levels can damage hearing.</p> <p><b>Remember: excessive noise can hinder communication and reduce your awareness of other hazards.</b></p>



Hazard	Countermeasure
cranes, conveyors or elevators.	
<p><i>Confined spaces:</i> Confined spaces on board ships, including:</p> <ul style="list-style-type: none"> <li>• ballast tanks,</li> <li>• storage lockers,</li> <li>• cargo holds and tanks, and</li> <li>• engine and machinery rooms</li> </ul> <p>can pose a wide range of hazards, including toxic fumes and substances.</p>	<p><i>Confined spaces:</i> <b>Never enter any confined spaces without the appropriate training and equipment.</b> A risk assessment should always be carried out and permission sought from the master or the deck officer in charge before you enter any confined space.</p>

Karpowership South Africa will implement requirements related to Hazard identification and risk assessment procedure KH-HSE-PR-036.

## 5.2 Legal and other requirements

Karpowership South Africa will comply with all applicable national laws, including local provincial, municipal bylaws and permit requirements.

As a minimum without limiting the applicability of any law not listed, Karpowership South Africa will ensure compliance to the following:

- Compensation for Occupational Injuries and Diseases Act, 1993;
- Occupational Health and Safety Act, 1993 and all applicable regulations;
- Government Gazette notice no 1235 – Code of Practice Inshore Diving;
- Basic Conditions of Employment Act, 1997;
- Maritime Occupational Safety Regulations, 1994, R 1904;
- Environmental Permits;
- Foodstuffs, Cosmetics and Disinfectant Act, 1972;
- Medicines and Related Substances Act 101 of 1965;
- [SAMSA Acts, Regulations and Codes](#)
- Bylaws
  - [City of uMhlathuze](#)
  - [Nelson Mandela bay Metropolitan Municipality](#)
  - [Saldanha Bay Municipality](#)

Compliance audits will be executed in accordance with HSE regulatory compliance monitoring and evaluation procedure KH-HSE-PR-040.

Karpowership South Africa will have a letter of good standing with the compensation fund or with a licensed compensation insurer.

### 5.3 HSE and Quality Objectives

Karpowership South Africa will set HSE and Quality objectives for relevant functions, levels and processes within its HSE and Quality Management System. Each operational site of Karpowership South Africa will decide which functions, levels and processes are relevant to them. It would be expected that the operational sites of Karpowership South Africa would prioritise objectives to deal with the hazards/impacts associated with the highest risk factors, associated with their site.

When defining its HSE and Quality objectives, the operational sites must take into account the results of the assessment of risks and opportunities, the results of consultation with workers and their representatives and the applicable legal & other requirements.

HSE and Quality objectives will be measurable or capable of performance evaluation, communicated and updated as appropriate. They must also be monitored in order to determine whether they are being met.

Defined HSE and Quality objectives should provide for the following:

- Legal compliance
- Best HSE and Quality management practices
- Minimize complaints, incidents and non-conformances
- Audits and inspections
- Compliance training

## 6. Support

Support is part of the “Do” step of the PDCA cycle, depicted in figure 2 above.

### 6.1 Competency

Karpowership South Africa shall provide competency records for the individuals as identified on the organisational chart (refer section 3.5). Karpowership South Africa is to ensure that workers possess the necessary competence, on the basis of the appropriate combination of education, training or experience.

Note: that the term “workers” means all persons performing work under its control under various arrangements: paid or unpaid, full-time or part-time, temporarily, intermittently or seasonally, managerial and non-managerial.

### 6.2 Training and Awareness

Karpowership South Africa’s will follow HSE Training and employee participation instruction Document number KH-HSE-INS-009.

#### 6.2.1 Orientation Training Requirements

Karpowership South Africa’s employees and visitors assigned to perform O&M work shall be given a copy of this HSE and Quality manual and shall be required to attend Site Orientation Training. All personnel shall have the opportunity to ask questions on this information prior to starting work. Any unique hazards that exist on a vessel or in the performance of O&M work shall also be discussed during the training.

All Karpowership South Africa employees, contractors, and visitors must attend site specific orientation training prior to their first access to the site/vessel and annually every year after.

Personnel shall not be allowed onto the site/vessel until they have completed the HSE and Quality Orientation Training and successfully passed the HSE and Quality Orientation Training Quiz.

Proof of training will be kept and made available for auditing purposes upon request.

Each Karpowership South Africa operational site / vessel will conform to the training and competency requirements as stipulated in Merchant shipping (Safer Manning, Training and Certification) regulations, 2013.

### **6.2.2 Specific Training and Competency requirements**

Karpowership South Africa will determine the competency requirements of workers in line with legislative requirements.

A worker will be trained, assessed and found competent before he or she will be given authorisation to perform certain tasks or fill certain roles. Where required workers need to be declared competent in Karpowership South Africa rules, processes, procedures and requirements, such as isolation and lock out process and work permitting requirements.

Workers have to be informed of the incidents/non-conformances, related investigations, hazards/aspects and HSE and Quality risks relevant to them, and must be able to stop working without fear of reprisal if they consider that it presents an imminent danger to their life or health.

The Merchant Shipping (Safe Manning, Training and Certification) Regulations, 2013, as amended, (the Regulations) requires that SAMSA publishes the South African Maritime Qualifications Code (SAMSA Code). The purpose of the SAMSA Code is to give effect to the Provision of the STCW Convention and the STCW Code for the purpose of Training for Seafarers, as well as the medical fitness Standards for Seafarers.

Karpowership South Africa will align with the competency requirements as defined in the [South African Maritime Qualification Code Matrix](#).

Below is an extract from the Part 6 – Occupational Health, Safety and Security SAMSA Code requirements

- Basic Training
  - STA-06-101 – Personal survival techniques
  - STA-06-102 – Fire prevention and fire fighting
  - STA-06-103 – Elementary first aid

- STA-06-104 – Personal safety and social responsibilities
- STA-06-C101 – Checklist for Personal Survival Techniques
- STA-06-C102 – Checklist for Fire Presentation and Fire fighting
- STA-06-C103 – Checklist for Elementary First Aid
- STA-06-C104 – Checklist for Personal Safety and Social Responsibility
- Fire Fighting Training
  - STA-06-301 – Advance Fire Fighting
  - STA-06-301a – Advance Fire Fighting – Refresher
  - STA-06-C301 – Checklist for Advance Fire Fighting
- Medical Training
  - STA-06-401 – Medical First aid
  - STA-06-402 – Medical care
  - STA-06-402a – Medical care – Refresher
  - STA-06-C401 – Checklist for Medical First Aid
  - STA-06-C402 – Checklist for Medical Care
- Security Training
  - STA-06-601 – Security awareness
  - STA-06-602 – Designated security duties
  - STA-06-C601 – Checklist for Security Awareness
  - STA-06-C602 – Checklist for Designated Security duties

In addition to the SAMSA training ad competency the following training will also be conducted. Only accredited training providers with the ability to provide quality training in line with National Qualifications Framework (NQF) standards will be used.

**Table 3 - Training and Competency requirements**

<b>Training</b>	<b>Applicable to</b>
General Health and Safety Induction	All employees
Safety Observations and Coaching	All supervisors / deck officers
Health and Safety Representatives	All elected Health and Safety Representatives
First Aid	Refer SAMSA code requirements & R2666 Ship's Officers medial training regulation, 1992
Risk Assessment	All managers and supervisors / deck officers
Incident Investigation	Selected managers, supervisors / deck officers and safety officers
Legal Liability	All managers, supervisors/deck officers and safety officers that carries a legal appointment
Safety Leadership	All managers and supervisors / deck officers

Training	Applicable to
Working at Heights	All employees required to work at height, fall protection plan developer and safety officers
Rescue from heights	All rescue team members and fall protection plan developer
Fall protection plan development	Fall protection plan developer
Fire Extinguisher Use	All employees
Confined Spaces	All Confined Space Officers and Emergency Standby Persons
Isolation and Lockout	All Authorised Persons
Work permit training	All Authorised Persons
Scaffolding erectors	Training as per SAQA published unit standards and SANS10085 section 16
Scaffolding inspectors	Training as per SAQA published unit standards and SANS10085 section 16
Scaffolding supervisors	Training as per SAQA published unit standards and SANS10085 section 16
Mobile elevated work platform (MEWP) and Forklift operators	Licensed as per DMR 18.11 aligned to the lifting machine certification codes published under the OHS Act No familiarisation certificates from equipment suppliers will be accepted as proof of competence
Diver training	Diving Contractor, Systems Technicians, Divers and Emergency Standby Persons
Food handlers training	All food handlers

Only accredited maritime training providers may be used as approved by SAMSA.

### 6.2.3 Visitors

All visitors must undergo a visitor induction briefing entering the site.

However, this induction does not permit a visitor to enter the site unescorted.

Visitors must be accompanied at all times by an appropriately senior employee who has been fully inducted.

## 6.3 Communication and Consultation

Karpowership South Africa's will follow Communication protocols as outlined in the Health and Safety Communication Instruction Document number KH-HSE-INS-008.

### 6.3.1 Leadership, Safety Observations and Coaching

Karpowership South Africa's leadership team (Managers and Supervisors) must participate in the Karpowership South Africa Leadership program or process. Each member of the leadership team must, as part of his normal duties, perform HSE and Quality Observations and Coaching.

### 6.3.2 OHS Committee meeting

Each operational site/vessel shall in writing establish an OHS safety committee on board a vessel, designating the master to be chairman and appointing the safety officer and every safety representative as members.

Statutory functions of the safety committee:

- inquire into any occupational safety matters that affects a vessel and her crew and take the steps it may deem necessary to remove any hazard or potential hazard
- keep records of recommendations to employers and inspectors;
- where these recommendations do not lead to solving the matter, the committee may make recommendations to an inspector.
- shall discuss, report and keep records of incidents in which someone is killed, injured, or becomes ill,
- shall discuss incidents, injuries, illness, fatalities and may report on an incident in writing to inspector,
- Shall perform functions as prescribed
- Shall keep records of recommendations (3 years)

Minutes of the OHS Committee meetings will be kept.

### **6.3.3 HSE and Quality Meetings**

Regular HSE and Quality meetings are required to create HSE and Quality awareness and to keep employees aware of recent incident / non-conformance analysis, to perform or review HSE and Quality self-inspections, and to discuss relevant HSE and Quality topics.

Karpowership South Africa needs to keep record (minutes) of the HSE and Quality meetings and keep an attendance register.

### **6.3.4 Toolbox Talks**

Regular toolbox talks need to be conducted; toolbox talks will address HSE and Quality issues relevant to the work performed on the site and may include information / knowledge sharing, lessons learnt from incidents/non-conformances that have occurred, information concerning specific hazards /aspects / risks and control measures to prevent injury, ill health or environmental impacts etc.

### **6.3.5 Documented information**

Karpowership South Africa will develop, implement and maintain a documented system of HSE and Quality related manuals, plans, procedures and work instructions. Safe Work Procedures must be developed and implemented for all activities involving significant health, safety or environmental risks.

Documentation required by Karpowership South Africa includes, but is not limited to, the following:

- Letter of Good Standing from the Compensation for Occupational Injuries and Diseases Commissioner (where applicable); Proof of Public Liability Insurance; and scope of work under the contract;
- List of Emergency contacts and their Telephone Numbers;
- HSE and Quality Policy and objectives; and HSE and Quality Management Plan;
- Legal Register (electronic or hard copy, inclusive of permit requirements and applicable bylaws); and Organizational Chart for the project;
- Appointment Letters;

- Register of Risks, Baseline and Job Safety Analysis (JSA), Safe Work Procedures, Work Instructions; Work Method Statements; and Planned Task Observations;
- Inspection Registers, Forms and Checklists
- Emergency Response Procedures;
- Incident / nonconformance records;
- A Employee Personal Profile for each employee;
- HSE and Quality Meeting Minutes;
  
- Copies of Inspection and Audit Reports and Toolbox Talks;
- QC / QA records
- Performance records
- Environmental Management Plan (EMP); and Waste Management Plan.

## 7. Operation – Health and Safety

### 7.1 General Safety Rules

Karpowership South Africa and its personnel, contractors and visitors, shall obey the following general safety rules, the rules are also depicted in figure 3 below:

- All personnel working or visiting the site/vessel for the first time will receive HSE and Quality Orientation Training prior to being allowed access to the site or vessel.
- All personnel must report to work fit for duty and free of the effect of drugs or alcohol.
- Notify your Deck Officer if you are taking prescription drugs that may affect your ability to perform your job safely.
- Personnel shall not consume alcohol or drugs while working or diving.
- All visitors must be escorted while on the site/vessel unless they have completed appropriate training and have been approved for unescorted access.
- Only enter an enclosed space if it has been ventilated and the atmosphere confirmed safe.
- Always protect yourself from falling when working at height or during personnel transfer.
- Verify Isolation before working with stored energy and invisible hazards (e.g., Electrical; pressure).
- When outside of ships rails always wear a Personal Flotation Device.
- Ensure yourself and others are positioned away from suspended loads, stored pressure, moving machinery and snap-back areas.
- Ensure own and others safety during maintenance and testing of lifeboats.
- Ensure spaces are free of flammable materials and gases before working where flame is used or sparks may be produced.





Figure 3 - General Safety Rules



### 7.1.1 Operational procedures

Karpowership South Africa have developed and document procedures and / or work instructions that detail the controls required for effectively managing the health and safety risks associated with its work activities, i.e., for high risk tasks. These procedures reference applicable operating requirements, will be communicated to all relevant personnel, will be made available to the appropriate users, and be implemented / followed.

The table below summarizes the current operational procedures.

Table 4 - Operational Procedures

Document Number	Document Description
KH-HSE-INS-013	Pressure Vessels Instruction
KH-HSE-INS-014	Lifting Equipment Instruction
KH-HSE-INS-015	Color Coding Instruction
KH-HSE-INS-016	Atmosphere measurement Instruction
KH-HSE-INS-017	Hot work Instruction
KH-HSE-INS-018	Working at height Instruction
KH-HSE-INS-019	Confined Space work Instruction
KH-HSE-INS-020	Work on scaffold Instruction
KH-HSE-INS-021	Electrical Works Instruction
KH-HSE-INS-022	Underwater Works Instruction
KH-HSE-INS-024	Load Lifting Instruction
KH-HSE-INS-041	Work Permit Procedure
KH-HSE-INS-042	Control of chemicals and hazardous substances Procedure
KH-HSE-INS-043	Personal Protective Equipment Procedure
KH-HSE-INS-045	Hazardous energy resources control LOTOTO Procedure
KH-KPS-PR-020	Waste Management Procedure

### 7.1.2 Fit for duty

Karpowership South Africa is committed to providing a safe and healthy work environment for its employees and contractors and others. In order to provide a safe work environment, personnel will be "fit for duty", be able to perform their work tasks in a safe, secure, productive, and effective manner, and remain able to do so for the duration of the shift.

"Fit for duty" means an individual is in a state (physical, mental and emotional) that enables them to perform work tasks competently and in a manner that does not threaten the health and safety of themselves or others, including negatively impacting the environment.

All personnel shall:

- Manage their health in a manner that allows them to safely perform their work tasks.
- Arrive at the site fit for work and able to perform work tasks in a safe, secure, productive, and effective manner for the duration of the shift.

- Notify their Supervisor or Deck Officer when they are not fit for work and to declare any medication and/or situations/concerns which may have an impact on their ability to perform work.
- Notify their Supervisor or Deck Officer when they observe a co-worker acting in a manner that indicates that they may be unfit for work.

All employees of Karpowership South Africa must undergo fitness assessments (medical examinations) which will be carried out prior to the commencement of employment on the site / vessel and periodically based on an employee's individual risk profile, and on termination of employment.

### 7.1.3 Heat illness prevention

Heat stress is the total heat burden to which the body is subjected by both external and internal factors. Heat stress may cause heat illness, a physical response designed to reduce body temperature.

Typically, people who are medically unfit and are on certain medications, overweight, have heart disease, are pregnant, abuse alcohol, or are not acclimatized, are at a greater risk of heat stress. Some people are less tolerant of heat than others.

Karpowership South Africa will ensure its employees implement the following controls to reduce heat stress related risks:-

- Replace lost fluids (drink more water, juice, sports drinks or other non-alcoholic drinks). Drinks of 100-200ml water at frequent intervals will be adequate to reduce fluid loss in sweating.
- When the ambient temperature is greater than 40°C a 10 minute rest break in a cool place should be taken each hour. When ambient temperatures exceeded 45°C no outdoor work should be undertaken until the temperature recovers to below 40°C.
- Minimize caffeine, carbonated drinks, alcohol and tobacco use.
- Do not take salt tablets unless your doctor has specifically advised you to do so.
- Inform your direct Supervisor or Deck Officer if you have an underlying health condition that may increase your risk of heat stress.
- Wear cool clothing, a wide brimmed hat and use sunscreen.
- Take a break and inform your direct Supervisor or Deck Officer if feeling dizzy or having trouble concentrating.

### 7.1.4 High risk work license

Karpowership South Africa should take note that the following activities is deemed to be high risk work activities and requires specialised licencing of operators, no employee is authorised to undertake any of these high risk work activities without the required competencies.

- Scaffolding;
- Rigging work;
- Crane and hoist operation - tower; self-erecting tower; derrick; portal boom; bridge and gantry; vehicle loading; non slewing mobile; slewing; materials

hoist; personnel and materials hoist; boom-type elevating work platform; vehicle mounted concrete placing boom;

- Forklift operation - forklift trucks; order-picking forklift trucks;
- Pressure equipment operation - basic, intermediate and advanced boiler operation; turbine operation; reciprocating steam engine operation.

Karpowership South Africa will keep record of the competency of operators that needs to perform any of the abovementioned high risk work activities.

### **7.1.5 Personal Protective Equipment (PPE)**

Karpowership South Africa's will follow Personal Protective Equipment Procedure KH-HSE-PR-043.

#### **7.1.5.1 General**

Karpowership South Africa is responsible to ensure that:

- All PPE is inspected prior to use to ensure it is safe, properly assembled and not visibly defective.
- Personal Protective Equipment (PPE) is maintained in a sanitary and reliable condition. Supervisor will enforce this requirement for all employees and contractors. Damaged or otherwise unserviceable PPE shall be properly disposed of and replaced. Contact the Site Supervisor or the Deck Officer immediately for replacement of damaged items.
- Personnel will be trained and must demonstrate that they understand the following:
  - when PPE is necessary;
  - what PPE is necessary;
  - how to properly adjust, wear and use PPE;
  - the limitations of the PPE;
  - The care, maintenance, useful life and disposal of PPE.

#### **7.1.5.2 Minimum PPE requirements**

PPE requirements are based on Job Hazard Analysis (JHA) for the specific work that is to be performed. Minimum PPE requirements have been established for routine work such and visual inspections. These minimum requirements are:

- Hard Hat – SANS 1397:2003 and EN 397:1995
- Safety Glasses – SANS 1404:2009
- Goggles and Welding spectacles – SANS 1400:2010
- Safety Boots –SANS 20345:2014 / ISO 20345:2011
- Work Clothing – No shorts, sweatpants or sleeveless shirts allowed. High visibility protective clothing / overalls with reflective taping (long trousers and long-sleeved shirts). SANS 50471:2006. Site Technicians are required to wear Arc Rated (FR) clothing as part of their regular work uniform.
- Work Gloves – Leather or Dyneema shall be carried if there is a possibility of material handling. SANS 1297:2015.
- When on the vessel a personal floating devise – SANS 12402-4.

Additional PPE requirements must be determined through hazard identification and risk assessment. This hazard-specific PPE (such as hand protection, hearing protection and respiratory protection) must be worn as required (e.g., when in a certain area, when performing a certain task, or when working with a certain substance). The correct PPE must always be worn:

- In accordance with site requirements (as indicated at the entrances to the project site and at the entrances to buildings / areas on the premises);
- In zoned areas (e.g., noise zones and respirator zones); or
- As required by a Safe Work Procedure, a risk assessment, or a Material Safety Data Sheet (MSDS).

### 7.1.6 Access requirements

Karpowership South Africa will ensure that any visitors / contractors of employees confirm the following requirements:

Prior to entry onto the site/vessel all Contractors and Visitors must:

- Have a reason to enter the site/vessel
- Have proper attire (suitable work clothing appropriate for work at the site)
- Be Fit-for-Duty
- Complete Site Safety Orientation Training.

Note: A visitor is a person who attends the site/vessel solely to conduct a site inspection, attend a meeting, or make a delivery or pick-up (Note: they do no physical work at the site/on the vessel).

#### 7.1.6.1 Access equipment

Access equipment on board a vessel will be in accordance with the Maritime Occupational Safety Regulations, 1994 and summarised in the table below.

Vessel size	Requirement
Vessel < 30 metres	Gangway or portable ladder which is appropriate to the deck layout, size, shape and maximum freeboard of the vessel
Vessel >30 metres	Gangway
On board a vessel of 120 metres or more in length	In addition to the gangway An accommodation ladder (including a rope or portable ladder) which is appropriate to the deck layout, size, shape and maximum free board of the vessel

Any rope or portable ladder used as access equipment will comply with the applicable requirements prescribed in the Maritime Code.

A life-buoy with a self-activating light and a separate safety line attached to a quoit or a similar device will be provided ready for use at the point of access to a vessel.

### **7.1.7 Material Handling and Storage**

Prior to undertaking any manual handling activity Karpowership South Africa personnel must evaluate the object and the required task to determine if they can handle the object safely.

Some evidence shows that the risk of back injury increases significantly with objects of a certain weight considering the capability of the employee, so it is recommended to keep the load under that weight while standing. It is recommended not to lift loads exceeding a certain weight while sitting down. All these aspects are assessed in the risk assessment.

In the event personnel are in doubt about whether they can safely move the object by themselves, additional manual or mechanical help should be obtained, or the task should be avoided.

If a heavy object is to be moved to another location, the safest transport route should be determined prior to the activity. The area around the object and the route over which it will be transported should be checked for slip, trip, and fall hazards. Hazards should be removed prior to initiation of the task.

The object to be moved should be inspected for pinch points, grasping or handling hazards, including slivers, sharp edges, grease, water, etc. Eliminate or abate any identified hazards where possible. Safe grasping or handling points on the object should be determined.

OHS Act requirements for the identification, assessment and control of HSE hazards and risks associated with manual tasks should be followed.

Materials shall be stacked, stored, or positioned so it does not create a falling hazard and can be reached safely by personnel and material-handling equipment. All protruding nails, wires and ragged metal edges shall be removed or hammered flush before handling.

The following proper lifting techniques shall be observed at all times:

- Make sure you have a clear path to carry the load, and a place to set it down.
- Bend the knees, place your feet close to the object and centre yourself over the load.
- Get a good hand-hold.
- Lift straight up, smoothly, and let your legs do the work, not your back!
- Exhale as you make the lift.
- Do not twist or turn your body while carrying the load.
- Set the load down slow and controlled.
- Always push a load on a cart or dolly, do not pull it.
- If it's a long load or awkward, get additional help.

- Split the load into several smaller ones when you can.

### 7.1.8 Hazardous Chemical Substances

Employees shall be familiar with the hazards of all chemical materials in the workplace.

Hazardous chemical materials in the workplace may pose potential health hazards to Employees who are exposed. Employees have a right to know the properties and potential hazards of materials to which they may be exposed.

Chemical materials brought onto the plant shall include a copy of the items safety data sheet (SDS) that is provided to the Site Supervisor or Deck Officer for approval and filing. Copies of all SDSs shall be maintained and be available for review at all times.

Prior to procurement of hazardous substances, a risk assessment must be undertaken, which will enable determination appropriate storage, volumes, emergency response, handling procedures and PPE, and transportation.

Employees should reference the SDS for the safe handling, use, storage, production and disposal of chemical materials.

NO CHEMICAL MATERIALS SHALL BE USED OR STORED UNTIL SDSs ARE RECEIVED AND APPROVED BY SITE SUPERVISOR/DECK OFFICER.

Containers of chemical materials shall be properly labelled to indicate their contents. Labelling on any containers not intended for single-day, individual use shall contain additional information indicating potential health and safety hazards (flammability, reactivity, etc.).

Chemical materials transferred from the original container into another container shall have a label immediately affixed to the new container by the person making the transfer. At a minimum labels will:

- contain the identity of the chemical(s);
- include hazard rating, code or tag; and
- Provide appropriate information so an Associate can match the chemical with the SDS on file with the Site Supervisor/Deck Officer.

Chemical materials when not in use shall be kept in designated chemical storage cabinets or areas.

For more information refer to the Control of chemicals and hazardous substances Procedure KH-HSE-PR-042.

For any flammable liquid local bylaws in terms of registration will apply, should the specified quantities per municipal bylaws are exceeded.

Current applicable bylaws: City of uMhlatuze municipality – bylaws related to flammable liquids and Nelson Mandela Bay metropolitan municipality – Fire services bylaw and bylaw related to fire safety.

**7.1.9 Housekeeping / Access / Guards / Barricades**

Good housekeeping is fundamental and essential for the prevention of accidents due to slips, trips or falls, and in response to fires or other dangers. Work areas, passageways, storerooms, and service rooms must be kept clean, dry, orderly and in a sanitary condition.

**DO NOT** block or otherwise obstruct access to exit doors, fire extinguishers, fire lanes, fire hoses, fire hose connections, controls for automatic sprinkler risers or emergency lights.

Holes or openings through floors or decking at all elevations shall immediately be provided with covers or barricades. Material and equipment shall not be stored on a cover. Signs or labelling shall be attached indicating it is a temporary cover and not to remove it unless authorized. Covers shall be cleared, wired, or otherwise secured so it cannot slip off the exposed area, and shall extend adequately beyond the edge of the hole.

Prior to beginning any work that may present potential hazards to individuals, work areas will be inspected to determine the extent of barricading. Barricades must ensure a continuous separation of work activity from people not involved in the work. If adequate barricading cannot be established, then work may not begin.

An employee who creates a hazard is responsible for having it barricaded.

A barricade must be placed guarding all access routes to a hazard where a person could:

- Inadvertently enter a hazardous areas,
- Be unaware of required safety equipment or permission for entry,
- Be uncertain of the safe distance of observation, or
- Be working on an activity and accidentally enter into the actual hazard.

**Table 5 - Guidelines for Barricades**

<b>Hazardous Condition</b>	<b>Barricade</b>
General Construction	Use barricades to completely isolate the work area
Overhead Work	Use barricades for areas where debris may fall or drop
Excavation (e.g., trenches, open holes)	Use barricades to prevent personnel or vehicles from falling or accidentally driving into excavation. For all excavations open for longer than a standard workday temporary fencing may be required.

Hazardous Condition	Barricade
Tripping Hazards	Use barricades to block-off potential trip hazards (e.g., conduit stubs, piping stubs, holes in floor, uneven surfaces, etc.)
Potential Unsafe Condition	Use barricades when an unsafe condition exists (e.g., incident investigation scene, spill, etc.)
Ladders	Use barricades around the base of the ladders that are located where they can be displaced by workplace activities or traffic)
Energized Lines	Use non-conductive barricades around energized lines or equipment to prevent accidental contact

#### 7.1.10 Notices and Signs

Karpowership South Africa will ensure that all required safety signs and notices are prominently displayed in accordance with the applicable legislation and good safety practice. Signs and notices must be in English as well as any other language(s) commonly spoken on the site/vessel.

All symbolic signs will comply with the applicable standards prescribed by the International Maritime Organisation, the South African Bureau of Standards or the International Standards Organisation. Marine Safety Signs will be in accordance with ISO 3864-1:2002.

No person may deface or damage any safety sign or notice. No person may remove or alter any safety sign or notice unless authorised to do so.

#### 7.1.11 Working at Heights

Karpowership South Africa will ensure that all reasonable means will be investigated and implemented prior to any working at heights is undertaken.

In the event that work must be undertaken at heights, the following principles and or precautions will be undertaken:

- Working at Heights can only be undertaken by trained and competent personnel.
- A fall protection plan must be prepared by a competent fall protection developer.
- All working at heights equipment including scaffolding, work platforms, lanyards, etc. will be required to be inspected by a trained and competent person.

Karpowership South Africa will follow the Working at height instruction KH-HSE-INS-018 and the work permit procedure KH-HSE-PR-041.

#### 7.1.12 Working over water or near a body of water or other liquid

Karpowership South Africa will ensure that when their employees, contractor or of visitors is outside of ship rails, they will always wear personal floating devices.



Suitable flotation devices will also be available and correctly used. All users will be trained in the effective use of floatation devices. The visitor induction will include the use of personal floating devices.

A task risk assessment for working over water or near a body of water or other liquid will be conducted and preventative measures will indicate the effective means of exiting from the body of water.

Persons performing tasks where there is a risk of drowning or entrapment as a result of a body of water or other liquid, the risk assessment shall specifically outline the method of rescue and the person/s shall be assisted by an attendant who is trained, able to raise an alarm and to initiate rescue procedures if so required.

### *7.1.13 Diving*

Karpowership South Africa will ensure that it complies with the requirements as set out in the diving regulations. Each operational site of Karpowership South Africa will appoint a Diving Contractor to fulfil any inshore diving activities. Each operational site of Karpowership South Africa will ensure that:

- A documented health and safety specifications for the diving work is prepared and provided to any diving contractor who is making a bid to perform diving work,
- Each diving contractor is appointed as per the diving regulations.

If an operational site of Karpowership South Africa does not appoint a specific diving contractor and performs the duties of diving work the principal contractor themselves, they must perform the functions of a diving contractor as per the diving regulations.

The following requirements will be followed:

- The Underwater work instruction KH-HSE-INS-022,
- The work permit procedure KH-HSE-PR-041,
- Government Gazette notice no 1235 – Code of Practice Inshore Diving.

### *7.1.14 Isolation and lockout*

Isolation and lockout procedures that make it impossible to inadvertently energise any system or equipment so isolated, will be in place for all work where hazardous energy sources exist.

These procedures will be strictly enforced. The Isolation and Lockout Procedure will incorporate the following basic requirements:

- The issuing of a formal Isolation permit by an authorised person for any work that requires the isolation of any system, plant or equipment;
- The use of defined Equipment, Personal Locks, and multiple lockout systems (i.e. Isolation Bars and lockout hasps);
- Clear identification of all isolation / lockout points ensuring there is no duplication;
- Isolation of the main energy source;
- The use of slip plates or the blanking off of pipelines or ducting, in addition to the chaining and locking of valves, as determined by a risk assessment;
- Suitable methods of preventing the movement of equipment; and
- Methods to test the effectiveness / completeness of the isolation.

Note: No work may commence on a system or equipment until an Isolation Permit has been issued by the Authorised Person; and an Isolation Permit may only be issued by an Authorised Person once all required Clearance Certificates have been issued by appointed Isolation Officers.

Requirements as stipulated in the Hazardous Energy Resources control (LOTOTO) procedure KH-HSE-PR-045 will be implemented.

#### *7.1.15 Personal locks*

A Personal Lock must be such that it can only be unlocked by its owner. A Personal Lock must be issued to each employee that requires one and included in the LOTOTO register.

The registration and removal of locks and tags will be in accordance with the Hazardous Energy Resources control (LOTOTO) procedure KH-HSE-PR-045.

#### *7.1.16 Confined Spaces*

Confined space means an enclosed, restricted or limited space in which, because of its construction, location or contents, or any work activity carried out therein, a hazardous substance may accumulate or an oxygen-deficient atmosphere may occur, and includes any chamber, tunnel, pipe, pit, sewer, container, valve, pump, sump, or similar construction, equipment, machinery or object in which a dangerous liquid or a dangerous concentration of gas, vapor, dust or fumes may be present. This is in addition to the Job Safety Analysis (JSA) and Pre-Job Briefing that must be completed for all jobs.

Karpowership South Africa will conform to the following requirements:

- Only personnel trained and qualified in Confined Space Entry are permitted to enter a "Confined Space".
- Trained and qualified personnel may only enter a Confined Space after the completion and approval of a "Confined Space Permit".

- Calibrated multipurpose gas monitors will be used to measure the air quality prior to entry into a confined space.
- All work performed within a confined space must comply with General Safety Regulations 5 and Section 27 of the Maritime Occupational Safety Regulations, 1994.

Karpowership South Africa will follow the Confined Space work instruction KH-HSE-INS-019 and the work permit procedure KH-HSE-PR-041.

### *7.1.17 Scaffolding*

Karpowership South Africa will ensure that scaffolds comply with SANS 10085.

#### *7.1.17.1 Training, Competency and Supervision*

Scaffolding may only be erected, maintained, altered or dismantled under the strict personal supervision of a competent Scaffolding Supervisor (or Scaffolding Inspector) appointed in writing by the Karpowership South Africa operational site.

Scaffolding can only be erected, maintained, altered or dismantled by competent and appointed Scaffolding Erectors (or Scaffolding Builders). It is the Scaffolding Supervisor's responsibility to ensure that all employees carrying out such work are suitably trained and experienced. A certificate of competency issued by a reputable (i.e. accredited and approved) training provider will be produced for each Scaffolding Supervisor and each Scaffolding Erector.

#### *7.1.17.2 Erection and Dismantling of Scaffolding*

Only approved scaffolding components will be used to erect a scaffold. Scaffolding will be erected, modified and used in accordance with the manufacturer's guidelines / recommendations, and in strict compliance with all applicable legislation and standards.

Base width to scaffold height ratios prescribed by regulation or by the manufacturer of the components will be adhered to.

If the scaffolding is to be load bearing (i.e. other than normal access and workplace storage) then full calculations and a design will be prepared and authorised in writing by an engineer. The load limits specified by the scaffolding manufacturer will not be exceeded under any circumstances.

Karpowership South Africa will ensure that scaffolds comply with SANS 10085.

Should the scaffolding require earthing, this must be done as soon as possible while the scaffolding is being erected. Scaffolding may not be erected if it is raining or in winds stronger than 35km/h.

A green tag (displaying the words, "Scaffold Safe to Use") or a red tag (displaying the words, "Scaffold Unsafe to Use") will be prominently displayed on each scaffold at all times. The tag will be positioned close to the base of the

ladder / staircase provided for safe access. The wording on the tags must be in English and any other language commonly used on site/vessel. As a minimum, a green tag must display the Scaffolding Supervisor's name, the date that the scaffold was erected, and the date that the scaffold was last inspected. Only an appointed Scaffolding Supervisor may attach, change, update the information on, or remove these tags.

Mobile scaffolding will be fitted with brakes, which must be engaged at all times when the scaffolding is in use. A scaffold may not be moved if any person is on the structure.

#### **7.1.17.3** *Inspection of scaffolding*

Every scaffold structure must be inspected by a competent Scaffolding Supervisor: Prior to use after erection, and at least weekly thereafter; After inclement weather (heavy rain, strong winds, etc.); After any incident resulting in jarring, tilting or overloading; After any alteration is made; and Before being dismantled.

On completion of an inspection, the Scaffolding Supervisor must update the information on the scaffold tag. A record of each inspection (date and time of inspection, location of scaffolding, findings, etc.) will be captured in a register. The register(s) must be maintained by the Scaffolding Supervisor(s) carrying out the inspections.

#### **7.1.17.4** *Identification, storage and inspection of scaffolding components*

Prior to erecting a scaffold, all scaffolding components must be carefully inspected by a competent Scaffolding Supervisor.

Components found to be defective during an inspection will be conspicuously marked and removed to a suitably demarcated quarantine area for destruction, repair, refurbishment or removal from the site/vessel. Deformed and bent wedges must be straightened and inspected for cracks before being put back into service.

All scaffolding components will be stored in a demarcated storage area in such a manner that they are not exposed to environmental extremes and will not cause injury to persons. Suitable barricading or fencing must be erected, and warning signage must be posted (e.g. No Unauthorised Entry).

Within a storage area, scaffolding components must be stacked such that pathways (750 mm in width) are maintained between the stacks. Each stack must be stable, and components must be neatly placed to ensure that no ends protrude into any pathway. The various components must be stacked separately. The weight of scaffolding components must be considered when stacking them in elevated positions. Any storage area for scaffolding components must be positioned such that it will not interfere with any onsite activity (including the operation of any plant or equipment), block any access way, or obstruct access to any plant or equipment.

Any Scaffolding work will be performed in accordance with the Scaffold Instruction KH-HSE-INS-020 and the work permit procedure KH-HSE-PR-041.

### **7.1.18 Electrical Safety**

Any Electrical work will be performed in accordance with the Electrical Works Instruction KH-HSE-INS-021 and the work permit procedure KH-HSE-PR-041.

#### **7.1.18.1 Training and Qualifications**

Only persons who are qualified and authorized are permitted to perform work on or near exposed, energized electrical equipment or to open enclosures or panels that contain exposed energized electrical parts or equipment.

Persons working on "live" lines or equipment shall have had appropriate training, be competent and familiar with the equipment and be aware of the all the potential risks involved with the work.

#### **7.1.18.2 Basic Electrical Safety Principals**

All electrical lines and equipment shall be considered "live" (energized) until proven "dead" (de-energized).

The "live, dead, live" testing method shall be used to prove that a line or piece of equipment is de-energized.

All electrical lines and equipment shall not be worked as "de-energized" until a lockout/tagout is in place

Workers must be insulated from the energized parts with insulated gloves and/or sleeves, or a barrier or guard shall be in place between energized parts and the worker.

Conductive items such as of jewellery or clothing shall not be worn during energized electrical work.

No work to be performed without a valid "Work Permit".

#### **7.1.18.3 Working on or around Electrical Equipment**

All persons who work near live electrical apparatus shall understand the hazards and the limits of their movements.

A Safety Observer shall be appointed when persons are working on or near energized electrical lines.

All energized work shall have an "Electrical Work Permit" completed prior to the start of work together with a JSA. Only the authorized personnel can approve and sign off an "Electrical Work Permit".

All insulated hand tools used in close proximity to live electrical equipment must be insulated to the highest voltage likely to be encountered.

Visually inspect all insulated tools prior to use.

Verify that test metering or sensing devices are operating properly and that appropriate settings are used.

Safe approach distances are areas around energized electrical lines and equipment into which no part of a person, equipment or object (other than insulated) may encroach.

Safe approach distances to energized electrical lines and equipment shall be adhered to at all times.

### *7.1.19 Welding and Cutting works and Machines*

#### *7.1.19.1 Arc welding*

All welding machines and safety devices will be subjected to regular planned maintenance and a monthly electrical inspections. The inspections must include a test to ensure that the voltage reducer where necessary is functioning properly, by measuring and confirming that the open circuit output voltage is reduced.

Before using a welding machine, the welder must ensure that he is wearing all the required and approved protective clothing and equipment: Welding hood; Leather welding gloves; Safety boots with steel toe protection; Overalls; and any other clothing or equipment necessary to perform his or her work safely and efficiently. Persons assisting the welder must also wear all of the required personal protective equipment.

When changing electrodes or moving the earth clamp, the welder and his or her helpers must wear gloves to avoid possible skin contact with live electrical parts and to prevent burns. When attaching welding cables to the terminals of the welding machine, the welder and his or her helpers must wear gloves, or preferably, the machine should be switched off to avoid possible electric shock.

The welder must ensure that the earth cable follows the shortest practical route between the welding machine and the work piece. The earth connection must be directly between the welding machine and the work piece, and no building or other structure must form part of the earth return path. As far as is practicable, the welder should avoid welding under wet or damp conditions.

When working inside metal vessels or under other conditions where parts of his or her body may come into contact with conducting surfaces, the welder must take precautions to insulate him or herself from such surfaces. When working in confined spaces, the welder must take steps to ventilate the area to prevent inhalation of fumes, which may endanger his health and the health of any assistants. Engine powered welding machines must not be used in any place that is not very well ventilated since the welder and his or her helpers may be overcome by carbon monoxide fumes.

The welder should take the necessary precautions when welding objects that may catch alight, explode or release poisonous fumes or gases.

### 7.1.19.2 *Arc Flash Safety*

Depending on the scope and nature of the work, a documented arc flash protection programme must be in place that specifies:

- The methodology for calculating incident energies and determining flash protection boundaries; and
- The PPE required (specific to a task and the equipment on which the task is performed) and associated procedures to mitigate the hazard.

An Arc Flash Hazard Assessment must be carried out based on accurate and current data.

All electrical cabinets where the potential for an arc flash hazard exists must be labelled in accordance with the hazard assessment and the potential incident energies calculated.

A process must be in place for updating the Arc Flash Hazard Assessment and labelling as changes and electrical upgrades occur that might affect the available short circuit current on the system.

### 7.1.19.3 *Gas welding and burning*

Welding or cutting torches and hoses shall not be connected to cylinders when stored. When work is stopped and equipment is unattended, all valves at the gas and oxygen cylinders shall be closed. The hoses shall be bled, and a check shall be made for possible pressure build-up.

Torches shall be removed from the hoses prior to putting them into the toolbox. Smoking SHALL NOT be permitted during this stopping procedure. Special care shall be taken during overhead cutting and welding operations to safeguard and prevent falling sparks from starting a fire. Warning signs shall be posted around and at each level below the area of each overhead welding or burning operation. Fire extinguishers shall be available and fire blankets shall be used for protection.

When welding or cutting, adequate ventilation must be ensured / provided. Hoses shall be kept clear from passageways, ladders and stairs. When hoses are subject to damage, they shall be properly protected. Hoses shall be inspected daily. Fire extinguishers shall be ready for instant use in locations where cutting is performed.

Flash-back arrestors must be fitted to all cutting torches at the torch and at the bottle (a total of four arrestors). Hoses may only be secured using approved hose clips, and not by wire, cable ties or any other means. Special care shall be taken when welding with respect to piping that has been painted, as toxic fumes may be emitted in some cases. The supervisor's advice should be sought prior welding operations being carried out.

Karpowership South Africa's operational sites/vessels will ensure implementation of hot work instruction KH-HSE-INS-017 and the work permit procedure KH-HSE-PR-041.

#### *7.1.20 Safeguarding and operation of machinery*

Karpowership South Africa's operational sites/vessels will ensure that every exposed and hazardous part of machinery on board a vessel which is within the normal reach of a person to be effectively safeguarded by means of insulation, fencing, screening or guarding so that it does not constitute a further hazard or potential hazard. And that the insulation, fencing, screening or guarding will be maintained and kept in operation. Relevant machinery will be provided with emergency stops.

Machinery which is in motion, under pressure, at high temperature or electrically alive (including the operation of such machinery for the purposes of the examination, adjustment, repair, lubrication or testing thereof) will be operated and examined by competent employees.

#### *7.1.21 Pressure Vessels*

Karpowership South Africa will ensure that inspection and testing will be in accordance with Pressure Equipment Regulations, 2009, for pressure equipment with a design pressure equal to or greater than 50 kPa.

Operational sites of Karpowership South Africa will ensure pressure equipment has a certificate, issued by the manufacturer, including a verification signature by an approved inspection authority when required, which certifies that the pressure equipment has been designed and manufactured in accordance with the relevant health and safety standard incorporated into these Regulations.

Only an organisation holding an approval certificate from the chief inspector shall perform the duties of an approved inspection authority.

Karpowership South Africa will ensure that no pressure equipment is permitted to be used unless it is provided with all the pressure and safety accessories required by the relevant health and safety standard as prescribe by the Pressure Equipment Regulations.

Karpowership South Africa will ensure that inspection frequencies are aligned to the Pressure Equipment Regulations.

Karpowership South Africa will follow the Pressure Vessels Instruction KH-HSE-INS-013.



### 7.1.22 *Lifting plant and equipment*

Karpowership South Africa will ensure that the requirements for lifting plant aligns with applicable legal and other requirements.

#### 7.1.22.1 *Design, Manufacturing and Safety Features*

Karpowership South Africa will ensure before any crane / hoist is operated on the site / vessel it must be formally accepted (authorised) by the nominated project management representative. The acceptance process must be based on an inspection and must take the crane's / hoist's safety features and cabin ergonomics (if applicable) into account. The same process must be followed before any crane / hoist is returned to service following any modification or repair. An equipment profile (dossier) will be compiled for each crane.

All lifting plant will be clearly and conspicuously marked with its safe working load.

Where practicable lifting plant will be fitted with:

- A limiting device which automatically arrests any driving effort when the load reaches its highest or lowest safe position
- A brake or other device suitable to holding a load and preventing the uncontrolled downward movement thereof when the raising effort of the lifting plant is interrupted; and
- A hook or load-attaching device so designed or proportioned that the accidental disconnection of a load under working conditions is prevented.
- Fitted with a device indicating the operating radius of the lifting plant at all times while it is in operation; and
- a diagram or indicator indicating to the operator the safe working load of the lifting plant corresponding to its operating radius, if it has a safe working load which varies according to its operating radius.

#### 7.1.22.2 *Planning and risk assessment*

For each critical lift that must be carried out on site, a documented and detailed lift plan and risk assessment will be prepared to address all associated hazards. Only suitable qualified, competent and experienced persons (lift planners) may evaluate critical lifts and prepare lift plans.

The lifting supervisor, crane operators, riggers and spotters responsible for carrying out a critical lift must have input into the lift plan and risk assessment and must be consulted before these documents are finalised. All lift planners, lifting supervisors, crane operators, and riggers must be appointed in writing

The lift plan for a critical lift will include:

- General Information – crane manufacturer, crane model, items to be lifted, and reason for lift;

- Lift Data – load weight, lifting block and hook weight, hoist rope weight, rigging weight, total weight, height of lift, radius of lift, surface area of load, and centre of gravity of load;
- Rigging Data – sling material (chain, wire rope, or synthetic), sling diameter, sling length, sling configuration, sling capacity, hook type, shackle size and capacity;
- Lift Computation – boom length, jib length, radius of lift, crane capacity as configured, size of outrigger footplates, and wind speed;
- Proximity to Power Lines – mobile cranes working in proximity to energised power lines must operate under a Permit to Work, which must define exclusion zones and spotter duties; and
- Local Hazards and Controls – including the route for the crane, ground stability, proximity of people or equipment, and agreed communication method.

#### **7.1.22.3** *Operation*

At the start of every day / shift, the operator of a crane / hoist must carry out a pre-operation safety check using a prescribed checklist. The specific requirements of the pre-operation safety check (and associated checklist) must be based on: Risk that addresses all aspects of safe operation of the crane / hoist; and the inspection recommendations of the manufacturer.

As a minimum, the pre-operation safety check will include: A thorough visual inspection of all wire ropes, chains, hooks and safety latches, hook blocks, sheaves, hydraulic hoses, electrical cables, and the general condition of the crane / hoist; Checks to confirm the serviceability of the operating controls; Tests to confirm the correct operation of all limit switches, emergency shutdowns, load indicators, alarms and other safety devices; and A thorough visual inspection of all lifting equipment (tackle) to be used.

Karpowership South Africa will ensure that inspection and controls parameters of lifting and transfer equipment and lifting tools and equipment as defined in Lifting Equipment Instructions KH-HSE-INS-014, Load Lifting Instructions KH-HSE-INS-024 and the work permit procedure KH-HSE-PR-041 will be implemented.

#### **7.1.22.4** *Inspection, testing and maintenance*

Any crane / hoist brought onto the site will have a current test certificate and record of inspection as well as a suitable checklist (derived from the crane / hoist manufacturer's inspection recommendations) for use by the operator(s) when carrying out pre-operational safety checks.

A register of all cranes / hoists and lifting equipment (tackle) will be compiled and maintained. Each crane / hoist and item of lifting equipment must have a unique identification code or number, which must be referenced in the register.

For each crane / hoist and item of lifting equipment, the following documentation will be kept on site: Test records and certificates; Inspection records; and Maintenance records.

All cranes / hoists and lifting equipment will be inspected, tested and confirmed fit for purpose / accepted safe for use: Before being operated or put into service; Before being returned to service following any repair or modification; and Periodically as follows (unless local regulations require examination more frequently):

- Each crane / hoist (including all ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices that form an integral part of the crane / hoist) must be thoroughly examined by a competent, experienced and appointed person every 6 months;
- Each crane / hoist must be subjected to an annual performance test (i.e. a load test) by a competent, experienced registered authority; and
- All lifting equipment (tackle) must be thoroughly inspected by a competent, experienced and appointed person every 3 months.

Lifting plant will be examined by a competent person after installation and thereafter at least every 12 months. No lifting plant is permitted to be used unless examined and declared safe in writing.

Test certificates stating that the lifting plant was tested by a competent person will be maintained.

#### **7.1.22.5 Training and Competency**

Each operator will meet the competency requirements for the particular class / type of crane / hoist to be operated. Operators need to hold a certificate of competency issued by a recognised training institution.

#### **7.1.23 Operation of vehicles and mobile plant**

Karpowership South Africa will ensure that:

- Daily pre-start inspections by the equipment operator. Logbooks shall be maintained and audited and shall be located on the machine.
- A maintenance and inspection program for vehicles and plant.
- Truck loading/unloading procedures - to avoid material or objects falling from the vehicle.
- All equipment operators shall be appropriately licensed and deemed competent prior to operating any equipment at the plant. Licenses and certificates of competencies shall be located with the operator at all times.
- Mobile phones, whether hands free or not, shall only be used by an operator of equipment while it is stationary and in a safe location.

#### 7.1.24 Lift

Karpowership South Africa will ensure compliance with the lift, escalator and passenger conveyor regulations, 2010.

The following documents will be available for each list:

- The name of the manufacturer;
- the year of installation;
- the year of modification;
- the official number contemplated in regulation 3(1) (a);
- the rated speed in metres per second; and
- the rated load in kilograms.

In addition to the aforementioned records, the following details will also be kept by each operational site of Karpowership South Africa that has a lift:

- Site name, address and telephone number
- The name, address and telephone number of the competent lift service provider
- A report on the result of every examinations of each list
- Rope certificates and results of examinations
- Technical dossiers and reports as per SANS specifications

All records will be kept for at least 10 years.

##### 7.1.24.1 Inspections and tests

Karpowership South Africa will ensure that lifts are inspected at the following stages:

- After modifications
- After failure has occurred
- Whenever there has been a change in the competent lift service provider
- At intervals not exceeding 24 months thereafter, or at shorter intervals if indicted as such by the risk assessment.

Inspections will only be allowed to be carried out by an approved inspection authority.

##### 7.1.24.2 Maintenance

Karpowership South Africa will appoint a competent lift service provider to examine and maintain their lifts at least once a month.

#### 7.1.25 Emergency Preparedness and response

Each Karpowership South Africa operational site/vessels will compile an emergency response plan. The emergency response plan should be inclusive of any emergency response plans stipulated by permit conditions and should be compliant with all applicable legal requirements.

The plan will be risk-based and documented, and it will detail the procedures that will be followed when responding to various emergency scenarios.

Each Karpowership South Africa operational site /vessel must compile and maintain an up-to-date list of emergency telephone numbers. A copy of this list must be posted near each telephone, and on every notice board.

Each Karpowership South Africa operational site/vessel must conduct emergency response drills to test the effectiveness of the emergency procedures and equipment, and the knowledge and proficiency of the response personnel. The outcome must be documented. Corrective actions must be identified and implemented to address the shortcomings, and the Emergency Response Plan must be amended as required.

Karpowership South Africa will implement the requirements of Emergency Procedure KH-HSE-PR-037.

#### **7.1.25.1 Medical Facility**

Each operational site / vessels have a Health unit and a workplace medical services representative (Health Officer) available on 24/7 principle.

Relevant registration and compliance with the Medicines and Related Substances Act 101 of 1965, as amended, will be followed to ensure that medical facility pharmaceuticals are stocked and controlled in line with legislative requirements.

#### **7.1.25.2 First aid equipment**

Karpowership South Africa will ensure that where more than five employees work on a vessel that a portable first aid kit is available. The minimum contents of the portable first-aid kit will be in accordance with the Maritime Occupational Safety Regulations, 1994. Furthermore, the contents of the first aid box will provide for additional first aid equipment based on the additional risks associated with the work activities as required in terms of Section 3(a) of the General Safety Regulations, 1986.

Karpowership South Africa will implement inspections and requirements of instructions for emergency response equipment as indicated in KH-HSE-INS-012.

#### **7.1.25.3 First aid training**

First aid training will be in accordance to SAMSA code requirements & R2666 Ship's Officers medial training regulation, 1992.

#### **7.1.25.4 Lifebuoys and lifeboats**

The Karpowership South Africa vessels will be equipped with the minimum number of lifebuoys and lifeboats as prescribed by the Life-savings equipment regulations, 1986.

#### **7.1.26 Hand and Power equipment**

The Karpowership South Africa will ensure that hand and power tools conform to the following rules:

- All hand-held power tools and appliances are protected by a Residual Current Device (RCD).
- Where available, only double insulated power tools are used at the site.
- Power tools, leads and plugs are regularly tested-and tagged for external damage or makeshift repairs.

- Do not use tools if the casing, cords or plugs are broken or damaged.
- Do not adjust tools without first switching off and removing the plug from the outlet.
- All personnel required to use hand tools and / or power equipment are appropriately trained to enable the safe operation of such equipment.
- Use the right tool for the job.
- Don't use broken or damaged tools, dull cutting tools, or screwdrivers with worn tips.
- Cut in a direction away from the body.
- Make sure grip and footing are secure when using large tools.
- Keep tools secure at all times when working at heights.
- Pass a tool to another person by the handle - never throw a tool.
- Use the right PPE for the job.
- Never carry sharp or pointed tools such as a screwdriver in a trouser pocket.
- Select ergonomic tools for the work task, particularly when movements are repetitive and forceful
- Ensure tools are always kept in good condition.
- Store tools properly at the end of shift.
- Personnel shall also inspect all hand tools and power equipment on a regular basis. Defective tools or equipment shall be immediately removed and tagged Out of Service or destroyed to prevent further use.

#### 7.1.27 Colour Coding

Karpowership South Africa will ensure that all electrical hand tools (spiral machine, drill, driller, crusher, etc.), electrical equipment (cables, connecting cable, extension cord, projectors, heater, etc.) and ladders are fitted with a colour code label, as indicated in the figure below. The colour coding will be done by competent individuals.

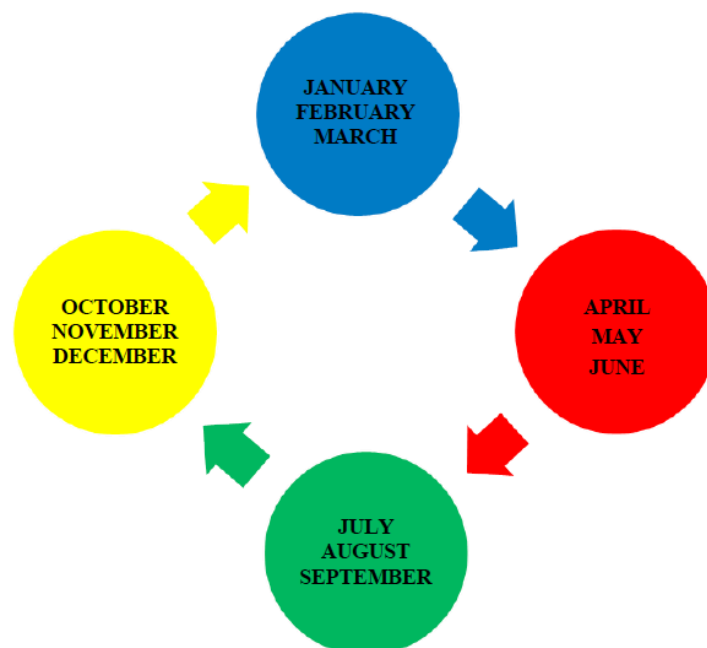


Figure 4 - Colour coding by Month

## 7.2 Food preparation

The operational site of Karpowership South Africa will ensure that a valid certificate of acceptability has been obtained and is displayed for information on the food premises.

The food preparation areas of the Karpowership South Africa vessels will comply with the requirements of the Foodstuffs, Cosmetics and Disinfectant Act, 1972.

The food preparation area will:

- Have a wash-up facility with hot and cold water for the cleaning of facilities
- Be bird and rodent proof in accordance with the best available method
- Be provided with effective means of controlling and preventing access of flies, cockroaches or other insects
- Have a waste water disposal system compliant with permit conditions.

The microbiological monitoring of the food preparation area, appliances and equipment will be done, in accordance with regulatory requirements to ensure that it is within acceptable microbiological counts.

Food prepares will not be allowed to handle food without wearing suitable protective clothing, consisting of:

- Protective clothing,
- Hair and beard nets

All food prepares will be training in accordance with the relevant SETA / SAQA requirements, including the principles and practices of food safety and hygiene.

Food waste management will be in accordance with the Waste Management Procedure KH-KPS-PR-020. The cleaning regime will include the regular disinfecting of refuse bins.

Sufficient provision will be made to allow for regular handwashing with clean water and soap for Food Handlers.

Food handlers will be required to undergo a food handler medical to confirm that they are not carriers of a disease or condition in its contagious stage.

Control measures will be implemented to ensure that relevant cooling facilities, maintains the legally prescribed core temperatures at all times.

## 7.3 Disaster Management

If the Karpowership operational site/vessels are classified as a major hazard installation, the requirements of Major Hazard Installation Regulations, 2001 will be implemented.

In addition to the aforementioned regulation, the City of Umhlathuze, Disaster Management Bylaw will apply to the Richards bay installation.

#### 7.4 COVID-19 Requirements

Karpowership South Africa will ensure that the response to the COVID-19 outbreak is continually updated to ensure the legislative requirements as published and the information from the department of health regarding the management and prevention protocols are complied with.

Each Karpowership South Africa operational site will develop and implement a safe contingency plan that details the Karpowership South Africa's action plan with regards to the requirements to manage the possible exposure of its employees, contractor employees, visitors and suppliers. This plan will be in effect for the duration of the outbreak.

Prior to entering site, Karpowership South Africa will ensure that the screening process is implemented and that each employee, visitor and supplier that wants to enter the site / vessel is screened. Karpowership South Africa must ensure that social distancing is practiced during this time. Karpowership South Africa will ensure that an identification process is implemented to identify employees that has been screened.

Karpowership South Africa will ensure that all staff is trained on the hazards / risks and preventative measure regarding the sub-microscopic biological agent "Covid-19 Coronavirus", the training and assessment of risk shall be recorded and acknowledged by all in writing.

Karpowership South Africa will ensure that the complete process from employee transportation to site/vessel, up to the safe return to home is managed by the plan developed.

Karpowership South Africa will identify the process with which visitors and deliveries will be managed in line with the control measures stipulated in the baseline risk assessment. Karpowership South Africa will ensure that sufficient hand wash facilities and hand sanitizer is available to employees.

Karpowership South Africa will define a cleaning and sanitizing regime that will be implemented for all office areas, all eating and smoking areas, all stores and all communal areas employees would be required to use. This will include all requirements for cleaning to be done by individuals for their own desks, cutlery and crockery.

Karpowership South Africa will ensure that activities on-site is so scheduled and planned that the requirement of social distancing is not breached and that employees working in areas do not perform activities in such a way as to expose themselves or other employees to possible infection.



## 8. Operation – Environmental

Karpowership South Africa is to take note of any environmental permits and associated EMPs with the aim to:

- Comply with all conditions of the environmental authorisation;
- Encourage good management practices through planning and commitment to environmental issues;
- Define how the management of the environment is reported and performance evaluated;
- Provide rational and practical environmental guidelines to:
  - Minimise disturbance of the natural environment;
  - Prevent or minimise all forms of pollution;
- Comply with all applicable laws, regulations, standards and guidelines for the protection of the environment;
- Adopt the best practicable means available to prevent or minimise adverse environmental impacts;
- Develop waste management practices based on prevention, minimisation, recycling, and correct treatment or disposal of wastes;
- Describe all monitoring procedures required to identify impacts on the environment; and,
- Train employees and contractors with regard to environmental obligations.

Each Karpowership South Africa operational site / vessel will supply an Environmental Management Plan (OEMP), inclusive of waste management. Requirements as per Waste Management Procedure KH-KPS-PR-020 will be followed.

### 8.1 Occupational Health and Hygiene

Karpowership South Africa will measure the exposure or potential exposure of his employees to any of the following stressors assessed and measured (a baseline survey must be carried out by an Approved Inspection Authority): Noise; Thermal stress (heat and cold); Particulates (dust); Gases or vapours; Chemicals; Ionising radiation; Non-ionising radiation; Vibration (hand / arm vibration and whole body vibration); Ergonomics and Illumination.

If it is determined that exposure levels for a particular stressor are unacceptable, then a monitoring and control plan must be implemented to manage any risk of overexposure.

Each Karpowership South Africa operational site / vessel will confirm to requirements as stipulated in Atmosphere measurement instruction KH-HSE-INS-016.

Relevant risk assessments will be amended to reflect the risk profile based on the exposure results and preventative measures will be aligned with the recommendations from the Approved Inspection Authority.

Typical inspections that will be conducted is as follow:

- Weekly health and hygiene inspections will be carried out of the accommodation area, personnel meeting rooms, washrooms, infirmary, kitchen and freezers and dry provision rooms. (Refer checklist KH-KPS-FR-049 and KH-KPS-FR-240)
- All fans in the plant/vessel will be listed according to their sections and control points and will be checked monthly. (Refer checklist KH-KPS-FR-086)

## 8.2 Permit Conditions

The Karpowership South Africa needs to take note of any environmental permit requirements.

### 8.2.1 Waste management

All effluent and sold (general and hazardous) waste will be removed by authorised service providers in term of legislation and TPNA and MARPOL requirements.

Discharge of oil, noxious liquid substances, and sewage from vessels into marine environment is prohibited. All black (sewage water) and grey (washing and kitchen) wastewater generated during operation of Powership facilities will be removed by authorised service providers for appropriate off-site treatment and disposal.

Any medical waste will be managed in accordance with local bylaws and the South African National Standard, SANS 10248: 2004: Management of Health Care Waste. Current applicable bylaws include City of uMhlatuze – Environmental Health Bylaws and Nelson Mandela Bay Metropolitan municipality – Waste Management Bylaws.

### 8.2.2 Water management

Karpowership South Africa is responsible to ensure that the required testing of water to ensure compliance with the permit conditions and efficient operation of the site / vessel needs is done within the defined frequency and sampling methodology. It is inclusive of:

- o Testing incoming water for compliance with water treatment and boiler requirements
- o Testing effluent for compliance with discharge requirements.

### 8.2.3 Emergency Preparedness and response

In addition to requirements stipulated in section 6.1.24 Karpowership South Africa needs to ensure that the emergency preparedness plan include any permit conditions, as stipulated.

Each Karpowership South Africa operational site/vessels will compile an emergency response plan. The emergency response plan should be inclusive of any emergency response plans stipulated by permit conditions and should be compliant with all applicable legal requirements.

The plan will be risk-based and documented, and it will detail the procedures that will be followed when responding to various emergency scenarios.

Each Karpowership South Africa operational site /vessel must compile and maintain an up-to-date list of emergency telephone numbers. A copy of this list must be posted near each telephone, and on every notice board.

Each Karpowership South Africa operational site/vessel must conduct emergency response drills to test the effectiveness of the emergency procedures and equipment, and the knowledge and proficiency of the response personnel. The outcome must be documented. Corrective actions must be identified and implemented to address the shortcomings, and the Emergency Response Plan must be amended as required.

Karpowership South Africa will implement the requirements of Emergency Procedure KH-HSE-PR-037

## 9. Operation – Contractor and Supplier Management

Karpowership South Africa will ensure that processes are in place to ensure that the HSE and Quality risks associated with the procurement of materials, equipment, services and labour are effectively managed.

Where work is performed by a mandatory (registered service provider), there will be a 37.2 agreement between every service provider / contractor and Karpowership South Africa.

Karpowership South Africa is to ensure that Contractors and Suppliers comply with:

- All relevant statutory and other legal requirements
- All security, health, environmental and safety regulations, policies, codes of practice and rules
- All Facility/Vessel rules and regulations.

Karpowership South Africa will manage contractors and suppliers in accordance with Subcontractor and Contractor management Procedure KH-HSE-PR-034.

## 10. Operation – Quality

### 10.1 Quality Management Process

Karpowership South Africa will ensure a quality management process, consisting of the following is implemented:

- Quality planning - identification of the relevant quality standards and the determination of how to satisfy them. The output from quality planning is a quality management plan that documents how Karpowership South Africa team will implement its quality policy. It addresses quality control, quality assurance and quality improvement for the Facility/Vessel. In addition, it includes operational definitions or metrics (explicit descriptions of what something is and how it will be measured) and checklists (to verify that a set of required steps has been performed or that a set of required features have been included).
- Quality assurance - evaluating overall facility performance on a regular basis to provide confidence that the facility will satisfy the relevant quality standards.

Quality audits (structured reviews of other quality management activities) play a key role in quality assurance. Quality assurance results in quality improvements.

- Quality control – which is the monitoring of specific results to determine if they conform to the relevant quality standards and the identification of ways to eliminate the causes of unsatisfactory performance. Inspection using checklists as a guide and trend analysis are key elements of quality control. Quality control results in quality improvements, process adjustments (immediate corrective or preventive action) and rework. Since rework is a frequent cause of cost and schedule overruns, the goal of quality management is to minimize the amount of rework required and get it right the first time.

Quality Assurance will be implemented and maintain a quality assurance system that covers at least the working procedures of the examiners and Registrar, as required by Merchant Shipping Regulations, 2013.

## 10.2 Testing and sampling

Karpowership South Africa is to ensure that the minimum quality and testing requirements is documented in a testing and sampling plan. This plan should include testing of the Facility and Vessel as well as storage of samples.

In process verification checks and measurements to determine if acceptance criteria are met should be stipulated in the testing and sampling plan.

The sampling methodology should be documented by Karpowership South Africa.

## 10.3 Handover process

The commissioning handover process is typically done in 3 stages:

### **Stage 1 - Commissioning of Individual Equipment**

This stage of commissioning consists of the complete inspection, testing and operation of each piece of equipment individually, checking that electrical control and power wiring has been connected to the equipment correctly and checking the configuration and calibration of each instrumentation loop. It is the normally the Installation Contractor's responsibility to direct and carry out this stage.

Stage 1 commissioning. The responsible Engineer will provide technical assistance where necessary and will approve the inspections and witness the tests.

### **Stage 2 - Commissioning of Systems**

This stage of commissioning consists of successfully testing and operating the equipment grouped together into modules or system. Stage 2 will be directed by the responsible Engineer; any related work will be done by the Installation Contractor. At the end of Stage 2 commissioning, the Installation Contractor will have corrected any deficiencies which the Engineer deems necessary to proceed with Stage 3 commissioning (start-up). The Engineer will then prepare a list of the Installation Contractor's remaining work deficiencies, to which the Contractor will agree in writing to remedy.

The Contractor shall correct these, and any other deficiencies covered under his responsibilities and warranties as defined by the Installation Contract.

To signify the completion of Stage 2 commissioning, the Installation Contractor, Engineer and Owner's representative will sign a Handover Certificate (accompanied with a Deficiency List) mentioned above. The signing of this document hands over the module or system, from the Contractor to the Owner.

### **Stage 3 - Start-up**

This stage of commissioning consists of placing the plant into operation by the Owner. Any assistance of the Contractor will be called for on an additional work basis.

#### **10.4 Calibration**

Karpowership South Africa is to ensure that all monitoring and measuring devices used to certificate the conformity to standards are controlled and calibrated on a regular basis and are in any respect in accordance with the technical requirements. Calibration and verification should be traceable to a recognised local South African standard.

Calibration check and re-certification will be once every 12 months. However, the frequency for a calibration check of a measuring instrument will depend on the operating conditions of the instrument.

### **11. Performance Evaluation**

Karpowership South Africa will develop a process for measuring HSE and Quality performance. Metrics must include leading and lagging indicators and be based on qualitative and quantitative data. H&S Performance measuring and monitoring procedure KH-HSE-PR-035 will be used as guideline.

Performance must be measured on a regular basis and this must include an evaluation of: The extent to which objectives are being met; Progress against targets; The effectiveness of controls; Proactive conformance measures; and Reactive or historical performance measures.

#### **11.1 Audits**

Karpowership South Africa needs to implement an audit programme to evaluate the Karpowership South Africa's performance on a regular basis and provide confidence that the O&M activities will satisfy the relevant HSE and Quality standards.

The intent is to ensure that:

- HSE and Quality management activities have been identified and scheduled in the Execution Plan/schedule and completed as planned
- Action items resulting from HSE and Quality management activities are being acted upon
- HSE and Quality management activities actually add value by improving quality.

HSE Site control and audit procedure KH-HSE-PR-038 will be followed.

## 11.2 Inspections

Karpowership South Africa will implement a process to conduct regular HSE and Quality inspections to ensure compliance with legal, compliance and Owner requirements.

Legally required and Karpowership South Africa required inspections have been documented in the applicable referenced procedures and sections of this Manual.

## 12. Improvement

### 12.1 Incident, nonconformity and corrective action

Karpowership South Africa will establish a procedure for the management of all incidents and nonconformances. The procedure will outline the methodologies and processes that will be followed for:

- Recording an incident and nonconformance;
- Investigating an incident and nonconformance;
- Analysing the impact(s) and the potential risk of future incidents and nonconformances;
- Communicating information concerning an incidents / non conformances to relevant persons / groups; and
- Managing corrective actions to prevent a reoccurrence.

Arrangement will be in place to ensure that proper medical care is provided to any employee that suffers an occupational injury or illness.

Requirements per Incident Notification, Investigation and Reporting Procedure KH-HSE-PR-044 will be implemented.

Reporting of incidents will be in accordance with Risk and Near miss notification instruction KH-HSE-INS-010 and Hazard alert and lessons learned instruction KH-HSE-INS-011.

### 12.2 Reportable incident and occupational diseases

#### 12.2.1 Reportable incident

The Occupational Health and Safety Act (OHS Act) is minimum standard legislation providing among others for the health and safety of persons at work, and for the health and safety of persons in connection with the use of plant and machinery.

Reportable incidents include events where any person:

- dies;
- becomes unconscious;
- suffers the loss of a limb or part of a limb; or
- is otherwise injured or becomes ill to such a degree that he is likely either to die; or
- suffer a permanent physical defect; or
- is likely to be unable for a period of at least 14 days either to work or to continue with the activity for which he was employed or is usually employed.

According to subsection (c), the following incidents endangering the health and safety of any person must also be reported to an inspector:

- where a dangerous substance was spilled;
- where the uncontrolled release of any substance under pressure took place;
- where machinery or any part thereof fractured or failed resulting in flying, falling or uncontrolled moving objects; or
- where machinery ran out of control.

According to regulation 7 of the General Machinery Regulations, the following incidents involving machinery must be reported to an inspector:

- Where machinery ran out of control as a result of the failure of a control or safety equipment and could have caused an injury to a person who had been conveyed on or in such machinery or had been in the vicinity thereof; or
- the fracture or failure of any part of machinery in which gas is under pressure resulted in the sudden release of such gas.

Please note that the incident site may not be disturbed without the consent of an inspector in the case where a person:

- Dies
- Loss of limb or part of limb
- Is likely to die

You may however:

- Remove the injured or dead
- Rescue persons from danger

An incident must be reported on the same workday or shift on which it occurs.

Reportable incidents must be reported on Annexure 1, within 7 days of the incident.

### **12.2.2 Occupational Diseases**

Occupational diseases are illnesses caused by substances or conditions that the worker was exposed to at the workplace.


Karpowership South Africa will inform the Compensation Fund when their employees contract a disease or die after being exposed to a health hazard in the workplace.

An occupational disease will be reported within 12 months of the injury, diagnosis of a disease or the date of death.





# **APPENDIX 11.2: EMERGENCY RESPONSE PLAN**

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## 1. PURPOSE

The purpose of this plan is to define the competencies and responsibilities to ensure the planning of teams and actions that would provide the most immediate effective emergency response and reducing the loss of life and property before, during and after emergencies that may occur at Karadeniz Powership Osman Khan plant.

## 2. SCOPE

This plan includes/ covers facilities, goods and supplies belonging to Karadeniz Powership Osman Khan and temporary and / or permanent staff, subcontractors, visitors, interns, customers, establishments working in their fields.

## 3. RESPONSIBILITIES

**Country Manager / Coordinator:** Approves the emergency plan. Provides the resources. Executes the emergency coordinator task.

**Plant Manager:** Responsible for coordinating all the requirements for Emergency Response. In the absence of the plant manager, the plant manager assistant takes over the task. Emergency coordinator assistant executes the task out.

**Deck Office Management:** Delivery of the plan, including new staff - informing the staff about the emergency situations and the ways of response,

Responsible for the identification, updating, control, maintenance and procurement of emergency documents and equipment.


**Plant OHS Department:** OHS Department and Deck Office are responsible together for monitoring the fulfilment of the requirements of the Emergency Plan and informing the facility management of any inconsistencies / incidents, and for initiating corrective actions and monitoring their results.

**Headquarter OHSE Department:** The HQ OHSE Department is responsible for the control and coordination the implementations of this plan by Karadeniz Powership Osman Khan Plant. Audits the Emergency Response Plan prepared by the plant is functional and updated.

### Plant Employees:

#### All plant employees are responsible;

- To follow the precautions taken within the particulars specified in the contingency plan,
- To notify immediately the nearest responsible supervisor or employee's representative when they encounter an emergency situation that would harm the health and safety of themselves and other persons in the machinery, equipment, vehicles, equipment, facilities and buildings,
- To comply with the instructions of the emergency team from the plant management and from out site team in order to rectify the emergency.
- To act in a way that does not put in a risk the lives of himself and his friends during emergencies,
- To act in such a way as not to block access to the emergency area and equipment during the period of the plant works,
- If there is a role of him/ her in the emergency response organization, he/she is responsible to perform the task in according with the theoretical and practical trainings taken.

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#### 4. RELATED PROCESSES

BB-040 KPS Business Management

iSG-010 Occupational Safety

iSG-020 Occupational Health

iSG-030 Environment Management

#### 5. TERMS

**Emergency:** The event which is unplanned and may require emergency response or evacuation that causes injury or death of people include employees, client, visitors, such as fire, oil/fuel pollution, rescue from confined space, work accident, adverse weather conditions, civil war, terror attack, epidemic-pandemic diseases .

**Emergency coordinator / assistant:** Responsible for managing the emergency response teams and provides all coordination in case of emergency and/ or after.

**Emergency Teams:** Assigned by Emergency Coordinator and responsible for managing in case of emergency. Responsibilities. Roles and responsibilities and teams are defined in Emergency Response Instruction.

**Emergency Management:** It is a management model for preparing the plant for actions to be taken, identifying risks for emergencies, intervene and mitigating the damages that may occur.

**Emergency Plan:** The plant that includes information about the task and operations to be carried out in case of an emergency, which may lead to response, as well as actions for response.

**Risk Assessment:** Determination of the hazards that may exist in the workplace or that may arise from outside, the analysis of the factors that cause to be risky, the risks arising from the hazards, and the determination of the control measures.

**Accident:** An event that causes injury or death in the workplace or during working, or brings the body to a state of being spiritually disabled or physically disabled.

**Plant/ Facility:** Karadeniz Powership Osman Khan.

**Plant Work Places:** Warehouse, social life area, office, cafeteria, accommodation, etc., workplace extensions established outside the facility to support facility operations.

**Evacuation:** The process of leaving from the areas in a series and cool manner after mechanical, automatic or human voice warning or without warning.


**Evacuation Escape Route:** The route/ road used for the evacuation process, which is free from the sources of hazards and marked with the warning signs.

**Muster Point:** The place where the personnel to be evacuated in a safe area identified before and away from the hazards.

**OHSE:** Occupational Health& Safety, Environment

**Employee:** Personnel located in Karadeniz Holding or sub-contractor payroll who is responsible for ensuring/ maintaining the plant operations.

**Visitor:** Person visiting for procurement, inspection, training, interview subject and who are not directly involved to plant operations.

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## 6. EXECUTION PRINCIPALS

This emergency response plan to be prepared/reviewed and submitted to country management for each facility.

The emergency plan will be partly or completely reviewed and renewed if there is a situation which may affect the existing emergencies or cause new emergencies.

### 6.1. Preparing the Emergency Plan


It is the basic principle to see the possible emergencies in advance and manage to handle the emergencies with minimum damages while preparing the emergency response plan.

Emergency plans are created out to minimize and control damages that may occur during and after defined emergency situations.

The following points are taken into account in the preparation of the Emergency Plans;

- The measures to be taken in relation to the hazards within the scope of emergency shall be determined in the emergency plan,
- Determination of the most common type or size of an emergency or event by risk assessment studies,
- Determination of the most suitable response methods to be done in case of accidents and/ or emergencies,
- Determining the methods of providing internal and external communication (such as neighbours, local people, governmental organizations, private organizations) in possible emergency situations,
- Identification of the activity or activities to be carried out in order to reduce the impact for identified emergency situations and to response,
- Performing incident investigations after emergencies / accidents, initiating corrective actions and monitoring the results,
- Emergency practices, awareness of employees within framework of their actions, the implementation of exercises to measure the preparation processes and competences,
- Planning and implementation of emergency trainings,
- Identification of necessary communication information for internal and external communication,
- Identification of areas such as Evacuation Routes, Muster Points, Warning Signs, Exit Doors,
- Determining possibilities for emergencies or accidents that may occurred in the neighbourhood or around of plant,
- Establishing mutual protocols for taking support from neighbour organizations,

Emergency plans are prepared by Deck Office Management and Plant OHS Department by taking the opinions of units and personnel related the above mentioned topics and announced to all employees by e-mail, announcement, communication panels and training after passing Head Quarter OHSE Department, Country and Plant Management approval.

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## 6.2. Emergency Response Teams and Trainings

Authorized personnel for " Searching, rescuing (Maritime Support Team), Fire Fighting, Extinguishing (Fire Team), First Aid (First Aid Team), Electrical and Mechanical System Security (Technical Team) 'teams established within national and international legal requirements, and the staff who have received training related with their duties from institutions and organizations. When the training is given, "KH-KPS-FR-007-00 Training Form given by the authorized company person" will be used.

## 6.3. Communication in case of Emergencies

The Emergency Contact List which is provided by the Deck Office Management, to be updated when necessary and posted to appropriate locations which shows all phone numbers and related personnel in case of an emergency.

Within the boundaries of the plant and in case of emergencies in neighbors, emergency calls shall be made by the radio, alarm ring, telephone or voice, depending on where the person location who saw emergency.

Detailed information such as the exact place of the incident, what has burned at the time of the fire, the size of the event, the number of person effected, and their status are reported.

In case of emergency, a long continuous siren is played in everywhere of the plant. It is informed about the type and content of the emergency by the general announcement circuit and the radios.


Teams and response/ intervention methods in according with the content of the emergency are explained in the Role Chart and Emergency Instructions.

The information required for external communication is defined in the Emergency Contact List. This information may include local support where emergency assistance is available; all local public and private organizations (epidemic prevention centers, World Health Organization local authorities, etc.) foreseen to receive support, police units, fire departments, hospitals, ambulance services, emergency contact information of the establishment to which the facility is connected, contact center, private establishment fire station, etc.) are added to the list. The relevant central units of the Karadeniz Holding (HQ OHSE Department, KH operation, fuel fleet, etc.) should be included in this list.

## 6.4. Drills

In order to ensure that the emergency plan can be followed and implemented on a regular basis, implementation exercises are carried out on possible emergency situations identified in the plan. These implementations are coordinated by the Plant management. Exercise topics and times are detailed in "KH-KPS-PL" Training Plans. The exercises to be carried out during the year include, but are not limited to, the following subjects;

- Emergency - abandon the Plant / evacuation
- Emergency - medical response
- Fire Fighting
- Man over board
- Combating with chemical spill

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- Confined/ enclosed space rescue
- Work at height rescue
- Natural disasters
- Flooding in Plant
- Sabotage / terrorism
- Heavy Weather Conditions / Tsunami

The drills are evaluated and registered to the "KH-KPS-FR-023" Role Drill Registration Form and shared with the Headquarters HRD department by the way of QDMS.

Following the exercise; if there are deficiencies in the behaviour of the persons, the trainings are given again, if there are deficiencies in the environment, necessary corrections are made and if there is a deficiency in the procedure, plan and / or instructions, the methods of the Emergency Coordinator (Country Coordinator / Country Manager / Facility Manager) are revised in accordance with the recommendations, the related documents are updated when necessary, corrective and preventive actions are implemented in according with the "KH-KPS-PR-003" Corrective Actions Procedures.

Drill intervals are determined to meet minimum requirements of international standards (SOLAS, ISPS Code, IMO, MARPOL etc.) Thus, fire and evacuation drills are performed at least once in every month. (SOLAS, Chapter III, Part B, Regulation 19)

Security drill is performed once in every 3 months and/or 25% of total crew replacement. (ISPS Code, Section 13)

Confined space entry and rescue drill is performed once in 2 months. (SOLAS, Chapter III, Part B, Regulation 19)


## 6.5. Post-Incident Investigation Reporting

Incident Investigation and Reporting to be prepared after the emergency event is conducted analysed and reported according to the KH-HSE-PR-025 Incident Investigation and Reporting Procedure.

## 6.6. Identification of Incidents within scope of Emergency Situation

### 6.6.1. Emergency Preparations

- Preparing the emergency plan, testing it and updating it as needed at specific time periods
- To be successful in case of emergencies, the organization is well structured and responsible are determined
- Supplying necessary tools and equipment for providing the fire safety for fires that may be caused by flammable and combustible materials used in the Plant,
- Establishing an alarm system that can be heard from all side of the plant so that personnel can receive immediate information in case of an emergency
- Training and certification of employees by authorized person/ personnel for the implementation of emergency plans,

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- Providing first aid cabinets and kits in Plant and the use at appropriate located places.
- Determination of escape routes and Muster Points and making markings. Markings are selected and placed in accordance with the IMO regulation and "regulation of health and safety signs".
- Ensuring all the emergency equipments and fire extinguishers, escape routes, stairway entrances and exits are clear at all times and provide clear route to escape and response.


### 6.6.2. Emergency Response Resources and Equipments

- Announcement of the names, titles and telephone numbers of the personnel related in the emergency plan, placing to appropriate locations, the announcement of the contact details of the security forces, the fire department, hospital, Emergency Service and nearby health facilities etc.
- Determination of the number and location of emergency equipment (portable and stationary fire extinguishing systems, fire fighting equipment, escape air cylinders, life rafts, etc.) in accordance with the SOLAS and NFPA criteria,
- Risk assessments are made on dangerous subjects, all kinds of work tools, materials and ground, initiating preventive measures for them and taking precautions.
- Taking all kinds of precautions for fire fighting, making periodic inspections of fire fighting equipments and maintenance of them without interruption,
- Ensuring that periodic inspections of electrical and grounding installations are carried out on time
- Regular maintenance of fire pumps, generator, sailboat, machinery and equipment,
- Emergency lighting controls are done and they are in sufficient condition for operation,

### 6.6.3. Determined Emergency Situations

Emergency situations that may occur in the Plant or around Plant determined within the scope of the Plant activities, in the work places (warehouse, workshop, social area, etc.) in Plant are not limited with the following points but their results are listed;

- Fire and Explosion
- Oil / Fuel and Chemical Pollution (more than 500 lt)
- Man Overboard
- Confined/ enclosed Space Rescue
- Death or heavy injured incidents
- Terror Attack
- Internal and External War Situations

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- Strong Wind-Storm (8 in the Bofor Scale and above)
- Earthquake
- Leakage of Gas and Poisoning
- Collision
- Epidemic-pandemic diseases

### 6.7. Inspection and Review

Emergency drill results, emergency situations and measures taken are annually examined out with the Internal Audits, "**KH-CD-PR-002 Internal Audit Procedure**" in according with the ISO 14001 Environmental Management System and OHSAS 18001 Occupational Health and Safety Management System Standards, corrective actions are carried out within the scope of "**KH-KPS-PR-003 Corrective Action Procedure**" if deficiency / impropriety is detected.

Emergency drill results, emergencies and precautions are also periodically reviewed and evaluated under the "**KH-KPS-PR-001 Communication Procedure**" as follows below.

- In the Plants, the Plant is evaluated and corrective actions are taken at the OHSE and Security Committee meetings held with the participation of the OSH Department, Plant Manager, Assistant Plant Manager, Shift Supervisors, Maintenance Supervisors, Deck Officers, Health Officer / Doctor and Employee Representative. These meetings are recorded with "**KH-KPS-FR-013 OHSAS, Safety, Security and Environment Committee Meeting Report**".
- It is evaluated and corrective actions are determined and followed up annually at the Executive Committee meetings held with the participation of the Country Top Management, Plant Manager / Assistant Plant Manager, Integrated Management Representatives and relevant departmental representatives.

### 6.8. Risk Evaluation Review

Risk analysis of each plant is reviewed after any emergency incident identified within this procedure and the framework of the relevant standard, rule, local/international regulations has taken place. Risk analyzes are revised according to "**KH-KPS-PR-004 Risk Analysis Procedure**" according to need for revision.

## 7. PROCEDURAL STEPS

Temporary and / or permanent staff, subcontractors, visitors, trainees and customers working in the Karadeniz Powership Osman Khan and areas defined in the scope are obligated to comply with this plan. Necessary actions will be taken for employees who do not comply with this plan.


### 7.1. General Emergency Action

In case of an emergency, the general actions to be taken by the employee on the Plant or at the Plant units are shown in the flow chart below.

When an emergency situation is detected;

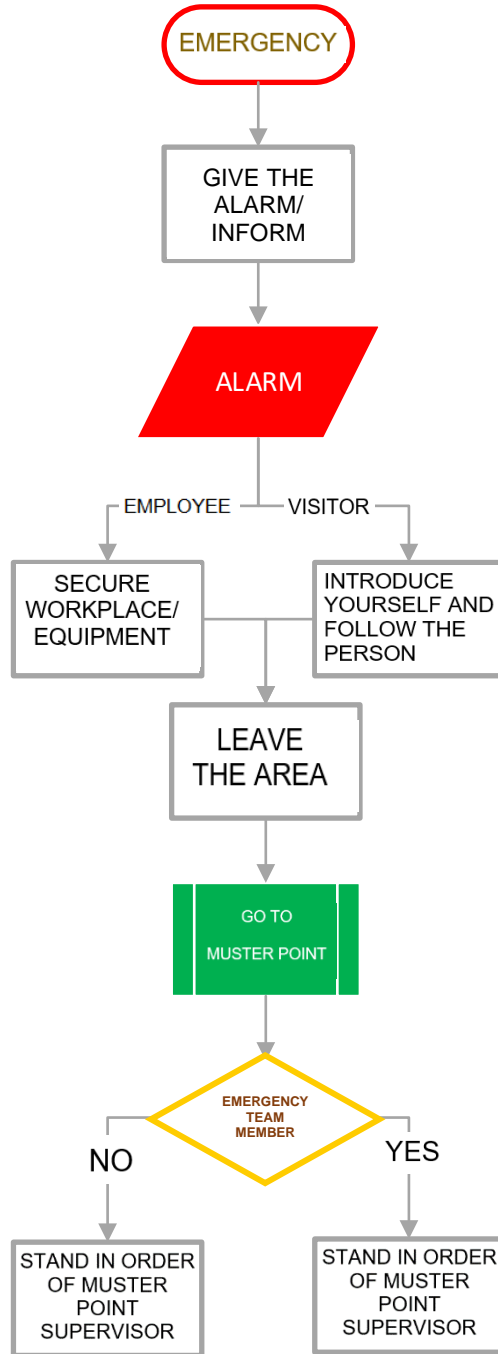
- The employee who detect the emergency activates the alarm by pressing the nearest alarm button,
- Inform his/her supervisor or the responsible he/she can reach about the emergency



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When the emergency alarm is heard;

- Employees secure the work area and the equipment they use and leave the work place in such a way as not to create an additional hazard,
- The visitors will follow the employee who is responsible for them or introduce themselves to the nearest person and follow the person.
- Move to the nearest or primarily selected Muster Point with calm but fast steps,
- Employees and the visitors assemble to the dedicated muster point and informs the responsible supervisor
- Employee who is not an emergency response team member waits for the responsible supervisors instructions.
- The personnel who are members of an emergency team waits for the instructions of the team supervisors.




## 7.2. Duty of the team and task to be performed

Duty of the team and task to be performed is explained in the Role Chart and Role Cards, and information given to all employees about the Emergency Response plan with training/drills.

### 7.2.1. Emergency Coordinator / Assistant

- Determine the adequacy of existing controls and check their functionality.
- Ensure that staff are trained for emergency situations and make sure training is reinforced by drills.

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- Coordination and cooperation with the official authorities.
- Ensuring that emergency material requirements are identified.
- To approve the prepared plans and measures, to ensure that they are updated annually.
- Coordinate all teams in case of emergencies.
- To provide contact with external agencies such as police / law enforcement, hospitals, fire brigades when necessary.
- Providing abandonment of the Plant when necessary, and ensuring that the CO<sub>2</sub> system is activated.

**Note:** In the times when the emergency coordinator is not available, the emergency coordinator assistant performs the task requirements.

### 7.2.2. Muster Point Supervisor

- Works under emergency coordinator and reports to him,
- Provide hierarchy and discipline the muster point.
- Ensure that all employee and visitors are in the muster point,
- Counts in according to current staff and visitor list,
- Ensuring the number and control of emergency response teams,
- Communicate the emergency coordinator which is requested from outside
- Gives the right information to the security gate for access of outside teams.

### 7.2.3. Fire Fighting Team

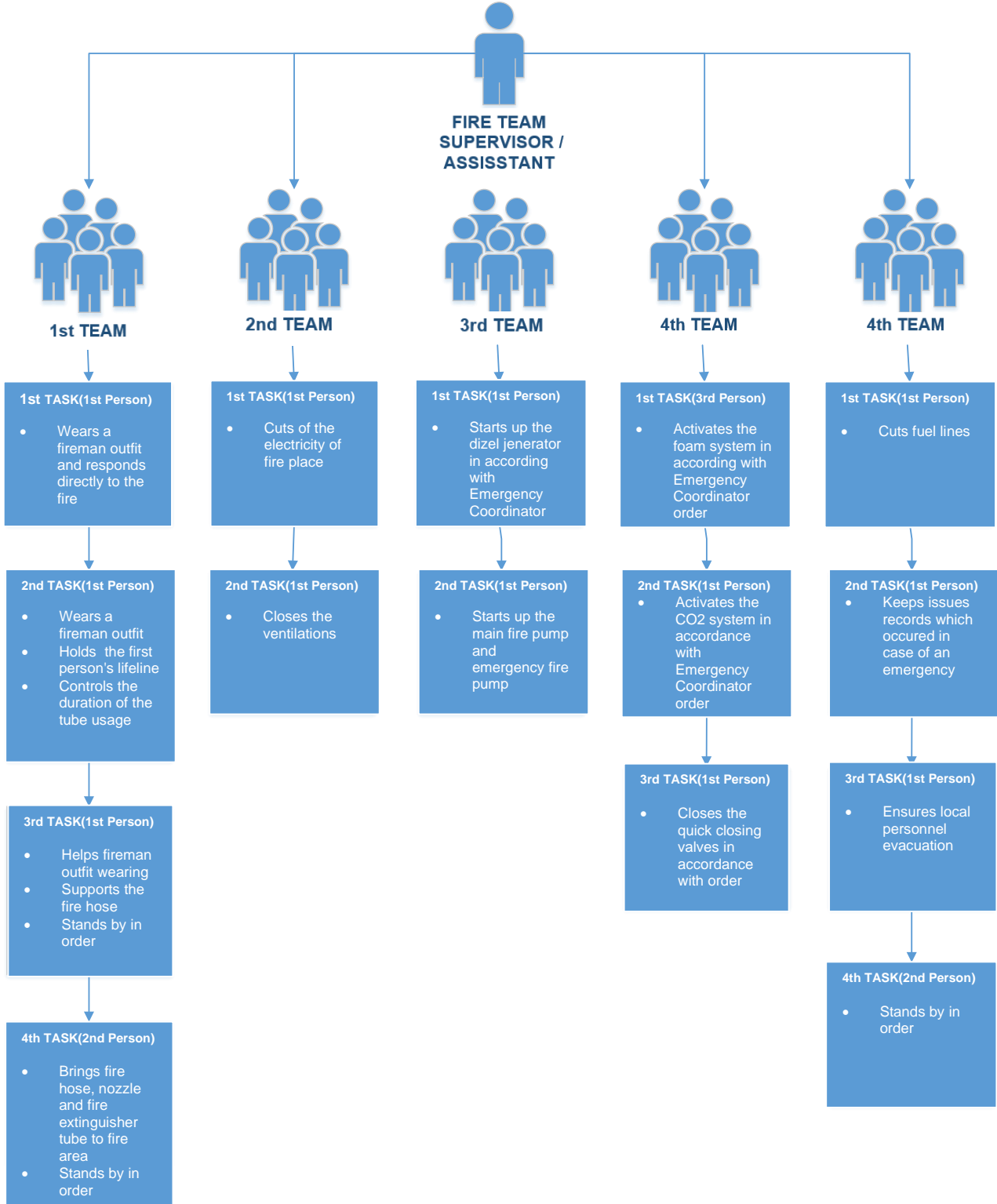
**Team Supervisor:** Assistant Plant Manager or Shift Supervisor undertakes this role. Stays in contact, directs his team in according to the instructions given from the emergency coordinator, coordinates in the incident place, takes the counting of employees.


**Team Assistant Supervisor:** Keeps in contact with the supervisor, manage the team according to instructions, coordinates the incident scene/ place, controls the using of fire fighting clothes and performs team supervisor task when he is not available.



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### Task chart of fire teams;



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### Other Teams;

The team which is ready responds the fire, the second team responds such as cooling to prevent the growth of fire, the third team waits to be ready as a replacement for the other teams. At the same time, the First Aid, Sea Support and Technical Team personnel are ready at the muster point to fulfil the tasks specified in the plan in case of a possible needs.

#### 7.2.3.1. Fires that can Happen in the Environment or in Neighbors organizations

- The person who sees the fire in case of explosions or fire that may occur from neighbour establishment shall inform to the facility management and deck office by phone, radio, etc. methods.
- The Emergency Coordinator ensures that relevant teams and officials gathered in muster point.
- If necessary energy, fuel and gas flows to be cut in case of plants influence.
- In accordance with the Emergency Coordinator directives, the deck office communicates with the nearest health facility, fire department and other necessary institution and organizations.
- If there is a fire in the vicinity of the plant, the Fire Team responds to the fire by shielding with water.
- Contacting with the neighbour institutions and provide co-ordination to help each other.
- If/when emergency teams of neighboring organizations reached to fire area, firefighting continue until fire area and environment safety is provided.

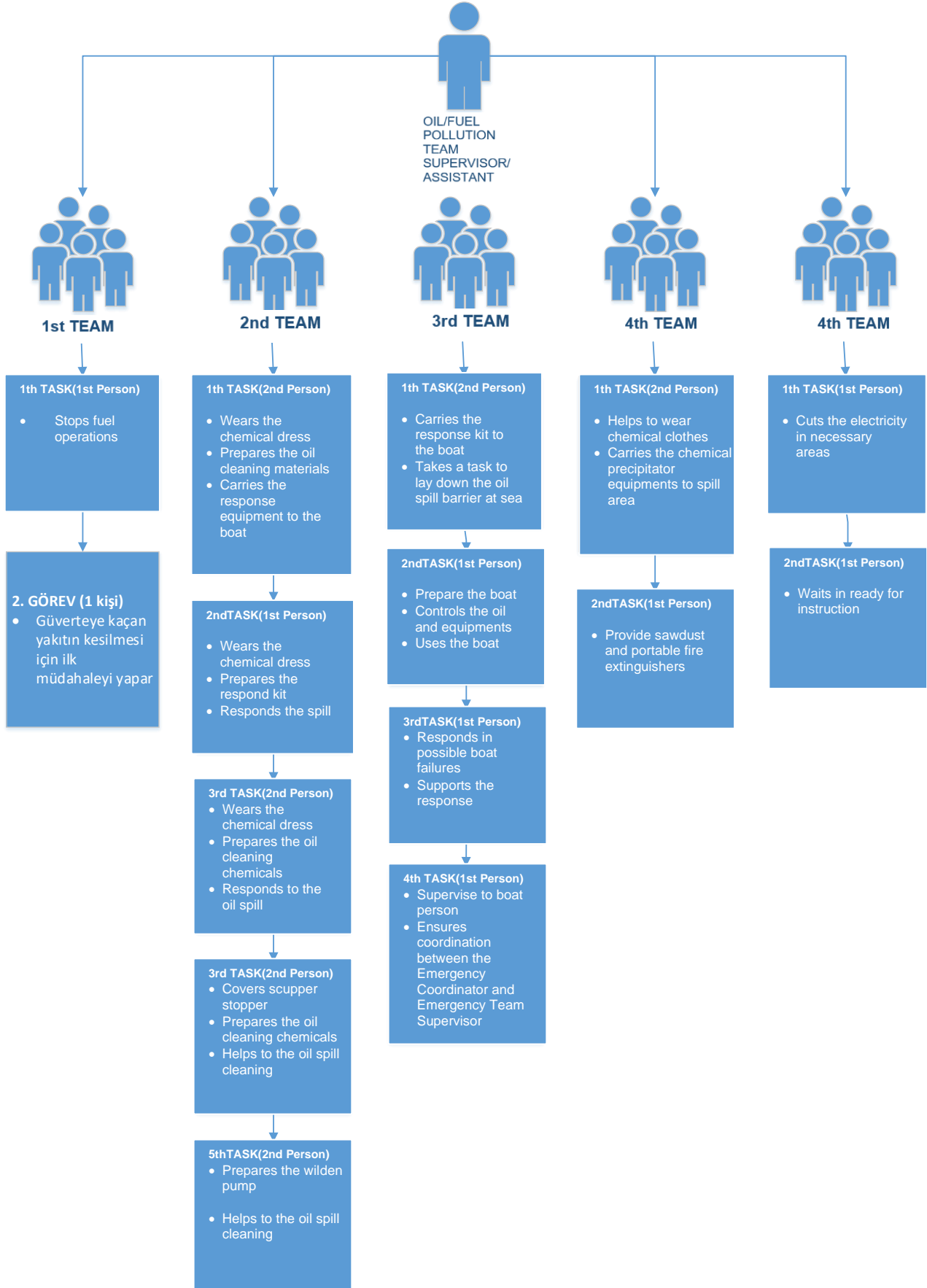
#### 7.2.4. Oil/Fuel Pollution/Spill Response Team


**Team Supervisor:** Deck office management undertakes this duty. He keeps in constant contact with the emergency coordinator, directs his team according to the instructions emergency coordinator, coordinates the incident place, takes the counting of employee.

**Team Assistant Supervisor:** Keeps in constant contact with the supervisor, directs the team within the instructions given, supervises the housekeeping process at the area and perform his duties when the team manager is not available.



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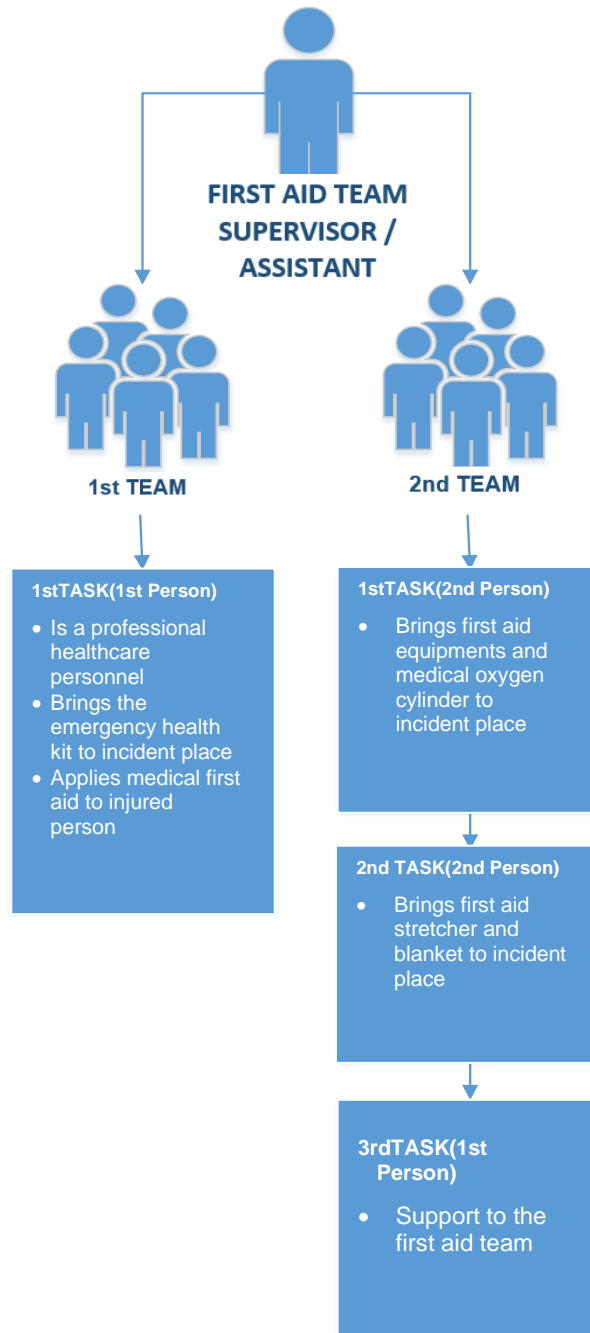



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### 7.2.5. First Aid Team

**Team Supervisor:** Facility Health Officer carries out this duty. The Deck Officer performs this duty in the absence of a certified health officer. He keeps in constant contact with the Emergency Coordinator, directs his team in accordance with instructions, coordinates the incident place,

**Team Assistant Supervisor:** Team Supervisor Assistant: Keeps in constant contact with the team supervisor, directs the team in accordance with instructions, provides coordination at the incident place, provides first aid equipment such as first aid kit, stretcher, blanket, oxygen therapy device to the place of the incident,

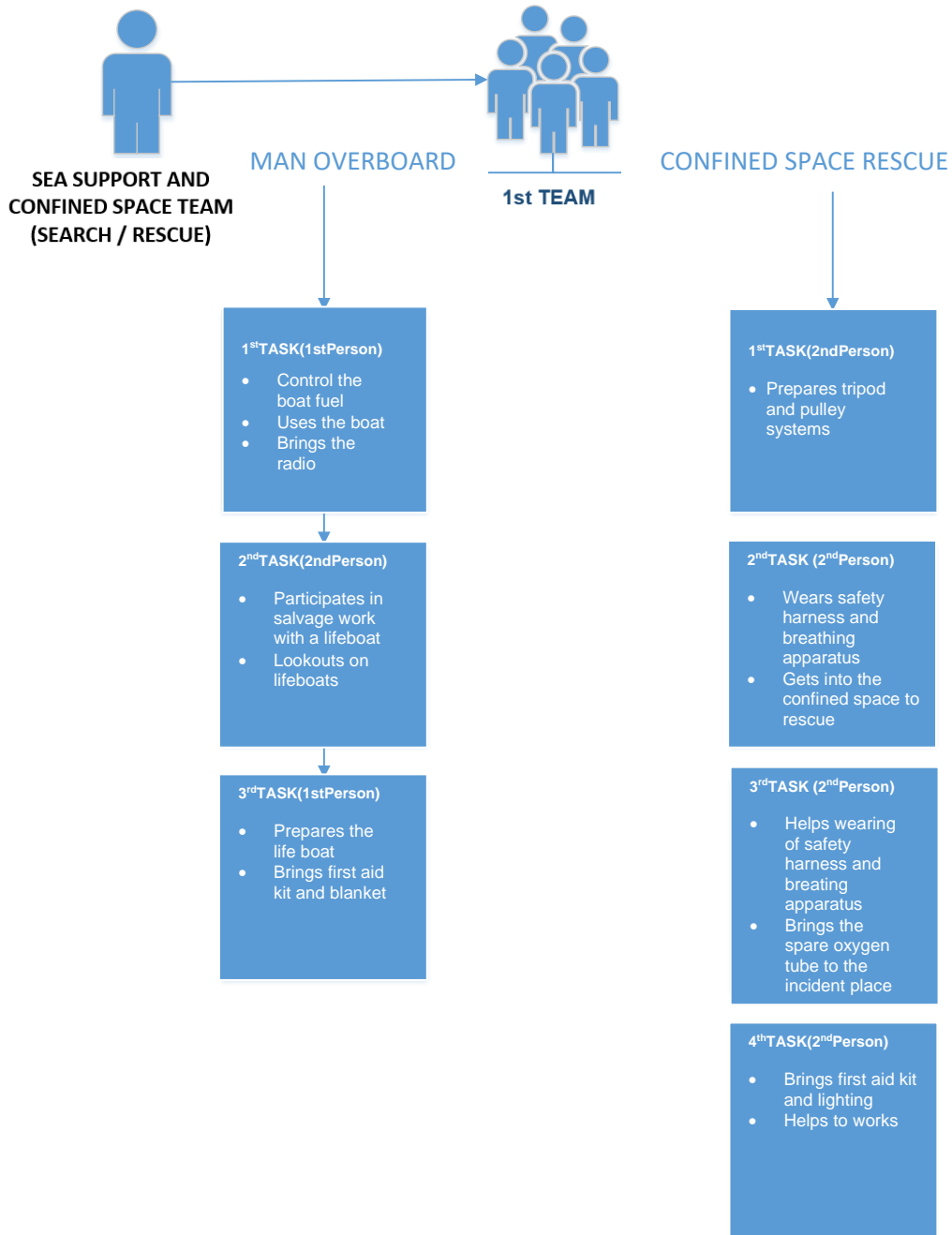


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### 7.2.6. Sea Support and Confined Space Team (Search / Rescue)

**Team Supervisor:** Deck office management carries out this task. It keeps constant communication with the Emergency Coordinator, directs the team within the instructions given, coordinates the incident site, makes gas testing with multi-gas measuring device in front of confined/enclosed space, count the employee, prepares and uses rescue boat when necessary.

**Team Assistant Supervisor:** Keeps in constant contact with the team supervisor, directs the team within the instructions given, coordinates the incident place, provides tripod, respirator, gas detector, life raft, portable lighting, lifeboat, life buoy, fulfills his duties at times when the team supervisor is not available.





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### 7.3. Death and Severely Injured Conditions

#### 7.3.1. Precautions to be Taken for prevention of occurring the incident

- Risk analysis should be carried out for all kinds of machines, materials and applications that may cause hazard within the physical structure and contents of the plant and preventive actions should be started up and precautions should be taken.
- Maintenance and inspection of all machines and equipments used in the Plant should be done regularly.
- Personal protectors to be used in for all activities must be provided to the employees
- In order to avoid work accidents, the personnel should not use the parts of the equipment and tools which are not belong to themselves and should not do any work except their responsibility
- Employment of qualified personnel should be provided for all jobs, especially electrical and mechanical works.
- All personnel who attendant in the plant should be informed about the plant physical structure and production processes.
- Trainings should be carried out on Occupational Health and Safety issues such as work accidents, situations that can cause work accidents and prevention of work accidents.

#### 7.3.2. Actions to Minimize the Incident with Minimal Damage


- If the person who sees the incident is a first aider, he may apply first aid, if not he may call first aider to apply first aid to the injured person.
- Informs the plant management, deck office and plant OHS Department after first intervention,
- Take everyone out from the area except the authorized person.
- Take protective and warning precautions around the incident area.
- Factors which may cause fire, explosion or other additional hazards in the incident area to be observed and removed. If not injured person will be taken from the area in a controlled manner.
- Injured person is taken to the muster point by First Aid and Sea Support team members if it is necessary to be transported him/her out of the plant after first aid
- According to the health status of the injured person, external health institutions to be contacted within the information of the Emergency Coordinator.
- If the injured person is dispatched to the hospital, the health status of the injured person is followed by assigned staff within the information of the Emergency Coordinator / Assistant.

### 7.4. Terror and Sabotage / Internal and External War Situation

#### 7.4.1. Measures to be Taken and Actions to be Done

Attacks and possible sabotages targeted by person outside of the plant or personnel targeted at the plant or threats to be created by persons inside or outside the plant are treated as an emergency. Dangers in these situations; attacking dangerous areas, direct attack on human beings, attacking the goods, and resulting in major injury, death or material damage.

Precautions taken against such situations in the plant are listed below.

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- The plant inside the area is surrounded by wire fences and walls.
- Entrance and exit points to the plant boundaries are determined and controlled by security forces.
- Security cameras showing dangerous situations and other dangerous areas that may come from the sea are observed by security teams 24/7.
- The actions that can occur inside are seen / followed up with closed circuit camera system.
- Records of visitors from outside are kept by the Security Officers, the controls are carried out at the entry points and accompanied by the security personnel to the person or department to be interviewed.
- In case of any suspicious situation or suspicious person, the security officers inform the plant management and deck office and will act in accordance with instructions to be received.
- All employee's criminal records are questioned before becoming employment.
- In case of civil/foreign wars, the Country Coordinator / Country Manager will act in accordance with the instructions sent by the company.
- All details regarding the topic should be considered within the Powership Security Plan.


## 7.5. Strong Wind-Storm

### 7.5.1. Precautions to be Taken

- Local weather forecast reports followed by the deck office regularly during the day.
- The plant has been connected to the main chain zone with a chain and ropes at a safe level, taking into consideration the adverse weather conditions that may have been experienced.
- Connection ropes and chains are checked regularly. Tthe ropes and chains that are deformed due to timeout shall replaced with the new ones.
- Periodic checks and maintenance of ship anchors and moving maneuvering equipment are carried out regularly and recorded with "**KH-KPS-FR-061 Connection Equipment Check List**" and "**KH-KPS-FR-174 Connection Capstan Control List**".
- Fender, ropes and yokohama fender to be back up in case of sudden problems.

### 7.5.2. Operations to be Done

- Inform the emergency coordinator and his/her assistant about the situation
- Materials that can be moved all over the decks, under the decks, in the boilers, especially in the engine room, in the galley and in the stores, shall be secured properly
- All the portholes and blind covers at accommodation places of plant / ship are closed,
- All openings which are going to the deck are closed,
- Production is set or stopped as required,
- The employee is warned about avoiding ropes and surrounding areas, decks and bollard areas that become dangerous due to the weather,
- Safety ropes / hand ropes are installed where required,

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- Balance Water Tank covers and tank manholes are checked for leakage,
- Weather reports are followed at 4 hour intervals and reported to the Emergency Coordinator,
- Rails, chains, windlasses, bollards, emergency connection control is made, these areas shall be observed by the deck personnel,
- The port authorities shall be informed about the situation,
- Ropes are installed where necessary for emergency,
- All the sea fenders are checked that they are secured or no,
- Illumination of lighting areas and areas where bollards are located is provided / checked at lighting level.
- The connection points and steel wires of chimneys are checked out in every four (4) hours.
- Weather shall be observed until it is clear.
- Heavy Air and Severe Wind conditions are recorded in the "**KH-KPS-FR-177 Heavy Air or Severe Wind Emergency Check List**" by performing the necessary checks described above.

### 7.5.3. Tsunami

Please refer to "**Tsunami Evacuation Plan KH-KPS-PR-008-00**" steps to check the course of action in case of a tsunami.

### 7.5.4. Emergency Disconnection mooring, power cables and fuel supply connections

With the "Stop" order of Plant Manager (PM)/Plant Manager Assistant (PMA), the plant stops the generation and takes main switches open position. Electrical Shift Boss and operator gives information to onshore grid line responsible contractors and order to cut RST line energy. Electrical Shift Boss starts earthing process for the RST line after the contractor takes switches open position. Control RST Line after earthing process by an operator and feed back to PM/PMA. Team 1 starts cutting line cables (using the handsaw for metal cable) by the order of PM/PMA.

Team 2 starts cutting earthing plates cables and hanging wires (using saw or electrical cutting tools) around the Plant by the order of PM/PMA, after earthing process.


Team 3 starts cutting chains on the deck (with O2 and Acetylene (oxy-acetylene) cutting torch) and cuts chains on strong points (hanging oxy-acetylene torch from the deck side). At the same time team 3 pulls ship stb/port anchors by anchor mooring winches.

Team 3 prepares Bridge for departing.

Team 4 organizes black out procedure of ship side.

Team 4 prepares propulsion and aux systems.

If applicable, Fire fighting Team 4 disconnects the external fuel connection of the ship.

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## 7.6. Pandemic (Epidemic Disease)

**Pandemic:** Pandemics or pandemic diseases, are the common name given to epidemics that spread and take effect over a wide area, such as a continent or even the entire surface of the world. The diagnosis of Epidemic Disease can be made by the health authority of the country concerned if it is regional, and by the World Health Organization (WHO) if it is global. The cases of this potential are followed by the H&S unit.

5 risk steps are determined in the Pandemic Response Plan. In the event of a pandemic, these risk steps may occur in this order, or for various reasons, the presence of the pandemic may also occur with future risk steps. The risk steps in the Pandemic Response Plan are complementary to each other. That is, no matter what risk step, the measures described in the previous risk steps are also applied on the basis of all workplaces or locations and the continuity of the practices is ensured.


### 7.6.1. Risk Matrix

Risk Level	Description
1.Risk Step	The emergence of a pandemic potential case in any region of the Earth
2.Risk Step	Declaration of an outbreak by the WHO and the emergence of the outbreak in the country of operation
3.Risk Step	Outbreak of the disease at the location/city of operations being carried out
4.Risk Step	The emergence of epidemic pathogen in any workplace employee
5.Risk Step	The emergence of epidemic pathogen in large numbers of workplace employees

#### 7.6.1.1. First Risk Step

The first risk step is the emergence of a pandemic potential case in any region of the earth.

- An emergency team is established including participants of HR, H&S, Administrative Affairs (AA), IT and other necessary department managers and also top management of the company, and they coordinate the actions to be taken for the possible outbreak and make general briefing announcements by taking decisions,
- When the presence of the pathogen is revealed, all company employees are informed about the pathogen by e-mail,
- The pathogen's spread routes, symptoms it causes, known general characteristics and prevention measures constitute the contents of this e-mail,
- In accordance with the decision of the management, regional or total restrictions are imposed on abroad travel related to the company, considering the spread of the pathogen,


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- Employees travelling abroad or returning from travel are subjected to the control and monitoring of the headquarters health unit. Additional measures to be taken for these persons (quarantine, administrative leave, etc.) are coordinated by the established emergency team and the headquarters health unit,
- Information section about pathogen is established in Karportal and kept up-to-date according to the latest developments and is presented to the employees,
- In addition to the information about pathogen, protection ways and personal hygiene related toolboxes and visual posters are prepared and delivered to employees with the help of health officers/administrative personnel. The prepared information sheets are sent to all domestic establishments by AA. The information areas are determined by AA and H&S depending on the nature of the workplace, the status of the social areas and the cause of the pandemic. This way, it is ensured that employees to gain awareness,
- The pathogen's spread path is evaluated and the necessary material/equipment inventory control is carried out for the location or all workplaces and the necessary work is done to complete the deficiencies, if any.

#### 7.6.1.2. Second Risk Step

The disease caused by the pathogen being declared as an epidemic (pandemic) by the WHO and the epidemic disease to arise in the country of operation is called the second risk step.

- With the emergence of the pathogen, the spread path is evaluated and all travels to or from that specific location (including intercity) is stopped as soon as possible, considering the continuity of the operation. If the spread is too fast, it may be considered to review the travel globally and to stop the travel by making changes (leave, return from leave) of the employees as soon as possible.
- All internal and external meetings, trainings, etc. where people meet face to face are reduced to the minimum by determining the measure of social distance or cancelled totally. Instead, digital communication ways are preferred using technological means. Also in social areas where people gather (dining hall, service vehicles, rest rooms, smoking areas, etc.) measures are taken to protect social distance. (Reducing the number of seats, increasing the gaps between seats, reducing the number of people, etc.)
- Planning for procurement and improvement actions is carried out by IT unit taking the variety of technological facilities and material/equipment stock situation and other risk ratings into account,
- All employees are prohibited to be in crowded places (sports competitions, gyms, shopping centers, concerts, fairgrounds, etc.) except for the supply of basic needs. Employees are informed about this issue through announcements,
- All employees keep being informed about the pathogen by health officers in the workplace,
- In addition to the routine cleanings, additional disinfection deemed appropriate are performed in coordination with the H&S unit. Normal cleaning service is made more frequent, additional disinfection service can be applied according to the decisions taken,


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- Flight and ticket organizations for critical trips are made subject to the approval of C level managers. Furthermore, travel principals inform the Pandemic Coordination Team about the travels. The Corporate Travel Team delivers travel kits provided by the health unit to travellers for this purpose,
- An evaluation for a new work order (home office, arrangement of shift hours, reduction of working hours, working in shifts, etc.) is made for all employees working in the workplace considering the social distance and personnel planning is made on the basis of carrying out activities with minimum employees as possible,
- Depending on the condition of pathogen, additional measures can be taken to prevent employees from gathering (periodizing dinner hours and break times, and shifting to working in shifts etc.),
- The entrances to the workplace are taken under control and all personnel, guests and 3. persons to enter are controlled for the symptoms of epidemic disease and persons with symptoms or suspicion are not allowed into the workplace. All suspicious cases in the process are reported to the health unit,
- For all material to come from outside to the workplace such as food, cargo, equipment etc., necessary precautions are taken according to the contamination properties of the pathogen. The goal here is to minimize contact of employees and 3rd parties and to reduce the risks of transmission from outside,
- If there are specific age groups or other risk groups affected by the epidemic, special measures are taken for these people,
- Disinfecting materials and protective equipment suitable for pathogen properties are placed by AA (in coordination with the health unit) to the common areas (toilets, meeting rooms, turnstiles, reception desks, etc.). The consumption of the materials is followed and renewed when necessary.

### 7.6.1.3. Third Risk Step

The occurrence of the epidemic in the location/city of the operations is considered as the third risk step.

- In case of any workplace personnel to develop the disease, the research of the appropriate health care provider for the necessary treatment is carried out by the headquarters health unit on the basis of workplace locations and listed,
- In order to increase the perception and awareness of the personnel, information on the measures to be taken towards the pathogen is continued,
- Disinfection procedures for all workplaces are carried out without any waste of time. Period of application, material to be used, etc. issues are evaluated by the Pandemic Coordination Team, taking into account the pathogen's spread and transmission ways. If necessary, disinfection application can be made by specially trained personnel,
- Environments in workplaces are ventilated frequently,
- Entrances and exits of the workplace are closed or planned to be reduced to the minimum possible level,


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- Minimum number of employees and competent persons are determined to provide basic services. Procedure is developed to determine and evaluate the situation of employees in an emergency,
- Entry of service providers and suppliers to workplaces is restricted, controlled entry is provided in mandatory cases,
- The supply of food (store) in the workplaces of the ongoing operations is tried to be carried out in a packed manner to minimize contact. Measures are taken to prevent contact at the food distribution. Food can be served with closed containers as far as possible. Forks, spoons and knives are distributed in packs or disposable plastic products can be used. Furnitures on tables can be removed (can be replaced with packed cruets). Breads are served in bags, and disposable carton cups can be used instead of glass cups. Depending on the condition of pathogen, the seating capacity in the dining hall can be reduced and the seating order can be redesigned. The above-mentioned measures are put into practice by evaluating the connection of the workplace with the external environment, pathogen transmission ways, spread rate and available facilities,
- The transmission ways of the epidemic disease are evaluated and all personnel are provided with appropriate personal protective equipment and additional materials (hand sanitizer, mask, etc.) and their use is controlled,
- Service vehicles carrying personnel are disinfected after each use. Necessary measures are taken for disinfection of company vehicles. Daily disinfection plans are made for the company vehicles that are in mutual use by different people every day. Protective equipment and disinfectant are provided to service vehicles according to the evaluations to be made. The period of disinfection application is determined by AA and H&S unit depending on the material used.
- By taking into account the transmission routes and precautions of pathogens that cause epidemics, materials to reduce the risk of contamination and personal protective equipment are placed at social areas and public areas (toilets, meeting rooms, etc.) and necessary renewals are made by following the expenses of materials,
- The use of digital and online documentation is supported to minimize contact with paper in workplace document tracking, control and handling. By making arrangements for meals, working hours and the collective meetings of employees are reduced to minimum,
- Employment plans are made in case of the possibility of increasing the number of employees who suffer pathogen-related disease in the workplace. Quarantine-control application is made for employment during the required time according to the transmission characteristics of the pathogen. The entrance of these people to the workplace is possible after quarantine.

#### **7.6.1.4. Precautions to be Taken During Dinner Preparation and Presentation and Rules to be Followed**

- All personnel working during the preparation of meals and entering the dining hall, wear all necessary PPE such as overshoes, gloves, bonnets and masks before entering the work area and renew and use them when necessary during the work period,



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- Any additional food that may be exposed to the risk of transmission (cold cuts, salad, etc.) are started to be supplied in ready plates,
- Food distribution zones are closed and isolated from staff,
- Common used food and materials on the dining table (jugs, sauces, bottles, forks, knives, bread, etc.) are removed, and personnel are given these individually according to the need and packaged products are used,
- Meals with open menus are temporarily removed,
- Disposable pet bottles or carton cups are used for personnel's need for water,
- All dishes are washed in the dishwasher above 60 degrees Celsius.

#### 7.6.1.5. Fourth Risk Step

Emergence of pathogen in any workplace employee constitutes our 4. risk step.

- The employee who has the disease is referred to the hospital under the control of the health officer and is quarantined in a suitable place to be organized in hospital or outside the workplace in accordance with the response of the hospital. The employee who is understood to be infected with the disease is not allowed back into the workplace whatsoever,
- The authorities who are required to be notified about the infected employee are investigated by the workplace management and, if any, notifications are made,
- The contacts of the infected employee are identified and listed together with the workplace health unit, Administrative Affairs and workplace management (filiation) and additional measures for these persons (quarantine, monitoring, follow-up, etc.) are taken,
- Detailed disinfection work is renewed in the workplace,
- The necessary controls are carried out remotely by telephone to the sick person by the health officer at the workplace. After evaluating the vital signs, if the patient stays outside of the hospital, it may be considered to be referred to the hospital again or to a country having better health service conditions by considering the rules of the country,
- If it is a topic for the patient to be transferred to Turkey or another nearby country, necessary organization is made by the H&S, HR, country management/workplace management and Corporate Travel team coordination through 3rd party companies (ISOS, P&I Club etc.). If one of the employees loses his life, the same organization is made with the same units and the paths to be followed are determined,
- The personnel working in the same workplace are subjected to the necessary health checks and the measures taken against the disease can be expanded under the supervision of the health personnel or partial or total quarantine can be carried out,
- Necessary organizations are made by the Corporate Travel team for the transfer operations when a need arises for a personnel working abroad to return back to his/her country in cases such as having cases related to the pandemic in their family and the severity of their course, natural disasters and death of a first degree family member. These organizations can be made to the extent that conditions make it possible to obtain flight permits by communicating with



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embassies/consulates in the related countries, taking into account country conditions and restrictions,

- Employees inform the headquarters health unit about the issue if the pathogen is positive for themselves or in family members. The headquarters health unit follows and monitors the health status of these people and provides support for their requirements when needed.

#### 7.6.1.6. Fifth Risk Step

The emergence of the pathogen causing the epidemic in a large number of workplace personnel is evaluated as the 5. risk step.

- The workplace is completely quarantined by cutting off contact with the outside world,
- Healthcare providers are contacted about this situation,
- Following the evaluation made with the local health organization, all personnel in the workplace are kept under control and monitored,
- Additional actions are kept taken after the instruction of the authorized local health organization of the workplace,
- In case of closure of workplaces due to quarantine practices, if the need arises for accommodation of healthy staff in the respective countries, the Corporate Travel team will coordinate with HR, H&S and country management to put the appropriate hotel, etc. accommodation facilities into use,
- In case of transfers of all personnel in any workplace to their countries, the procedure is carried out in coordination with the consulates/embassies and in accordance with the travel restrictions in the country by organizing with the competent authorities to obtain permits if necessary and under the leadership of the Corporate Travel unit.


*\* Continuous communication with the headquarters H&S unit is provided for each of the above risk steps and the exchange of information is provided continuously.*

Pandemic Coordination Team	
Title	Role In The Team
<b>Pandemic Coordinator</b>	<ul style="list-style-type: none"> <li>✓ Selected by the committee in workplaces where there is a committee of health and safety,</li> <li>✓ Selected by the employer/employer representative in the workplaces where the committee is not present,</li> <li>✓ The pandemic coordinator is preferred to be a senior manager,</li> </ul>



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<b>Tasks</b>	<ul style="list-style-type: none"><li>✓ Leads the works of implementing the pandemic response plan, identifying and implementing additional measures to be taken at workplaces, revising the plan,</li><li>✓ Makes the assignments of the pandemic coordination team and determines their task, authority and responsibilities,</li><li>✓ Makes/have somebody make a supply plan for the materials that employees will need such as materials, equipment, personal protective equipment,</li><li>✓ Takes decisions on cancellations and postponements in the production of goods and services in the workplace during the pandemic,</li><li>✓ Determines internal and external communication channels and follow up/have somebody follow up the updated news of the World Health Organization and the competent local health authority. Coordinates the delivery of information to the pandemic team about the updates.</li><li>✓ Determines the risk group that must be protected first during the pandemic and takes/have somebody take action for this group,</li><li>✓ Plans/have somebody plan training activities in order to raise awareness of employees on issues such as personal hygiene, social distance etc.</li><li>✓ Provides/have somebody provide daily monitoring of employees' health conditions,</li><li>✓ Provides/have somebody provide coordination of health condition of employees caught in pandemic and referral routes to health organizations,</li><li>✓ Organize to inform the staff about the implementation of the pandemic response plan in the workplace and to publish the instructions in social areas,</li><li>✓ Monitors the spread of the pandemic on a national and international scale, ensures/have somebody ensure the determination and implementation of additional measures to be taken in the light of the current information released by the World Health Organization and the competent local health authority,</li><li>✓ Follows up/have somebody follow up the use of the determined materials, equipment and personal protective equipment in the workplace,</li><li>✓ Coordinates the monitoring of the psychosocial status of employees and, if necessary, the provision of psychosocial support,</li></ul>
<b>Team Members</b>	<ul style="list-style-type: none"><li>✓ <i>Workplace physician / Other medical personnel / First-Aid team / Health Officer</i></li><li>✓ <i>Safety Specialist / Safety Asst. Manager / Deck Officer</i></li></ul>
<b>Tasks</b>	<ul style="list-style-type: none"><li>✓ Conducts work in accordance with the directives of the pandemic coordinator and the recommendations of the WHO or the national health authority,</li><li>✓ Provides support to the pandemic coordination team headed by the pandemic coordinator and records the data in the works of detection, implementation and follow-up of measures to be taken in the workplace according to the pandemic action plan,</li><li>✓ Determines the risk rates according to the risk groups of workplaces and employees and makes recommendations to the pandemic coordinator and coordination team for additional measures to be taken,</li><li>✓ Prepares lists of employees within the risk group during the pandemic, checks their currentness and informs the pandemic coordinator,</li><li>✓ Provides support to the pandemic coordinator in preparing information materials about the pandemic, presenting them to workplaces and managing</li></ul>

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	<p>awareness-raising training, meetings and sharing,</p> <ul style="list-style-type: none"> <li>✓ Follows the currentness of the pandemic response plan and makes recommendation and suggestions,</li> <li>✓ Establishes communication channels in the workplace, monitors the international and national rates of pandemic spread and follows current information released by the World Health Organization and the competent local health authority and informs the pandemic coordinator,</li> <li>✓ Evaluates and anticipate the risks of the pandemic in the workplace and provides feedback to the pandemic coordinator on additional measures for employees with symptoms of disease,</li> <li>✓ Provides support to the pandemic coordinator during the decision making, implementation and development stages of personnel protection strategies against disease,</li> <li>✓ Supports the pandemic coordinator in identifying personal protective equipment which employees should use,</li> <li>✓ Provides control of isolation, cleaning and disinfection works and informs the pandemic coordinator,</li> <li>✓ Follow-ups the psychosocial status of the employees and informs the pandemic coordinator by conducting research to provide psychosocial support if necessary,</li> <li>✓ Participates in the activities of informing the employees, provides information to the pandemic coordination team at the point of problems on the implementation of the measures by the employees,</li> <li>✓ Provides information to the pandemic coordination team on feedbacks from employees during the implementation phase of risk management strategy within the workplace,</li> <li>✓ Participates and supports the works necessary to determine the effects of the pandemic on the workplace.</li> </ul>
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### 7.7. Communication in Case of Emergency

The communication information that will be required in case of Emergency is given in the table below and posted on the plant panels by using “KH-KPS-FR-175 Emergency Contact List Form”.

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### EMERGENCY CONTACT INFORMATIONS

Task-Name Surname	Location	Office Number	Mobile Number
Emergency Coordinator (Plant Manager – Semih ŞAHİN)	Plant 9900 Level Deck	122	+90 534 983 05 12
West & South Affrica Region Coordinator- Erkut ATEŞ	Turkey Head Quarters	-	+90 530 149 50 47
Project Manager Ali KUŞ	Plant 9900 Level Deck	-	+90 533 462 06 84
Plant Manager Semih ŞAHİN	Plant 9900 Level Deck	122	+90 534 983 05 12
Assistant Plant Manager Engin ÖZCAN	Plant 9900 Level Deck	122	+90 539 730 14 20
Assistant Plant Manager M.Cem GÖKPINAR	Plant 9900 Level Deck	122	+90 539 664 02 99
Shift Supervisor Mustafa BÜYÜKTEPE	Control Room	171	+90 506 558 87 88
Shift Supervisor Atahan İÇLİ		171	+90 544 510 76 22
Plant Security Officer Erdi SAKALLI	Plant 9900 Level Deck	180	+90 538 466 12 65
Deck Officer Enes KÖKTAŞ	Plant 9900 Level Deck	180	+90 537 843 12 84
HSE Office H.Süha ŞENOCAK	Plant 9900 Level Deck	180	+90 532 693 25 60
Clinic Fahrettin BULUT	Accommodation 21400 Level Deck	119	+90 516 165 56 23
Health Officer Hakan NAMLI	Accommodation 21400 Level Deck	119	+90 507 663 37 83
Security	Entrance Gate	-	+233 50 154 5923
Fire Team Leader Erdi SAKALLI	Plant 9900 Level Deck	180	+90 538 466 12 65
Rescue Team Leader Erdi SAKALLI	Plant 9900 Level Deck	180	+90 538 466 12 65
Pollution Response Team Leader Erdi SAKALLI	Plant 9900 Level Deck	180	+90 538 466 12 65
KH Head Quarters HSE Department	İstanbul	+90 212 295 47 37	-
<b>MOC SEKONDI NAVAL BASE</b>	Takoradi /Ghana	+233 54 886 63 83	+233 29 910 10 66
<b>POLICE OPS</b>	Takoradi /Ghana	+233 20 666 93 37	+233 29 920 44 58
<b>GH. FIRE SERVICE</b>	Takoradi /Ghana	+23350 200 86 88	
<b>NAVAL CLINIC, SEKONDI (AMBULANCE)</b>	Takoradi /Ghana	+233 24 883 78 78	-
<b>SYCAMORE HOSPITAL,TAKORADI</b>	Takoradi /Ghana	+233 20 890 72 75	+233 24 657 25 92

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### 7.8. Emergency Situations in Powerships which use Natural Gas

Technical problem such as plant gas leak, sudden pressure frequency change etc. in emergency situations; "Emergency Shutdown Procedure for Natural Gas Powerships with document number KH-KPS-PL-076" should be followed.

### 7.9. Emergencies occurring in neighboring ships or businesses

In case of an emergency in the ships and businesses close to the facility, the Naval Army Command communicates with the KPS 12 Osman Khan facility management. In possible cases, the above mentioned contact numbers are also used actively.

### 7.10. Plant Role Chart/Table

Role Chart of Karadeniz Powership Osman Khan Plant is given below.

GENEL TALİMATLAR ( GENERAL INSTRUCTIONS)	
1	Tesis müdürü olmadığında, genel amir Tesis müdür yardımcısıdır eğer oda olmaz ise emniyet zabiti 1 veya emniyet zabiti 2 görevi devir alır. If p.m not on board second commander p.m.a and thirth safety off 1 and fourth safety off 2
2	Bir acil durum olduğunda, gemi ana elektrik devresinden veya acil durum elektrik güç kaynağından beslenen elektrikle çalışır zil veya klakson veya eşdeğer bir uyarı sistemi gemi düdüğü veya siren ile kesintisiz sürekli çalan sestten oluşan genel acil durum alarm işaretleri verilecektir. In case of emergency, alarm shall be sound consisting following continous alarm on an electrically operated bell or klaxon or other equivalent warning system which shall be powered from to ship's main power supply and the emergency.
3	Acil durum alarmı duyulduğunda tüm personel görevli oldukları toplanma noktalarına donanımlı olarak gidecektir. On hearing the emergency signal, all person will proceed to their assigned Muster Station with their rigging.
4	Vardiyaçılar nöbet yerlerini teslim edene kadar veya amirinden terket emiri alıncaya kadar terketmeyeceklerdir. Watch keepers remain at their post until they are relieved or receive the order to leave it from head of operators.
5	Acil durumun tipi gemi anons sistemlerinden sözlü olarak anons edilecek ve herkes görevine göre olaya müdahale edecektir. Type of emergency situation shall be announced verbally from the ship's public addressor system and every personnel will interfere according their duties in muster list
6	Yangın durumunda , vardiyaçılar yangın mahalının kaportalarını içeride kimsenin olmadığından emin olduktan sonra kapatacaklar. In the event of fire, the personnel on watch will immediately close all automatic and manual fire doors. Must be sure nobody inside
7	Her türlü yangın,duman,su sızması veya başka türlü bir tehlikenin mutlaka Kontrol odası veya nöbetçi vardi mühendisine bildirilmesi zorunludur. Any fire, smoke, inrush of water or any danger has to be reported with out delay to Engine Control Room or the person on watch
8	Makine dairesi CO2 alarmı duyduğunda içerideki personel derhal makine dairesini terk ederek toplanma istasyonuna gitmelidirler. In the CO2 alarm sounds in engine room the personnel shall be leave immediately and go to Master Station.
9	Tüm personel , solunum cihazlarını, yangınla mücadele ekipmanlarını kullanma eğitimi almış olmalıdır, All vrewmembers should be trained for the use of fire fighting equipments, breathing apparatus.
10	Bir acil durum olduğunda, yabancı uyruklu tüm personel toplanma alanında toplanacak ve Güvenlik Zabiti talimatıyla hareket edeceklerdir. In case of emergency ,all foreign national personnel shall be go to Muster Station and theinstructions of Officers will act in
11	Haberleşme telsiz kanalı 14 dir. Emergency Communication Radio Channel is 14.
12	Eğer yangın çalışma saatleri dışında olursa vardiya mühendisleri derhal ekip amirlerini ve tesis yönetimini durumdan haberdar edecek If the fire is out of working hours, the shift engineers will immediately inform the supervisors of team and the plant management



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YANGIN ( FIRE )			
ROLE NO	GÖREVİ (RANK)	ACİL DURUM GÖREVİ ( EMERGENCY DUTY )	EKİBİ (TEAM)
<b>KUMANDA EKİBİ</b> <b>COMMAND TEAM</b>			
1	SEMHİŞ ŞAHİN (PLANT MANAGER)	Genel Kumanda. General Command	KUMANDA EKİBİ COMMAND TEAM
2	ENGİN ÖZCAN (ASST.PLANT MANAGER)	Genel Kumanda. General Command	KUMANDA EKİBİ COMMAND TEAM
3	MEHMET CEM GÖKPINAR (ASST.PLANT MANAGER)	Genel Kumanda. General Command	KUMANDA EKİBİ COMMAND TEAM
<b>YANGIN EKİBİ (1. EKİP)</b> <b>FIRE TEAM ( 1st. TEAM )</b>			
4	ERDİ SAKALLI (ADM.AFF.ASST.MANAGER)	Yangın ekibine Amirlik eder, olay mahalinde koordine sağlar .Tesis müdürüyle haberleşme sağlar. Tesis müdürünün onayıyla Navy Base den destek ister. 2. Yangın ekip amiri olmadığında her iki yangın ekibine de liderlik eder. (1 ST.team leader. Coordinates action taken and communicates with plant manager,request supports from Navy Base approval of the plant manager.) If there is not 2 TH. Team fire leader, he becomes fire team leader for first and second fire teams at the same time.	YANGIN EKİBİ FIRE TEAM
5	ARKIN YÜKSELEN(BOSUN)	Yangın elbisesi giyer.Takım amiri emri ile olay mahaline hareket eder. (Wear fireman outfit. Wait for instruction team leader.)	YANGIN EKİBİ FIRE TEAM
6		Yangın elbisesi giyer.Takım amiri emri ile olay mahaline hareket eder. (Wear fireman outfit. Wait for instruction team leader.)	YANGIN EKİBİ FIRE TEAM
7	YAŞAR ERDOĞAN (A/B)	Yangın elbisesi giyer.Takım amiri emri ile olay mahaline hareket eder. (YEDEK) (Wear fireman outfit. Wait for instruction team leader.) (SPARE)	YANGIN EKİBİ FIRE TEAM
8	OSMAN ÖZGÜR ÇİÇEK (SENIOR MECHANICAL TECH.)	Yangın elbisesi giyiminde yardım eder. Can halatını kumanda eder. Assist to wearing fireman outfit and control to life line.	YANGIN EKİBİ FIRE TEAM
9	SEMİR ARACI (MECH.MAINT.TECH.)	Yangın elbisesi giyiminde yardım eder. Can halatını kumanda eder. Assist to wearing fireman outfit and control to life line.	YANGIN EKİBİ FIRE TEAM
10	HALİL İBRAHİM BEDİR (MECH.MAINT.TECH.)	Yangın elbisesi giyiminde yardım eder. Can halatını kumanda eder. Assist to wearing fireman outfit and control to life line.	YANGIN EKİBİ FIRE TEAM
11	GÜROL ERGİN (MECH.MAINT.TECH.)	Yangın elbisesi giyiminde yardım eder. Can halatını kumanda eder. Assist to wearing fireman outfit and control to life line.	YANGIN EKİBİ FIRE TEAM
12	FATİH KARAGÖZ (MECH.MAINT.TECH.)	Olay mahaline yangın hortumu ve minimax getirir. Ekip amirinin talimatı ile yangın olan bölgenin yangın kapısını kapatır. Bring fire hose and portable fire extinguisher . In order of Team leader Closed to fire door in which fire area.	YANGIN EKİBİ FIRE TEAM
13	TURGUT KAYA (MAINT.TECH.)	Olay mahaline yangın hortumu ve minimax getirir. Ekip amirinin talimatı ile yangın olan bölgenin yangın kapısını kapatır. Bring fire hose and portable fire extinguisher . In order of Team leader Closed to fire door in which fire area.	YANGIN EKİBİ FIRE TEAM
14	GÖKSEL SİMSAR (OILER)	Yangın elbisesi giyer.Takım amiri emri ile olay mahaline hareket eder. (YEDEK) (Wear fireman outfit. Wait for instruction team leader.) (SPARE)	YANGIN EKİBİ FIRE TEAM
15	ÖMER ZEKİ KALYONCU (OILER)	Olay mahaline yangın hortumu ve minimax getirir. Ekip amirinin talimatı ile yangın olan bölgenin yangın kapısını kapatır. Bring fire hose and portable fire extinguisher . In order of Team leader Closed to fire door in which fire area.	YANGIN EKİBİ FIRE TEAM





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GÖREVİ (RANK)	ACIL DURUM GÖREVİ (EMERGENCY DUTY)	EKİBİ (TEAM)
<b>YANGIN EKİBİ (2. EKİP)</b> <b>FIRE TEAM (2 nd. TEAM)</b>		
19	ALI KUTAY ŞENER (DECK OFFICER) Yangın ekibine Amirlik Eder, olay mahalinde koordine sağlar. Tesis müdürüyle haberleşme sağlar. Tesis müdürünün onayıyla Naval Base den destek ister. 1.Yangın ekip amiri olmadığında her iki yangın ekibine de liderlik eder. (1 ST.team leader. Coordinates action taken and communicates with plant manager,request supports from Naval Base approval of the plant manager. If there is not 2 TH. Team fire leader, he becomes fire team leader for first and second fire teams at the same time.	YANGIN EKİBİ FIRE TEAM
20	MUSTAFA TAŞÇI (USTA GEMİCİ) Yangın elbisesi giyer.Takım amiri emri ile olay mahaline hareket eder. (Wear fireman outfit. Wait for instruction team leader.)	YANGIN EKİBİ FIRE TEAM
21	RAMAZAN ŞEN (MECH.MAINT.TECH) Yangın elbisesi giyer.Takım amiri emri ile olay mahaline hareket eder. (Wear fireman outfit. Wait for instruction team leader.)	YANGIN EKİBİ FIRE TEAM
22	Yangın elbisesi giyer.Takım amiri emri ile olay mahaline hareket eder. (YEDEK) (Wear fireman outfit. Wait for instruction team leader.) (SPARE)	
23	ADEM ÖZTÜRK (OILER) Yangın elbisesi giyer.Takım amiri emri ile olay mahaline hareket eder. (YEDEK) (Wear fireman outfit. Wait for instruction team leader.) (SPARE)	YANGIN EKİBİ FIRE TEAM
24	İRFAN KARAGÜLLE (OILER) Yangın elbisesi giyiminde yardım eder. Can halatını kumanda eder. Assist to wearing fireman outfit and control to life line.	YANGIN EKİBİ FIRE TEAM
25	Yangın elbisesi giyiminde yardım eder. Can halatını kumanda eder. Assist to wearing fireman outfit and control to life line.	YANGIN EKİBİ FIRE TEAM
26	MEMET KEMAL TOPAL (FITTER) Yangın elbisesi giyiminde yardım eder. Can halatını kumanda eder. Assist to wearing fireman outfit and control to life line.	YANGIN EKİBİ FIRE TEAM
27	Yangın elbisesi giyiminde yardım eder. Can halatını kumanda eder. Assist to wearing fireman outfit and control to life line.	YANGIN EKİBİ FIRE TEAM
28	FATİH MEHMET AKYOL (MECH.MAINT.TECH.) Olay mahaline yangın hortumu ve taşınabilir seygar yangın söndürücü getirir. Ekip amirinin talimatı ile yangın olan bölgenin yangın kapısını kapatır. Bring fire hose and portable fire extinguisher .In order of Team leader Closed to fire door in which fire area.	YANGIN EKİBİ FIRE TEAM
29	YAŞAR YÖRKAN (SENIOR FITTER) Olay mahaline yangın hortumu ve taşınabilir seygar yangın söndürücü getirir. Ekip amirinin talimatı ile yangın olan bölgenin yangın kapısını kapatır. Bring fire hose and portable fire extinguisher .In order of Team leader Closed to fire door in which fire area.	YANGIN EKİBİ FIRE TEAM
30	Olay mahaline yangın hortumu ve taşınabilir seygar yangın söndürücü getirir. Ekip amirinin talimatı ile yangın olan bölgenin yangın kapısını kapatır. Bring fire hose and portable fire extinguisher .In order of Team leader Closed to fire door in which fire area.	YANGIN EKİBİ FIRE TEAM
31	DURMUŞ YILDIRIM (FITTER) Yangın bölgesinin kontrolünü yapar yaralı olup olmadığının teyidini ekip amirine verir. Gerekliğinde seygar köpük aplikatörü hazırlar. It controls the fire zone and gives the team leader the confirmation of whether he's injured or not. If necessary prepare to Foam applicator.	YANGIN EKİBİ FIRE TEAM
32	İSMAİL BAL (SENIOR FITTER) Yangın bölgesinin kontrolünü yapar yaralı olup olmadığının teyidini ekip amirine verir. Gerekliğinde seygar köpük aplikatörü hazırlar. It controls the fire zone and gives the team leader the confirmation of whether he's injured or not. If necessary prepare to Foam applicator.	YANGIN EKİBİ FIRE TEAM
33	AYHAN ORAN (MECH.MAINT.TECH.) Yangın bölgesinin kontrolünü yapar yaralı olup olmadığının teyidini ekip amirine verir. Gerekliğinde seygar köpük aplikatörü hazırlar. It controls the fire zone and gives the team leader the confirmation of whether he's injured or not. If necessary prepare to Foam applicator.	YANGIN EKİBİ FIRE TEAM
<b>TEKNİK EKİP</b> <b>1. TECHNIC TEAM</b>		
34	MUSTAFA BÜYÜKTEPE (SHIFT SUPERVISOR) 1. Teknik ekip amiridir.Tes. Müd. Emriyle emg. dizel jeneratörü çalıştırır. 2. Teknik ekip amiri olmadığı durumda her iki teknik ekibin de amirliğini yapar. Acil durumlarda Kapatma prosedürünün gerekliliklerini yerine getirir. 1st. technic team leader . Acts asper Plant Mng. instruction according to the case. Start up emg. diesel generator . When there is no 2th. Technic team leader ,he will be leader of 1st and 2th Technic teams. When there is an emergency situation, he takes actions according to shutdown procedure.	TEKNİK EKİP TECHNIC TEAM
35	BİROL DÖNMEZ (ENGINEER) Tes. Müd. Emriyle emg. dizel jeneratörü çalıştırır Technic team leader (2nd). Acts asper Plant Mng. instruction according to the case. Start up emg. diesel generator .	TEKNİK EKİP TECHNIC TEAM
36	TURGUT SELMAN TÜMER (ENGINEER) Emg.Dizel jeneratör çalıştırılmasına yardımcı olur. Takım amiri talimatıyla, gaz yangınlarında yangın mahaline giden gaz hattı kapatma vanasını kapatarak gaz akışını keser. Assist for Start up emg. diesel generator. According to the instruction of team leader ,he closes the shut off valve that belong to gas line where feeds the fire area in gas fires.	TEKNİK EKİP TECHNIC TEAM
37	MUSTAFA KOCA (ENGINEER) Emg. Dizel jeneratör çalıştırılmasına yardımcı olur. Takım amiri talimatıyla, gaz yangınlarında yangın mahaline giden gaz hattı kapatma vanasını kapatarak gaz akışını keser. Assist for Start up emg.diesel generator. According to the instruction of team leader ,he closes the shut off valve that belong to gas line where feeds the fire area in gas fires.	TEKNİK EKİP TECHNIC TEAM
38	SERDAR BALCIK (ENGINEER) Takım amirinin talimatıyla en yakın ulaşabileceği yangın pompasını çalıştırır./ Makine yangınlarında temiz su püskürtme sistemini devreye sokar. Takım amiri talimatıyla, gaz yangınlarında yangın mahaline giden gaz hattı kapatma vanasını kapatarak gaz akışını keser. In order of Team leader ,start up one of the closest fire pumps/It activates the Local Application System in case of machine fires. According to the instruction of team leader ,he closes the shut off valve that belong to gas line where feeds the fire area in gas fires.	TEKNİK EKİP TECHNIC TEAM
39	HALİT TUĞBERK KURUŞ (ENGINEER) Takım amirinin talimatıyla en yakın ulaşabileceği yangın pompasını çalıştırır./Makine yangınlarında temiz su püskürtme sistemini devreye sokar. In order of Team leader ,start up one of the closest fire pumps./It activates the Local Application System in case of machine fires.	TEKNİK EKİP TECHNIC TEAM
40	MESUT CUMHUR MORGÜL (ENGINEER) Takım amirinin talimatıyla en yakın ulaşabileceği yangın pompasını çalıştırır./Makine yangınlarında temiz su püskürtme sistemini devreye sokar. In order of Team leader ,start up one of the closest fire pumps./It activates the Local Application System in case of machine fires.	TEKNİK EKİP TECHNIC TEAM
41	Takım amirinin talimatıyla küç jettydeki Emg. Dizel yangın pompasını çalıştırır. In order of Team leader ,start up emg. Diesel fire pump on the aft jetty.	TEKNİK EKİP TECHNIC TEAM
42	Takım amirinin talimatıyla küç jettydeki Emg. Dizel yangın pompasını çalıştırır. In order of Team leader ,start up emg. Diesel fire pump on the aft jetty.	TEKNİK EKİP TECHNIC TEAM
43	TACETTİN SERT (MECH.MAINT.TECH.) Ambarların güverteden girişlerini ve manuel kapatılan havalandırmaları kapatır. Closed the entrances of the cargo holds from the deck and manually closed vents.	TEKNİK EKİP TECHNIC TEAM
44	İSMAİL ÖZ (MECH.MAINT.LEADER) Ambarların güverteden girişlerini ve manuel kapatılan havalandırmaları kapatır. Closed the entrances of the cargo holds from the deck and manually closed vents.	TEKNİK EKİP TECHNIC TEAM
73	İBRAHİM ÇOLAK (ELC.TECH.) Tesis Müdürü'nün talimatıyla olay yerinin elektriğini keser Cut off the electricity with P.M. order	DESTEK EKİBİ SUPPORT TEAM
74	Tesis Müdürü'nün talimatıyla olay yerinin elektriğini keser Cut off the electricity with P.M. order	DESTEK EKİBİ SUPPORT TEAM



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2. TEKNİK EKİP 2ND TECHNIC TEAM			
45		2. Teknik ekip amiridir. Tesis Müdürüyle koordineli olarak olayın tipine göre hareket eder. Yangın tesis tarafında veya gemi makine dairesinde ise tesis müd. emriyle CO2 tüplerini patlatır. 1. Teknik ekip amiri olmadığında her iki teknik ekibin de amirliğini yapar. Acil durumda kapatma prosedürünün gerekliliklerini yerine getirir. Technic team leader acts as per Plant Mng. Instruction according to the case [Fire in Plant side & Eng. room] Release co2. When there is no 1st. Technic team leader, He will be leader of 1st and 2th Technic Teams. When there is an emergency situation, he takes actions according to shutdown procedure.	TEKNİK EKİP TECHNIC TEAM
46	ACARALP ATAHAHAN IÇLI (ENGINEER)	Teknik ekip lideri ile koordineli olarak olayın tipine göre hareket eder. Yangın tesis tarafında veya gemi makine dairesinde ise tesis müd. emriyle CO2 tüplerini patlatır. Acts as per Technic team leader. Instruction according to the case [Plant & Fire in Eng. Room]. Release co2	TEKNİK EKİP TECHNIC TEAM
47	NURİ SENAVER (ELEC. TECHNICIAN)	CO2 tüplerinin patlatılmasına yardım eder./Makine yangınlarında temiz su püskürtme sistemini devreye sokar Assist for release CO2./It activates the Local Application System in case of machine fires.	TEKNİK EKİP TECHNIC TEAM
48	MUSTAFA YILMAZ (ENGINEER)	CO2 tüplerinin patlatılmasına yardım eder./Makine yangınlarında temiz su püskürtme sistemini devreye sokar assist for release CO2./It activates the Local Application System in case of machine fires.	TEKNİK EKİP TECHNIC TEAM
49	FATİH TOPAL (ENGINEER)	Tes. Müd. Emriyle 8 nolu ambardaki köpük pompalarını devreye alır ve P.M ye rapor eder Order with P.M Release Foam pumps in the Cargo Hold 8 and report to P.M	TEKNİK EKİP TECHNIC TEAM
50	CANER BİROL ÖĞRETEN (ENGINEER)	Tes. Müd. Emriyle 8 nolu ambardaki köpük pompalarını devreye alır ve P.M ye rapor eder. Order with P.M Release Foam pumps in the Cargo Hold 8 and report to P.M.	TEKNİK EKİP TECHNIC TEAM
51	BARIŞ FETTAHOĞLU (DILER)	Tes. Müd. Emriyle 8 nolu ambardaki köpük pompalarını devreye alır ve P.M ye rapor eder Order with P.M Release Foam pumps in the Cargo Hold 8 and report to P.M	TEKNİK EKİP TECHNIC TEAM
52		Tes. Müd. Emriyle 9 nolu ambardaki Quick closing valfleri kapatır, P.M ye rapor eder Order with P.M shut down quick closing valves and report to P.M	TEKNİK EKİP TECHNIC TEAM
53	MEHMET ÇELİK (FITTER)	Tes. Müd. Emriyle 9 nolu ambardaki Quick closing valfleri kapatır, P.M ye rapor eder Order with P.M shut down quick closing valves and report to P.M	TEKNİK EKİP TECHNIC TEAM
54	MEHMET BOZAN (MECH.MAINT.TECH.)	Köpük tankının güverteden ana valfini, giriş çıkış valflerini ve yangın hangi ambarıda ise o ambarın iç tarafındaki foam sisteminin ayırıcı valfini açar. Pompayı çalıştırır. Takım amiri talimatıyla, gaz yangınlarında yangın mahaline giden gaz hattı kapatma vanasını kapatarak gaz akışını keser. Open foam Tank main valve, inner-outer valves and which Cargo Hold in the fire , open isolation valve from aft cargo hold on the deck. Start to foam tank pump. According to the instruction of team leader ,he closes the shut off valve that belong to gas line where feeds the fire area in gas fires.	TEKNİK EKİP TECHNIC TEAM
55	MEHMET CEM GÖKPINAR (MAINT.LEADER)	Köpük tankının güverteden ana valfini, giriş çıkış valflerini ve yangın hangi ambarıda ise o ambarın iç tarafındaki köpük sisteminin ayırıcı valfini açar. Pompayı çalıştırır. Open foam Tank main valve, inner-outer valves and which Cargo Hold in the fire , open isolation valve from aft cargo hold on the deck. Start to foam tank pump.	TEKNİK EKİP TECHNIC TEAM
56		Köpük tankının güverteden ana valfini, giriş çıkış valflerini ve yangın hangi ambarıda ise o ambarın iç tarafındaki köpük sisteminin ayırıcı valfini açar. Pompayı çalıştırır. Open foam Tank main valve, inner-outer valves and which Cargo Hold in the fire , open isolation valve from aft cargo hold on the deck. Start to foam tank pump.	TEKNİK EKİP TECHNIC TEAM
72	FERDİ ŞAHİN (ELC.TECH.)	Tesis Müdürü'nün talimatıyla olay yerinin elektriğini keser Cut off the electricity with P.M. order	DESTEK EKİBİ SUPPORT TEAM
75	NEBİ BAĞCI (ELC.TECH.)	Tesis Müdürü'nün talimatıyla olay yerinin elektriğini keser Cut off the electricity with P.M. order	DESTEK EKİBİ SUPPORT TEAM
76	HALİS TURGUT (ELC.TECH.)	Tesis Müdürü'nün talimatıyla olay yerinin elektriğini keser Cut off the electricity with P.M. order	DESTEK EKİBİ SUPPORT TEAM
İLK YARDIM EKİBİ FIRST AID TEAM			
57	FAHRETTİN BULUT (HEALTH OFFICER)	İlk yardım ekiplerine Amirlik Eder, olay mahalinde koordine sağlar .Tesis müdürüyle haberleşme sağlar. leader of first aid squads,coordinates action taken and communicates with plant manager	İLK YARDIM EKİBİ FIRST AID TEAM
58	MERDAN SAPAROV (HEALTH OFFICER)	Revirden ilk yardım çantası ve oksijen tüpü getirir./Toplanma mahaline gider. Bring the first aid kit and O2 tube ./Going to muster station	İLK YARDIM EKİBİ FIRST AID TEAM
59	GÜNER GÜLLER (OILER)	Revirden ilk yardım çantası ve oksijen tüpü getirir./Toplanma mahaline gider. Bring the first aid kit and O2 tube ./Going to muster station	İLK YARDIM EKİBİ FIRST AID TEAM
60	İSMET ÖZTÜRK (COOK)	Revirden sedye ve battaniye getirir/ Toplanma mahaline gider Bring to stretcher and blanket from hospital/Going to muster station	İLK YARDIM EKİBİ FIRST AID TEAM
61	ZEYNEL AYDIN (STEWARD)	Revirden sedye ve battaniye getirir/ Toplanma mahaline gider Bring to stretcher and blanket from hospital/Going to muster station	İLK YARDIM EKİBİ FIRST AID TEAM
62	EMREN GÜLLER (COOK)	Toplanma mahaline gider. Ekip amirinin talimatına göre hareket eder. (İlk yardım ekibindedir) Goes to muster station and wait order from team leader.	DESTEK EKİBİ SUPPORT TEAM
63	RAMAZAN TOPRAK (MECH.MAINT.TECH.)	Toplanma mahaline gider. Ekip amirinin talimatına göre hareket eder. (İlk yardım ekibindedir) Goes to muster station and wait order from team leader.	DESTEK EKİBİ SUPPORT TEAM





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DESTEK EKİBİ SUPPORT TEAM			
64	MEVLÜT YURTSEVEN (HSE SPECIALIST)	Destek ekip amiridir.Tesis müdürüyle haberleşme sağlar.Ganali personelin tahliyesinden sorumludur.Toplanma alanında sayımını yapar Tesis Müdürüne rapor eder. Emre göre hakaret eder Support team leader.Responsible for the Ghananian personnel of evacuation and counting in muster station . Report to Plant Manager.	DESTEK EKİBİ SUPPORT TEAM
65	FARUK ÖZYİĞİT (MECH.MAINT.TECH.)	Destek ekip amir yardımcısıdır.Tesis müdürüyle haberleşme sağlar.Ganali personelin tahliyesinden sorumludur.Toplanma alanında sayımını yapar Tesis Müdürüne rapor eder. Emre göre hakaret eder. Destek ekip amiri olmadığında destek ekip amirliği yapar. Support 2. team leader./Responsible for the Ghananian personnel of evacuation and counting in muster station . Report to Plant Manager. When there is no support team leader, he will be team leader.	DESTEK EKİBİ SUPPORT TEAM
66	UFUK GÜNGÖR (OILER)	Ganali personelin tahliyesinden sorumludur.Toplanma alanında sayımını yapar Tesis Müdürüne rapor eder. Emre göre hakaret eder Responsible for the Ghananian personnel of evacuation and counting in muster station . Report to Plant Manager	DESTEK EKİBİ SUPPORT TEAM
67	AHMET AÇIKGÖZ (MECH. MAINT. TECHN.)	Ganali personelin tahliyesinden sorumludur.Toplanma alanında sayımını yapar Tesis Müdürüne rapor eder. Emre göre hakaret eder Responsible for the Ghananian personnel of evacuation and counting in muster station . Report to Plant Manager	DESTEK EKİBİ SUPPORT TEAM
68	BAHATTİN ÖZÇELİK (ELC. ENGINEER)	Kontrol odasında Tesis Müdürü'nün talimatıyla hareket eder. Tesis Müdürü'nün talimatıyla fanları ve olay yerinin elektriğini keser stop eder. Standby in order of P.M at the control room and close the ventilations and Cut off the electricity with P.M. order	DESTEK EKİBİ SUPPORT TEAM
69	MEHMET UYGUN (SENIOR. ELC.TECH.)	Kontrol odasında Tesis Müdürü'nün talimatıyla hareket eder.Tesis Müdürü'nün talimatıyla fanları ve olay yerinin elektriğini keser stop eder. Standby in order of P.M at the control room and close the ventilations and Cut off the electricity with P.M. order	DESTEK EKİBİ SUPPORT TEAM
70	NEVZAT GÜNEŞ (SENIOR. ELC.TECH.)	Kontrol odasında Tesis Müdürü'nün talimatıyla hareket eder.Tesis Müdürü'nün talimatıyla fanları ve olay yerinin elektriğini keser stop eder. Standby in order of P.M at the control room and close the ventilations and Cut off the electricity with P.M. order	DESTEK EKİBİ SUPPORT TEAM
71		Tesis Müdürü'nün talimatıyla olay yerinin elektriğini keser Cut off the electricity with P.M. order	
77	AYDIN GÖKSU (FITTER)	Tesis Müdürü'nün talimatıyla su geçirmez kaportaları ve yangın damperlerini kapatır Close the watertight doors and fire dampers with P.M. order	DESTEK EKİBİ SUPPORT TEAM
78		Tesis Müdürü'nün talimatıyla su geçirmez kaportaları ve yangın damperlerini kapatır Close the watertight doors and fire dampers with P.M. order	
79		Toplanma mahaline gider.Tesis Müdürü talimatıyla hareket eder. Close the watertight doors and fire dampers with P.M. order	DESTEK EKİBİ SUPPORT TEAM
80	YAVUZ ATASOY (REPORTING SPECIALIST)	Gemi sertifikaları ve evrakların taşınmasına yardım eder. Acente ve yerel otoritelere haber verir. Assist to bring ship certificates and important documents. Inform the agent and local authorities	DESTEK EKİBİ SUPPORT TEAM
81	ÜNAL MULLA (WAREHOUSE STAFF)	Toplanma mahaline gider.Tesis Müdürü talimatıyla hareket eder. Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
82	SERDAR ALTIK (CHEMIST)	Toplanma mahaline gider.Tesis Müdürü talimatıyla hareket eder. Yangın sırasında güvenlik ofisindeki muster list tablosunu kontrol edip o anda tesiste bulunan toplam personel sayısını komanda ekibe bilgi verir. Goes to muster station and wait for order.During the fire, it checks the muster list table in the security office and reports the total number of personnel in the facility per control team.	DESTEK EKİBİ SUPPORT TEAM
83	İBRAHİM SEVEN (OILER)	Toplanma mahaline gider.Tesis Müdürü talimatıyla hareket eder./Yangın durumuna göre jettydeki yangın nozullarını kullanır. Goes to muster station and wait for order/Use the fire gun nozzles on the jetty according to the fire situation.	DESTEK EKİBİ SUPPORT TEAM
84	FATİH UZGÖREN (OILER)	Toplanma mahaline gider.Tesis Müdürü talimatıyla hareket eder./Yangın durumuna göre jettydeki yangın nozullarını kullanır. Goes to muster station and wait for order / Use the fire gun nozzles on the jetty according to the fire situation.	DESTEK EKİBİ SUPPORT TEAM
85	LEVENT EMRE (OILER)	Toplanma mahaline gider.Tesis Müdürü talimatıyla hareket eder./Yangın durumuna göre jettydeki yangın nozullarını kullanır. Goes to muster station and wait for order /Use the fire gun nozzles on the jetty according to the fire situation.	DESTEK EKİBİ SUPPORT TEAM



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YANGIN ( FIRE )			
ROLE NO	GÖREVİ (RANK)	ACIL DURUM GÖREVİ ( EMERGENCY DUTY )	EKİBİ (TEAM)
<b>KUMANDA EKİBİ</b> <b>COMMAND TEAM</b>			
1	SEMHİ ŞAHİN (PLANT MANAGER)	Genel Kumanda. General Command	KUMANDA EKİBİ COMMAND TEAM
2	ENGİN ÖZCAN (ASST.PLANT MANAGER)	Genel Kumanda. General Command	KUMANDA EKİBİ COMMAND TEAM
3	MEHMET CEM GÖKPINAR (ASST.PLANT MANAGER)	Genel Kumanda. General Command	KUMANDA EKİBİ COMMAND TEAM
<b>YANGIN EKİBİ (1. EKİP)</b> <b>FIRE TEAM ( 1st. TEAM )</b>			
4	ERDİ SAKALLI (ADM.AFF.ASST.MANAGER)	Yangın ekibine Amirlik eder, olay mahalinde koordine sağlar .Tesis müdürüyle haberleşme sağlar. Tesis müdürünün onayıyla Navy Base den destek ister. 2. Yangın ekip amiri olmadığında her iki yangın ekibine de liderlik eder. (1 ST.team leader. Coordinates action taken and communicates with plant manager,request supports from Navy Base approval of the plant manager.) If there is not 2 TH. Team fire leader, he becomes fire team leader for first and second fire teams at the same time.	YANGIN EKİBİ FIRE TEAM
5	ARKIN YÜKSELEN(BOSUN)	Yangın elbisesi giyer.Takım amiri emri ile olay mahaline hareket eder. (Wear fireman outfit. Wait for instruction team leader.)	YANGIN EKİBİ FIRE TEAM
6		Yangın elbisesi giyer.Takım amiri emri ile olay mahaline hareket eder. (Wear fireman outfit. Wait for instruction team leader.)	YANGIN EKİBİ FIRE TEAM
7	YAŞAR ERDOĞAN (A/B)	Yangın elbisesi giyer.Takım amiri emri ile olay mahaline hareket eder. (YEDEK) (Wear fireman outfit. Wait for instruction team leader.) (SPARE)	YANGIN EKİBİ FIRE TEAM
8	OSMAN ÖZGÜR ÇİÇEK (SENIOR MECHANICAL TECH.)	Yangın elbisesi giyiminde yardım eder. Can halatını kumanda eder. Assist to wearing fireman outfit and control to life line.	YANGIN EKİBİ FIRE TEAM
9	SEMİR ARACI (MECH.MAINT.TECH.)	Yangın elbisesi giyiminde yardım eder. Can halatını kumanda eder. Assist to wearing fireman outfit and control to life line.	YANGIN EKİBİ FIRE TEAM
10	HALİL İBRAHİM BEDİR (MECH.MAINT.TECH.)	Yangın elbisesi giyiminde yardım eder. Can halatını kumanda eder. Assist to wearing fireman outfit and control to life line.	YANGIN EKİBİ FIRE TEAM
11	GÜROL ERGİN (MECH.MAINT.TECH.)	Yangın elbisesi giyiminde yardım eder. Can halatını kumanda eder. Assist to wearing fireman outfit and control to life line.	YANGIN EKİBİ FIRE TEAM
12	FATİH KARAGÖZ (MECH.MAINT.TECH.)	Olay mahaline yangın hortumu ve minimax getirir. Ekip amirinin talimatı ile yangın olan bölgenin yangın kapısını kapatır. Bring fire hose and portable fire extinguisher . In order of Team leader Closed to fire door in which fire area.	YANGIN EKİBİ FIRE TEAM
13	TURGUT KAYA (MAINT.TECH.)	Olay mahaline yangın hortumu ve minimax getirir. Ekip amirinin talimatı ile yangın olan bölgenin yangın kapısını kapatır. Bring fire hose and portable fire extinguisher . In order of Team leader Closed to fire door in which fire area.	YANGIN EKİBİ FIRE TEAM
14	GÖKSEL SİMSAR (OILER)	Yangın elbisesi giyer.Takım amiri emri ile olay mahaline hareket eder. (YEDEK) (Wear fireman outfit. Wait for instruction team leader.) (SPARE)	YANGIN EKİBİ FIRE TEAM
15	ÖMER ZEKİ KALYONCU (OILER)	Olay mahaline yangın hortumu ve minimax getirir. Ekip amirinin talimatı ile yangın olan bölgenin yangın kapısını kapatır. Bring fire hose and portable fire extinguisher . In order of Team leader Closed to fire door in which fire area.	YANGIN EKİBİ FIRE TEAM



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TEKNİK EKİP TECHNIC TEAM			
34	MUSTAFA BÜYÜKTEPE (SHIFT SUPERVISOR)	Teknik ekip amiridir.Olay mahali yakıt akışını keser.Plant manager talimatına göre hareket eder. Technic team leader (1st). Scene areas shut down bunker.Stand-by Plant manager order.	TEKNİK EKİP TECHNIC TEAM
45		Teknik ekip amiridir.Olay mahali yakıt akışını keser.Plant manager talimatına göre hareket eder. Technic team leader(2ND) . Scene areas shut down bunker.Stand-by Plant manager order.	TEKNİK EKİP TECHNIC TEAM
68	BAHATTİN ÖZÇELİK (ELC. ENGINEER)	Olay mahali elektrik tesisatını kontrol eder . scene areas check electric equipment .	TEKNİK EKİP TECHNIC TEAM
69	MEHMET UYGUN (SENIOR. ELC.TECH.)	Olay mahali elektrik tesisatını kontrol eder . scene areas check electric equipment .	TEKNİK EKİP TECHNIC TEAM
70	NEVZAT GÜNEŞ (SENIOR. ELC.TECH.)	Olay mahali elektrik tesisatını kontrol eder . scene areas check electric equipment .	TEKNİK EKİP TECHNIC TEAM
36	TURGUT SELMAN TÜMER (ENGINEER)	Olay mahali yakıt akışını keser. Scene areas shut down bunker	TEKNİK EKİP TECHNIC TEAM
35	BİROL DÖNMEZ (ENGINEER)	Olay mahali yakıt akışını keser. Scene areas shut down bunker	TEKNİK EKİP TECHNIC TEAM
38	SERDAR BALCIK (ENGINEER))	Olay mahali yakıt akışını keser. Scene areas shut down bunker	TEKNİK EKİP TECHNIC TEAM
39	HALİT TUĞBERK KURUTAŞ (ENGINEER)	Olay mahali yakıt akışını keser. Scene areas shut down bunker	TEKNİK EKİP TECHNIC TEAM
50	CANER BİROL ÖĞRETEN (ENGINEER)	Olay mahali yakıt akışını keser. Scene areas shut down bunker	TEKNİK EKİP TECHNIC TEAM
49	FATİH TOPAL (ENGINEER)	Olay mahali yakıt akışını keser. Scene areas shut down bunker	TEKNİK EKİP TECHNIC TEAM
46	ACARALP ATAHAN İÇLİ (ENGINEER)	Olay mahali yakıt akışını keser. Scene areas shut down bunker	TEKNİK EKİP TECHNIC TEAM
37	MUSTAFA KOCA (ENGINEER)	Olay mahali yakıt akışını keser. Scene areas shut down bunker	TEKNİK EKİP TECHNIC TEAM
47	NURİ SENAVER (ELC. TECH)	Olay mahali yakıt akışını keser. Scene areas shut down bunker	TEKNİK EKİP TECHNIC TEAM
48	MUSTAFA YILMAZ (ENGINEER)	Olay mahali yakıt akışını keser. Scene areas shut down bunker	TEKNİK EKİP TECHNIC TEAM
İLK YARDIM EKİBİ FIRST AID TEAM			
57	FAHRETTİN BULUT (HEALTH OFFICER)	İlk yardım ekibi amiridir .Tesis müdürüyle haberleşme sağlar. Leader of first aid suquad ,coordinates action taken and communicates with plant manager	İLK YARDIM EKİBİ (FIRST AID TEAM)
58	MERDAN SAPAROV(HEALTH OFFICER)	Revirden ilk yardım çantası ve oksijen tüpü getirir./Toplanma mahaline gider. Bring the first aid kit and O2 tube ./Going to muster station	İLK YARDIM EKİBİ (FIRST AID TEAM)
60	İSMET ÖZTÜRK (COOK)	Revirden ilk yardım çantası ve oksijen tüpü getirir./Toplanma mahaline gider. Bring the first aid kit and O2 tube ./Going to muster station	İLK YARDIM EKİBİ (FIRST AID TEAM)
61	ZEYNEL AYDIN (STEWARD)	Revirden sedye ve battaniye getirir/ Toplanma mahaline gider Bring to stretcher and blanket from hospital/Going to muster station	İLK YARDIM EKİBİ (FIRST AID TEAM)
62	EMREN GÜLLER (COOK)	Revirden ilk yardım çantası ve oksijen tüpü getirir./Toplanma mahaline gider. Bring the first aid kit and O2 tube ./Going to muster station	İLK YARDIM EKİBİ (FIRST AID TEAM)
63	RAMAZAN TOPRAK (MECH.MAINT.TECH.)	Toplanma mahaline gider.İlk yardım ekibine yardım eder Assist for aid squad team	İLK YARDIM EKİBİ (FIRST AID TEAM)



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DESTEK EKİBİ SUPPORT TEAM			
64	MEVLÜT YURTSEVEN (HSE SPECIALIST)	Destek ekibi amiridir. Tesis müdürüyle haberleşme sağlar. Leader of support team ,coordinates action taken and communicates with plant manager	DESTEK EKİBİ SUPPORT TEAM
8	OSMAN ÖZGÜR ÇİÇEK (SENIOR MECHANICAL TECH.)	Toplanma yerinde emre hazır bekler. Destek ekibi amiri olmadığında, destek ekip amirliği yapar. Goes to muster station and wait for order. If leader of support team is absent, he will be leader of support	DESTEK EKİBİ SUPPORT TEAM
9	SEMİR ARACI (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
10	HALİL İBRAHİM BEDİR (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
11	GÜROL ERGİN (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
12	FATİH KARAGÖZ (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
13	TURGUT KAYA (MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
14	GÖKSEL ŞİMSAR (OILER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
22		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
26	MEMET KEMAL TOPAL (FITTER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
28	FATİH MEHMET AKYOL (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
29	YAŞAR TÜRKAN (SENIOR FITTER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
31	DURMUŞ YILDIRIM (FITTER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
32	İSMAİL BAL (SENIOR FITTER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
33	AYHAN ORAN (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
40	MESUT CUMHUR MORGÜL (ENGINEER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM




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42		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
43	TACETTİN SERT (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
44	İSMAİL ÖZ (MECH.MAINT.LEADER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
51	BARİŞ FETTAHOĞLU (OILER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
52		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
53	MEHMET ÇELİK (FITTER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
54	MEHMET BOZAN (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
55	MEHMET CEM GÖKPINAR (ENGINEER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
59	GÜNER GÜLLER (OILER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
65	FARUK ÖZYİĞİT (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
66	UFUK GÜNGÖR (OILER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
67		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
68	BAHATTİN ÖZÇELİK (ELC. ENGINEER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
69	MEHMET UYGUN (SENIOR. ELC.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
70	NEVZAT GÜNEŞ (SENIOR. ELC.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
72	FERDİ ŞAHİN (ELC.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
73	İBRAHİM ÇOLAK (ELC.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
<del>75</del>	<del>NEBİ BAĞCI (ELC.TECH.)</del>	<del>Toplanma yerinde emre hazır bekler Goes to muster station and wait for order</del>	<del>DESTEK EKİBİ SUPPORT TEAM</del>
76	HALİS TURGUT (ELC.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
77	AYDIN GÖKSU (FITTER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
78		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
80	YAVUZ ATASOY (REPORTING SPECIALIST)	Toplanma mahaline gider.Tesis Müdürü talimatıyla hareket eder. Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
81	ÜNAL MULLA (WAREHOUSE STAFF)	Toplanma mahaline gider.Tesis Müdürü talimatıyla hareket eder. Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
82	SERDAR ALTIOK (CHEMIST)	Toplanma mahaline gider.Tesis Müdürü talimatıyla hareket eder. Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
83	İBRAHİM SEVEN (OILER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
84	FATİH UZGÖREN (OILER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
85	LEVENT EMRE (OILER)	Toplanma mahaline gider.Tesis Müdürü talimatıyla hareket eder. Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM



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KAPALI MAHALDEN ADAM KURTARMA ( ENCLOSED SPACE RESCUE )			
ROLE NO	GÖREVİ (RANK)	ACİL DURUM GÖREVİ (EMERGENCY DUTY)	EKİBİ (SQUAD)
<b>KUMANDA EKİBİ COMMAND TEAM</b>			
1	SEMİH ŞAHİN (PLANT MANAGER)	Genel Kumanda. General Command	KUMANDA EKİBİ COMMAND TEAM
2	ENGİN ÖZCAN (ASST.PLANT MANAGER)	Genel Kumanda. General Command	KUMANDA EKİBİ COMMAND TEAM
3	MEHMET CEM GÖKPINAR (ASST.PLANT MANAGER))	Genel Kumanda. General Command	KUMANDA EKİBİ COMMAND TEAM
<b>1.EKİP FIRST TEAM</b>			
4	ERDİ SAKALLI (ADM.AFF.ASST.MANAGER)	1.Ekip amiridir. İçeri girilmeden Gaz ölçüm cihazının kullanılmasını sağlar, verileri kontrol eder...Tesis müdürüyle haberleşme sağlar. Leader of squad 1, He provides the gas dedector and take datas from this device without going inside. He communicates with plant manager	1. EKİP FIRST TEAM
19	ENES KÖKTAŞ (DECK OFFICER)	Ekip amirleri olmadığında yangın ekiplerine liderlik eder. 2th leader of suquad 1, When the leader is absent , he will be team leader.	1. EKİP FIRST TEAM
5	ARKIN YÜKSELEN BOSUN)	Solumun cihazını takarak kapalı mahale girer. Wearing to breathing apparatus and entering to enclosed space	1. EKİP FIRST TEAM
6		Solumun cihazını takarak kapalı mahale girer. Wearing to breathing apparatus and entering to enclosed space	1. EKİP FIRST TEAM
7	YAŞAR ERDOĞAN (A/B)	Solumun cihazı ve can halatının getirilmesi ,kumandası ve giyilmesine yardımcı olur. Assist to bring 1st breathing apparatus, life line and wearing to breating apparatus and life line	1. EKİP FIRST TEAM
20	MUSTAFA TAŞCI (A/B)	Solumun cihazı ve can halatının getirilmesi ,kumandası ve giyilmesine yardımcı olur. Assist to bring 1st breathing apparatus, life line and wearing to breating apparatus and life line	1. EKİP FIRST TEAM
23	ADEM ÖZTÜRK (OILER)	Solumun cihazı ve can halatının getirilmesi ,kumandası ve giyilmesine yardımcı olur. Assist to bring 1st breathing apparatus, life line and wearing to breating apparatus and life line	1. EKİP FIRST TEAM
24	İRFAN KARAGÜLLE (OILER)	Solumun cihazı ve can halatının getirilmesi ,kumandası ve giyilmesine yardımcı olur. Assist to bring 1st breathing apparatus, life line and wearing to breating apparatus and life line	1. EKİP FIRST TEAM
14	GÖKSEL SİMSAR (OILER)	1. Ekip amiri olmadığında ekip amiridir. Gaz ölçüm cihazı kullanır.Tesis müdürüyle haberleşme sağlar. Stand by in order	1. EKİP FIRST TEAM
15	ÖMER ZEKI KALYONCU (OILER)	Ekip amiri talimatıyla hareket eder Stand by in order team leader	1. EKİP FIRST TEAM
<b>TEKNİK EKİP TECHNIC SQUAD</b>			
34	MUSTAFA BÜYÜKTEPE (SHIFT SUPERVISOR)	Teknik ekip amiri (1).olay mahalinde denize sızıntı olup olmadığını kontrol eder .Plant manager Emrine göre hareket eder Technic team leader (1 ST).check for leaks at the scene areas.Stand-by Plant manager order.	TEKNİK EKİP TECHNIC TEAM
45		Teknik ekip amiri (2).olay mahalinde denize sızıntı olup olmadığını kontrol eder .Plant manager Emrine göre hareket eder Technic team leader (2ND)check for leaks at the scene areas.Stand-by Plant manager order.	TEKNİK EKİP TECHNIC TEAM
68	BAHATTİN ÖZÇELİK(ELC. ENGINEER)	Ekip amiri talimatıyla hareket eder Stand by in order team leader	TEKNİK EKİP TECHNIC TEAM
69	MEHMET UYGUN (SENIOR. ELC.TECH.)	Ekip amiri talimatıyla hareket eder Stand by in order team leader	TEKNİK EKİP TECHNIC TEAM
70	NEVZAT GÜNEŞ (SENIOR. ELC.TECH.)	Ekip amiri talimatıyla hareket eder Stand by in order team leader	TEKNİK EKİP TECHNIC TEAM
36	TURGUT SELMAN TÜMER (ENGINEER)	olay mahalinde denize sızıntı olup olmadığını kontrol eder .Teknik ekip amiri ile hareket eder. check for leaks at the scene areas	TEKNİK EKİP TECHNIC TEAM
35	BİROL DÖNMEZ (ENGINEER)	olay mahalinde denize sızıntı olup olmadığını kontrol eder .Teknik ekip amiri talimatı ile hareket eder check for leaks at the scene areas	TEKNİK EKİP TECHNIC TEAM
38	SERDAR BALCIK (ENGINEER)	olay mahalinde denize sızıntı olup olmadığını kontrol eder . .Teknik ekip amiri ile hareket eder. In order of Technic team leader.	TEKNİK EKİP TECHNIC TEAM
39	HALİT TUĞBERK KURUTAŞ (ENGINEER)	tesis müdürü talimatı ile olay mahali elektrikli keser . shut down electric according to P.M. Order .	TEKNİK EKİP TECHNIC TEAM
50	CANER BİROL ÖĞRETEN (ENGINEER)	olay mahalinde denize sızıntı olup olmadığını kontrol eder .Teknik ekip amiri ile hareket eder. check for leaks at the scene areas	TEKNİK EKİP TECHNIC TEAM
49	FATİH TOPAL (ENGINEER)	tesis müdürü talimatı ile olay mahali elektrikli keser . shut down electric according to P.M. Order .	TEKNİK EKİP TECHNIC TEAM
46	ACARALP ATAHAN İÇLİ (ENGINEER)	Ekip amiri talimatıyla hareket eder Stand by in order team leader	TEKNİK EKİP TECHNIC TEAM
37	MUSTAFA KOCA (ENGINEER)	Ekip amiri talimatıyla hareket eder Stand by in order team leader	TEKNİK EKİP TECHNIC TEAM
47	NURİ SENAVER (ELC. ELECTRICAL)	Olay mahalinde denize sızıntı olup olmadığını kontrol eder . In order of Technic team leader.	TEKNİK EKİP TECHNIC TEAM
48	MUSTAFA YILMAZ (ENGINEER)	Olay mahalinde denize sızıntı olup olmadığını kontrol eder . check for leaks at the scene areas	TEKNİK EKİP TECHNIC TEAM



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İLK YARDIM EKİBİ FIRST AID SQUAD			
57	FAHRETTİN BULUT (HEALTH OFFICER)	İlk yardım ekiplerine Amirlik Eder, olay mahalinde koordine sağlar .Tesis müdürüyle haberleşme sağlar. leader of first aid squads,coordinates action taken and communicates with plant manager	İLK YARDIM EKİBİ FIRST AID TEAM
58	ALİ ÇELİK /MERDAN SAPAROV(HEALTH OFFICER)	Revirden İlk yardım çantası ve oksijen tüpü getirir./Toplanma mahaline gider. Bring the first aid kit and O2 tube ./Going to muster station	İLK YARDIM EKİBİ FIRST AID TEAM
60	İSMET ÖZTÜRK (COOK)	Revirden İlk yardım çantası ve oksijen tüpü getirir./Toplanma mahaline gider. Bring the first aid kit and O2 tube ./Going to muster station	İLK YARDIM EKİBİ FIRST AID TEAM
61	ZEYNEL AYDIN (STEWARD)	Revirden sedye ve battaniye getirir/ Toplanma mahaline gider Bring to stretcher and blanket from hospital/Going to muster station	İLK YARDIM EKİBİ FIRST AID TEAM
62	EMREN GÜLLER (COOK)	Revirden sedye ve battaniye getirir/ Toplanma mahaline gider Bring to stretcher and blanket from hospital/Going to muster station	İLK YARDIM EKİBİ FIRST AID TEAM
63	RAMAZAN TOPRAK (MECH.MAINT.TECH.)	Toplanma mahaline gider. Ekip amirinin talimatına göre hareket eder. (İlk yardım ekibindedir) Goes to muster station and wait order from team leader.	DESTEK EKİBİ SUPPORT TEAM
DESTEK EKİBİ SUPPORT TEAM			
64	MEVLÜT YURTSEVEN (HSE SPECIALIST)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
8	OSMAN ÖZGÜR ÇİÇEK (SENIOR MECHANICAL TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
9	SEMİR ARACI (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
10	HALİL İBRAHİM BEDİR (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
11	GÜROL ERGİN (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
12	FATİH KARAGÖZ (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
13	TURGUT KAYA (MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
14	GÖKSEL SİMSAR (OILER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
25		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
26	MEMET KEMAL TOPAL (FITTER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
27	(YAĞCI)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
28	FATİH MEHMET AKYOL (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
29	YAŞAR TÜRKAN (SENIOR FITTER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
30		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
31	DURMUŞ YILDIRIM (FITTER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
32	İSMAİL BAL (SENIOR FITTER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
33	AYHAN ORAN (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
40	MESUT CUMHUR MORGÜL (ENGINEER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM




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41		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
42		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
43	TACETTİN SERT (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
44	İSMAIL ÖZ (MECH.MAINT.LEADER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
51	BARIŞ FETTAHOĞLU (OILER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
52		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
53	MEHMET ÇELİK (FITTER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
54	MEHMET BOZAN (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
55	MEHMET CEM GÖKPINAR (ENGINEER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
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65	FARUK ÖZYİĞİT (MECH.MAINT.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
66	UFUK GÜNGÖR (OILER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
67	AHMET AÇIKGÖZ (MECH. MAINT. TECHN.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
71		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
72	FERDİ ŞAHİN (ELC.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
73	İBRAHİM ÇOLAK (ELC.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
74		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
75	NEBİ BAĞCI (ELC.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
76	HALİS TURGUT (ELC.TECH.)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
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79		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
80	YAVUZ ATASOY (REPORTING SPECIALIST)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
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84	FATİH UZGÖREN (OILER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
85	LEVENT EMRE (OILER)	Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
86		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM
87		Toplanma yerinde emre hazır bekler Goes to muster station and wait for order	DESTEK EKİBİ SUPPORT TEAM



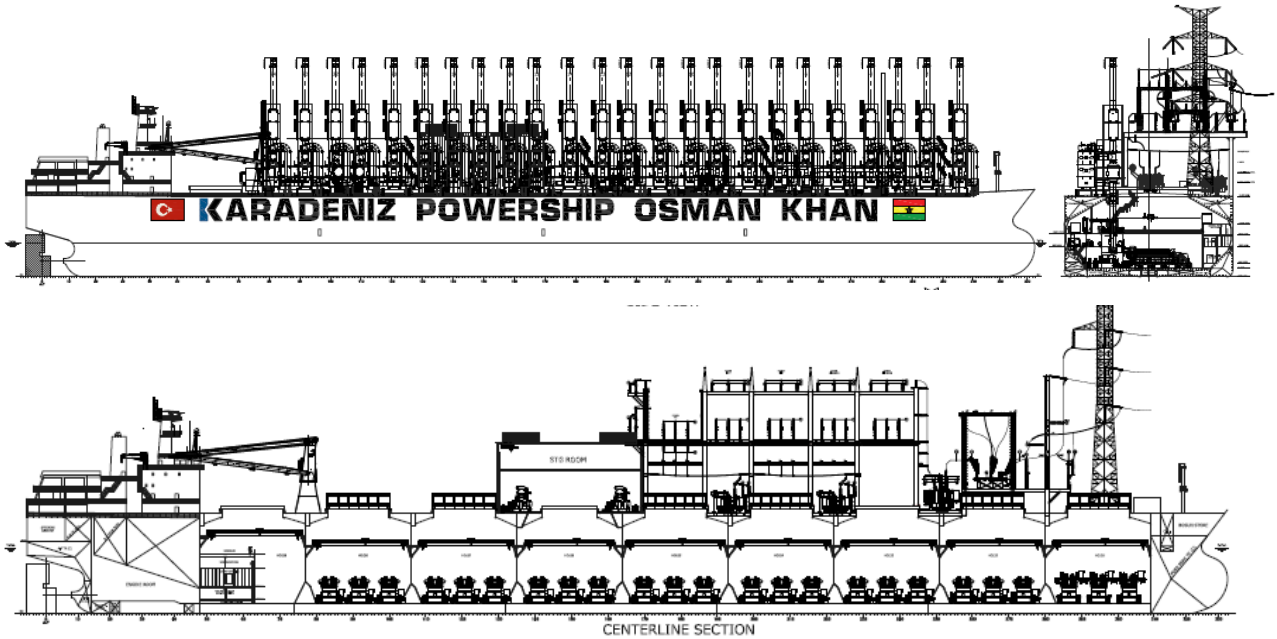
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ALARMLAR (ALARMS)		
ACİL DURUMLAR(EMERGENCIES)	İŞARET (SIGNALS)	AÇIKLAMA (EXPLANATION)
YANGIN ALARMI (FIRE ALARM)		Genel alarmın kısa fasıllı sürekli çalması Following continnois intervals short sound Görevliler teçizatlarıyla görev yerlerine gelir Duty crew to arrive Muster Station to receive their instruction
GENEL ALARM (GENERAL ALARM)		Genel alarmın kesintisiz sürekli çalması + Anons Following to the continous general alarm signal + Announce

ACİL DURUM ALARMINA MÜTEAKİP ACİL DURUMUN TİPİ ANONS EDİLİR VE GÖREVLİLER DURUMA MÜDAHELE EDER.  
(THE TYPE OF EMERGENCY TO BE DECLERATED AT MUSTER STATION FOLLOWING THE EMERGENCY ALARM SIGNAL AND THE DUTY CREW INTERVENTION STARTS)  
PANIĞE KAPILMA- ROLE KARTINI AL- TOPLANMA İSTASYONUNA GİT- KENDİNİ RAPOR ET  
DO NOT PANIC- TAKE YOUR MUSTER CARD- GO TO YOUR MUSTER STATION- REPORT YOURSELF

### 7.11. Plant General Layout Plan

General Layout Plan of Karadeniz Powership Osman Khan is given below.

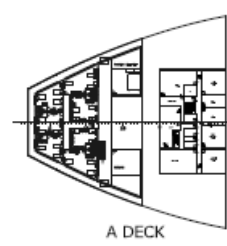
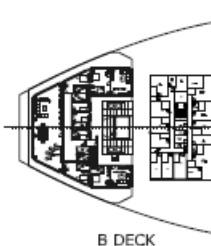
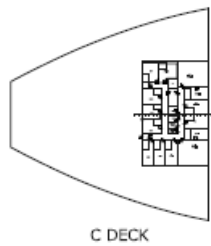
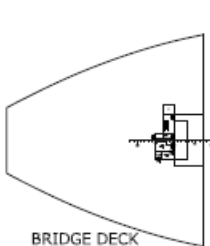
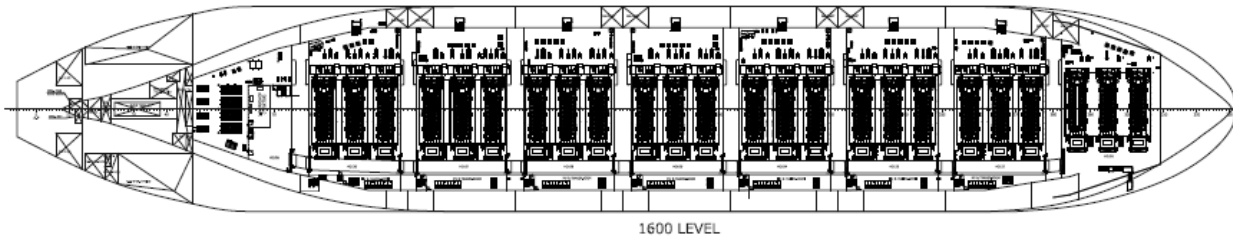
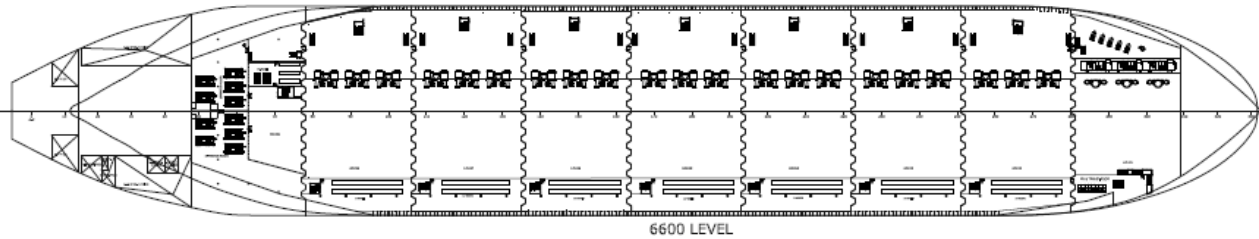
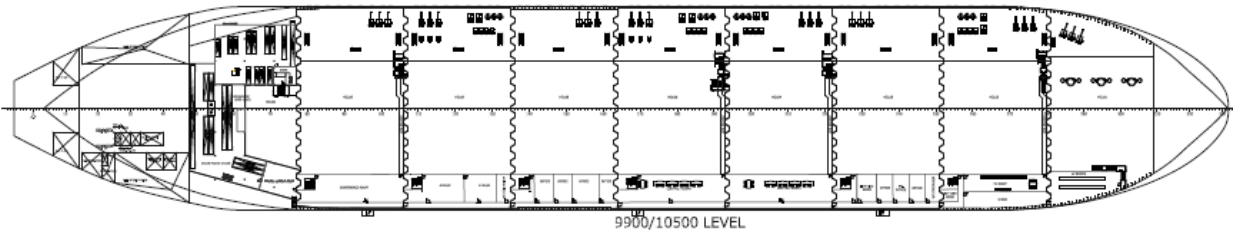
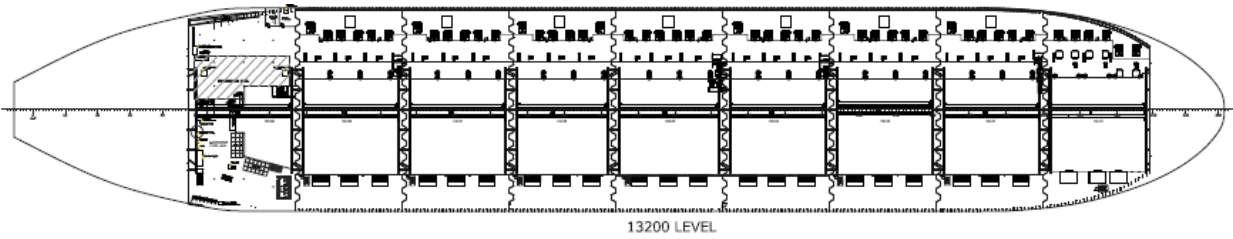
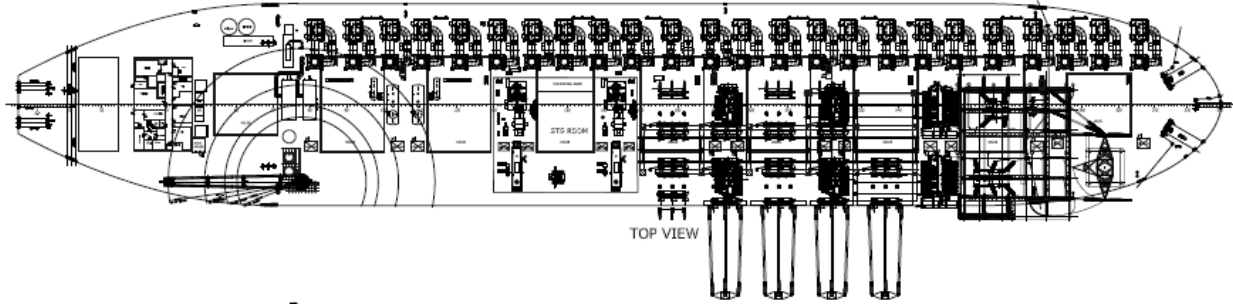





# KARPOWERSHIP

## EMERGENCY RESPONSE PLAN

Sayfa No / Page No	41 / 44
Doküman No / Doc. No	KH-KPS-PL-056
Yayın Tarihi / Issue Date	7.6.2018
Revizyon No / Rev. No	3
Rev. Tarihi / Rev. Date	18.01.2022



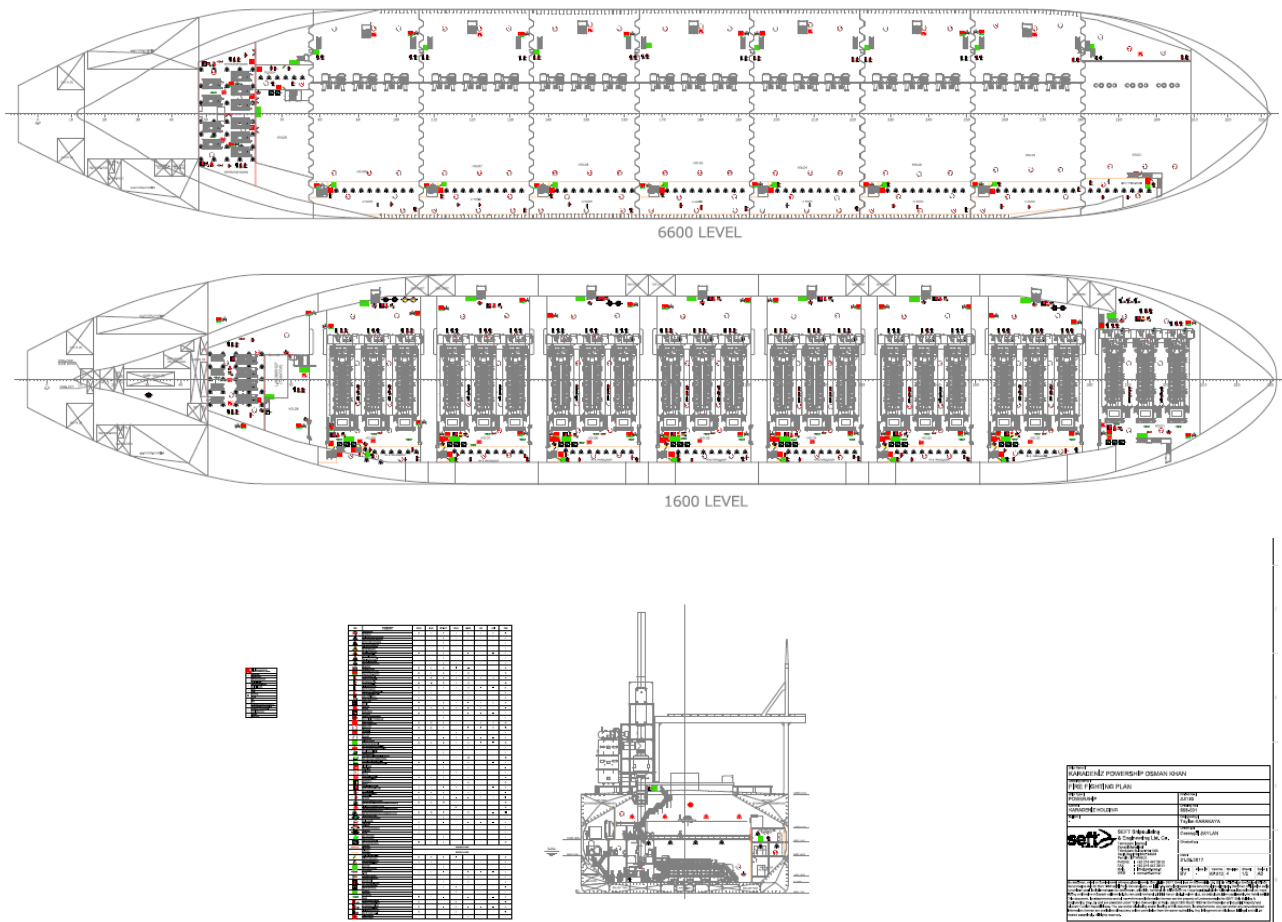
 <b>KARPOWERSHIP</b> <b>EMERGENCY RESPONSE PLAN</b>	Sayfa No / Page No	<b>42 / 44</b>
	Doküman No / Doc. No	<b>KH-KPS-PL-056</b>
	Yayın Tarihi / Issue Date	<b>7.6.2018</b>
	Revizyon No / Rev. No	<b>3</b>
	Rev. Tarihi / Rev. Date	<b>18.01.2022</b>

<b>KARADENİZ POWERSHIP OSMAN KHAN</b>	
<b>GENERAL ARRANGEMENT</b>	
POWERSHIP	İşletme No: 05123
KARADENİZ HOLDİNG	Çevre No: 1034851
SEFT Struktürel & Engineering Ltd, Co.	İşletme No: Tıpın KARAKAYA
SEFT Struktürel & Engineering Ltd, Co. Samsun Kocaeli, Turkey 81000 Phone: +90 376 407 28 00 Fax: +90 376 407 28 01 Web: www.seft.com.tr	İşletme No: Cevatı SAYLAN
	Çevre No: 09.06.2017
Sheet No: 05123/038	Sheet No: 05123/038
Scale: 1/100	Scale: 1/100
Revizyon: 3	Revizyon: 3

SHIP'S NAME:	KARADENİZ POWERSHIP
OWNER:	OSMAN KHAN
DESIGNER:	SEFTIC TRAVEL
CLASS:	LİBERIA
AGENT:	TECHNOVA
SHIP NO:	11234
SHIP NO:	21234
YEAR OF BUILT:	26TH FEBRUARY 2000
BUILT BY:	SAMSUNG HEAVY INDUSTRIES
CLASS:	OSLTD
LENGTH:	1268
BREADTH:	28.90 m
DECK AREA:	3421 m²
NET TONNAGE:	36,148
NET TONNAGE:	23,907
NET TONNAGE:	11,804
NET TONNAGE:	2822V

### 7.12. Plant Fire Plan

Fire Plan of Karadeniz Powership Osman Khan is given below.

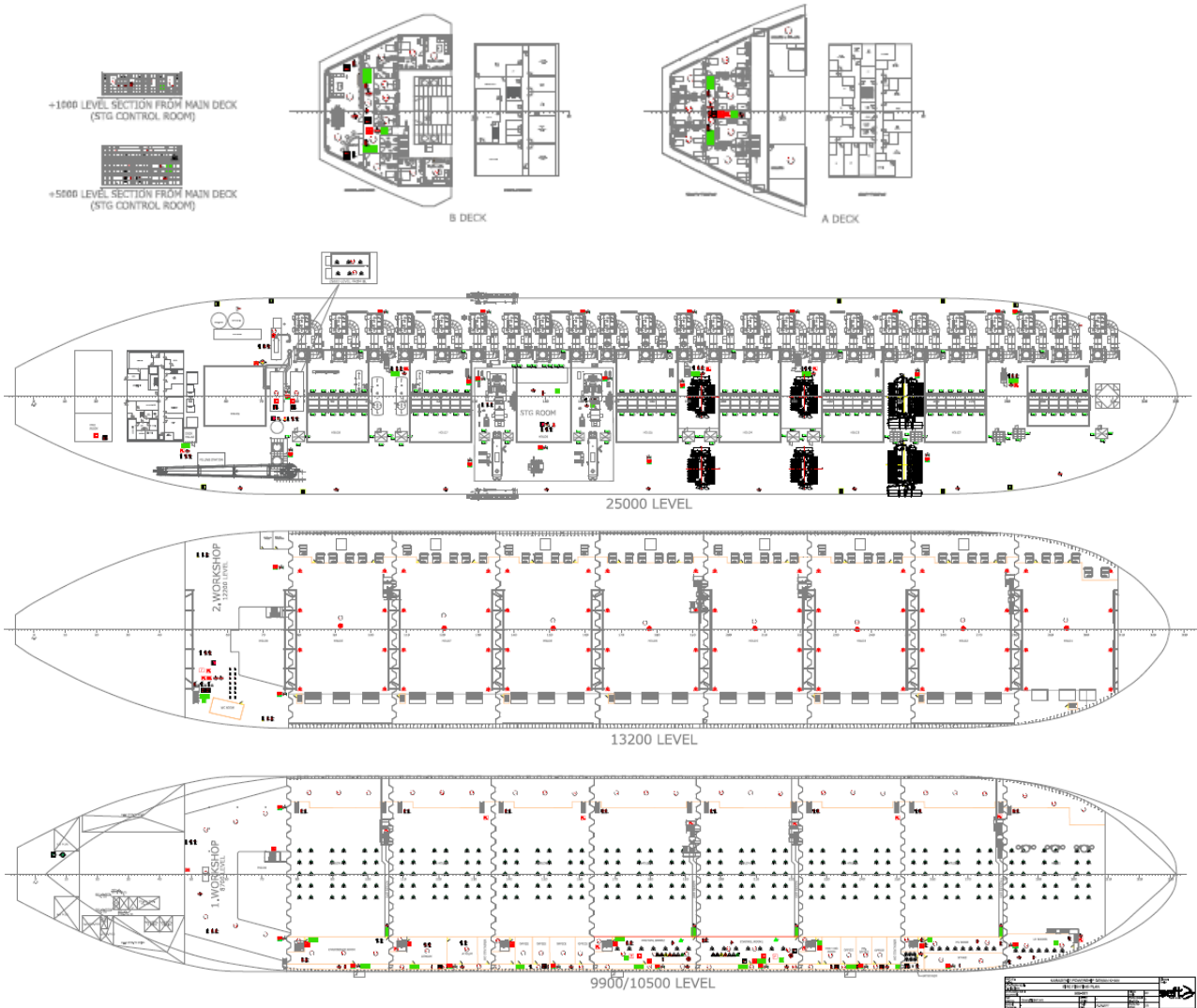




# KARPOWERSHIP

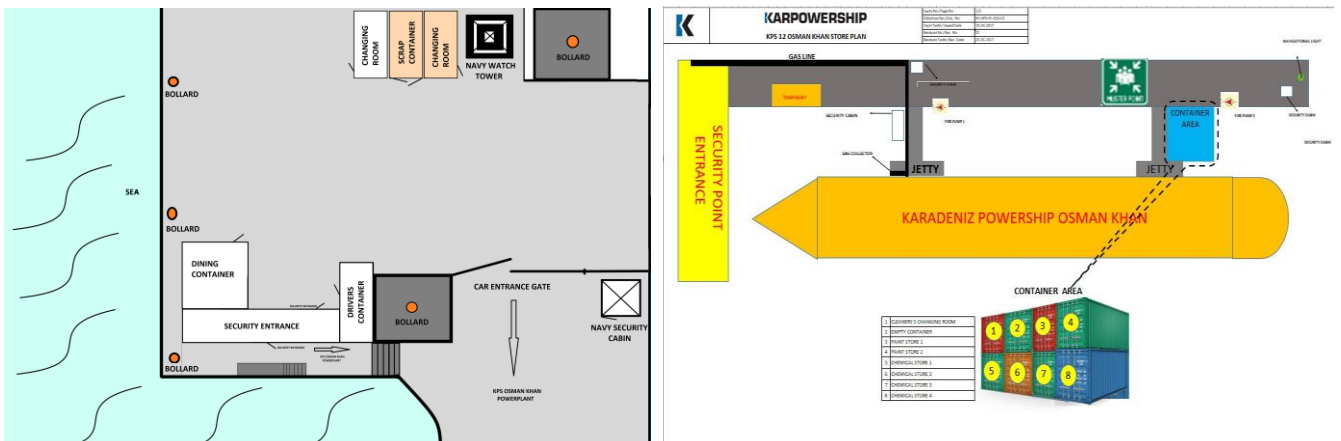
## EMERGENCY RESPONSE PLAN


Sayfa No / Page No	43 / 44
Doküman No / Doc. No	KH-KPS-PL-056
Yayın Tarihi / Issue Date	7.6.2018
Revizyon No / Rev. No	3
Rev. Tarihi / Rev. Date	18.01.2022



### 7.13. Muster Point & Evacuation Plans

Muster point/s and Evacuation Plan of Karadeniz Powership KPS 12 are given below.



 <b>KARPOWERSHIP</b> <b>EMERGENCY RESPONSE PLAN</b>	Sayfa No / Page No	44 / 44
	Doküman No / Doc. No	KH-KPS-PL-056
	Yayın Tarihi / Issue Date	7.6.2018
	Revizyon No / Rev. No	3
	Rev. Tarihi / Rev. Date	18.01.2022

## 8. REPORTING

QDMS

KH-KPS-FR-023 Record of Safety Drills Form

KH-HSE-FR-004 Incident Investigation and Reporting Form

KH-KPS-FR-024 Emergency Response Checklist

KH-KPS-FR-006 Training Record Form KH-KPS-FR-177 Heavy Weather Emergency Checklist

## RELATED DOCUMENTS

KH-KPS-FR-175 Emergency Contact List Form

Plant Role Chart

Plant General Layout Plan

Plant Fire Plan

## 9. REFERENCES

KH-HSE-PR-011 Emergency Response Procedure

KH-HSE-PL-001 Occupational Health and Safety and Environmental Plan

Standart Article 4.4.7 Emergency Preparation and Response

ISO 14001: 2015 Environmental Management System Standard Article 8.2 Emergency Preparation and Response

KH-HSE-PR-025 Incident Reporting and Investigation Procedure

MARPOL 73/78 - Annex I

IFC Environmental Health and Safety Guidelines 2.0 Occupational Health and Safety

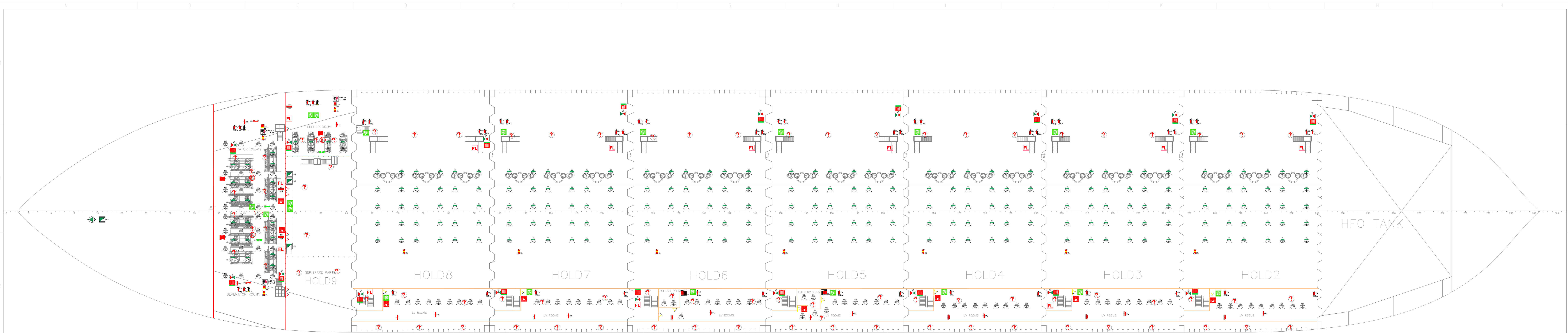
## 10. REVISION FOLLOW-UP

### REVISION FOLLOW-UP

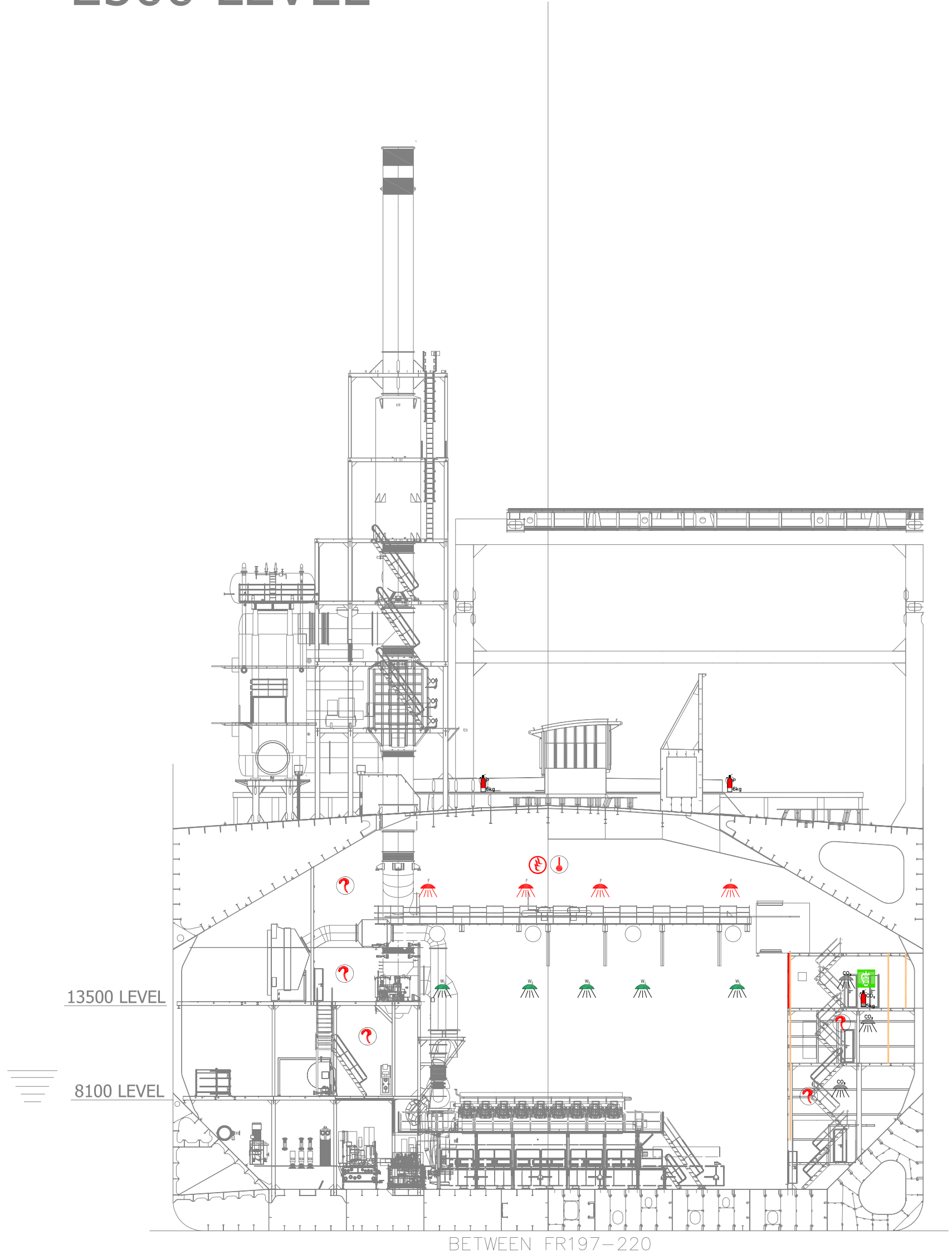
Rev. No	Rev. Date	Revision Definition	Prepared By
0	20.02.2019	First preparation of the document	Ferdi Aşılıoğlu
01	16.09.2019	Relocation another port (Takoradi -Sekondi)	Erdi SAKALLI
02	19.01.2020	Gas Conversion	Mevlüt YURTSEVEN
03	01.06.2020	Pandemic (Epidemic Disease)	Mevlüt YURTSEVEN
04	18.01.2022	Staff circulation	Mevlüt YURTSEVEN
05	01.08.2022	Emergency contact formations	H.Süha ŞENOCAK

# **APPENDIX 11.3: FIRE SAFETY SYSTEM**



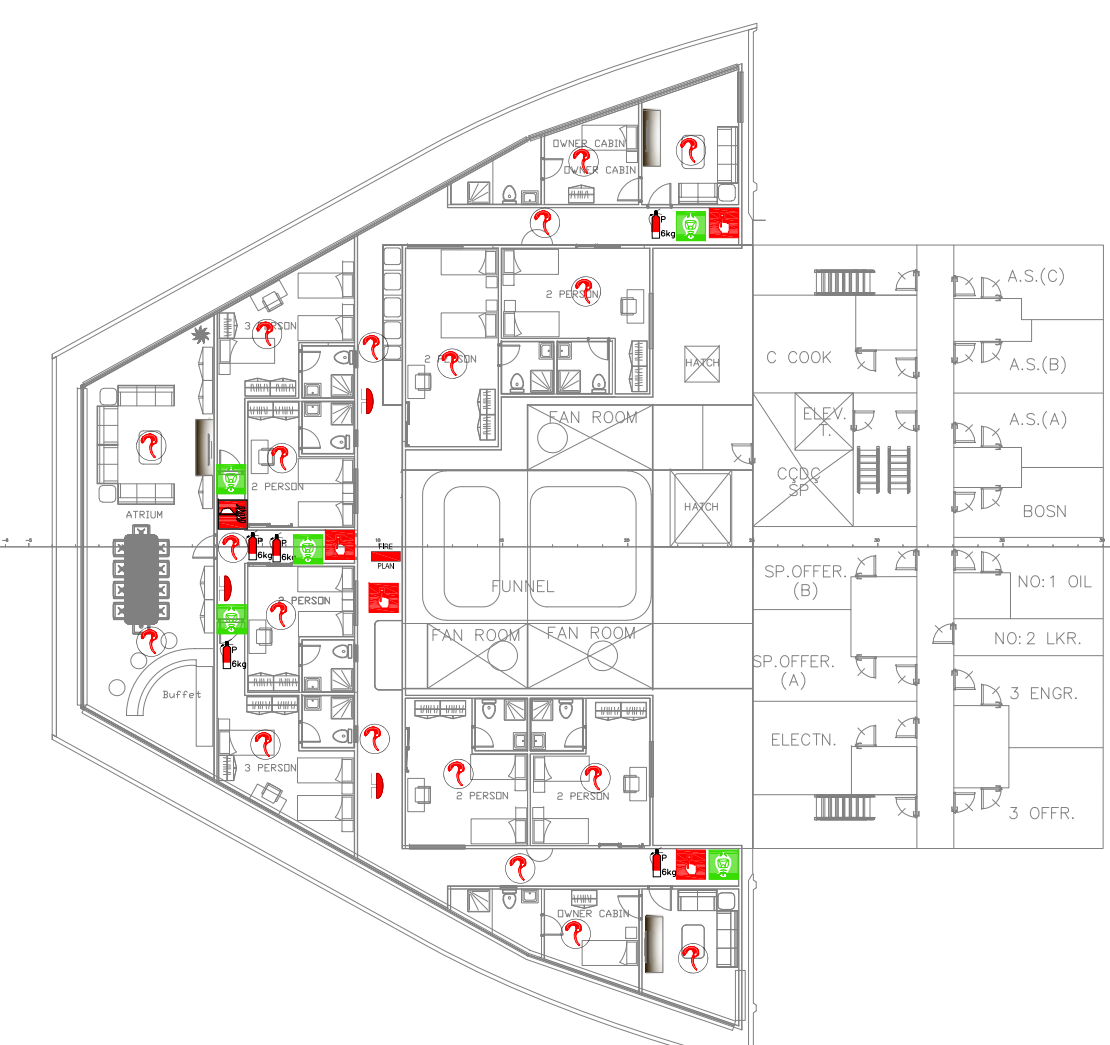
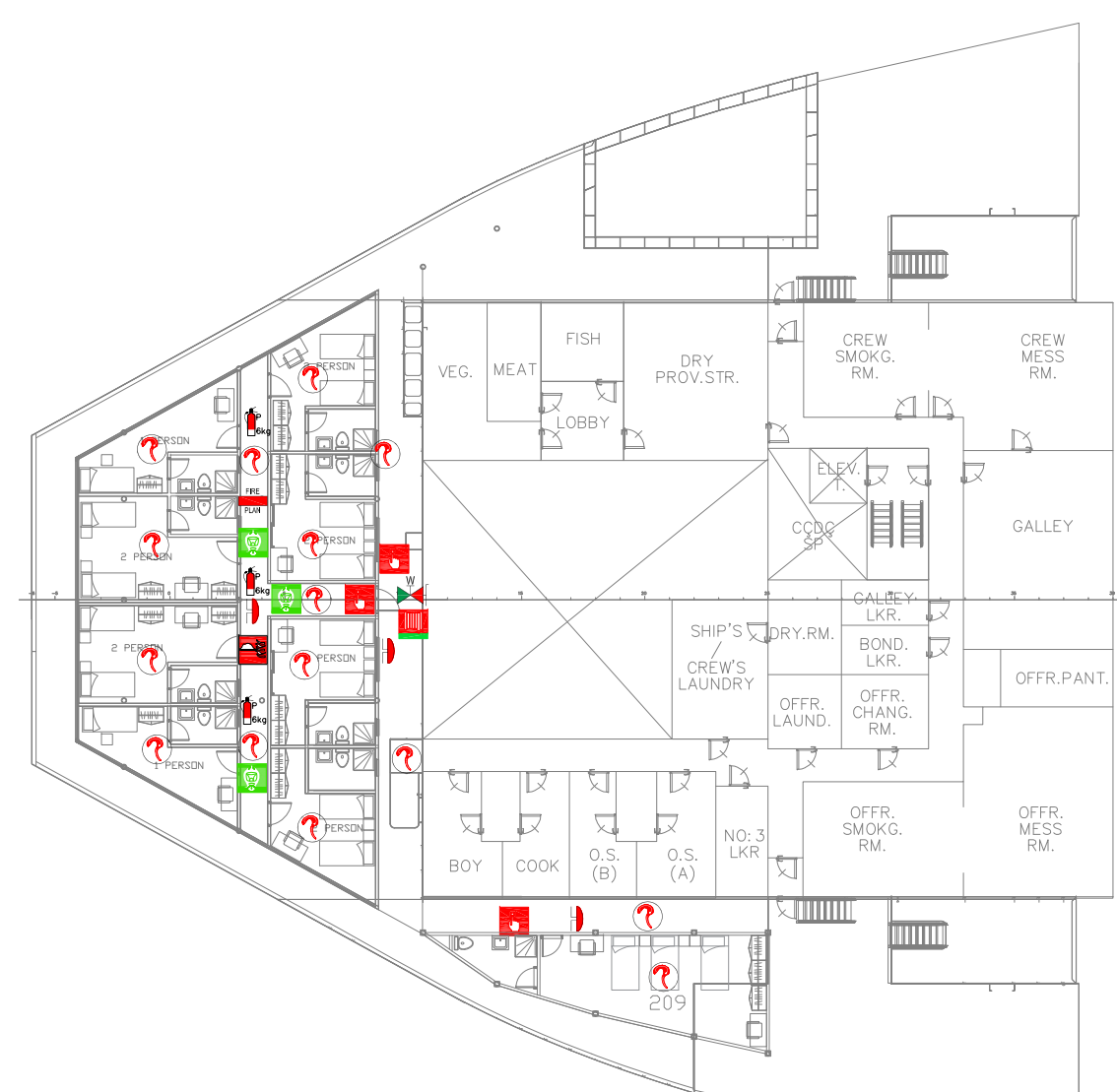
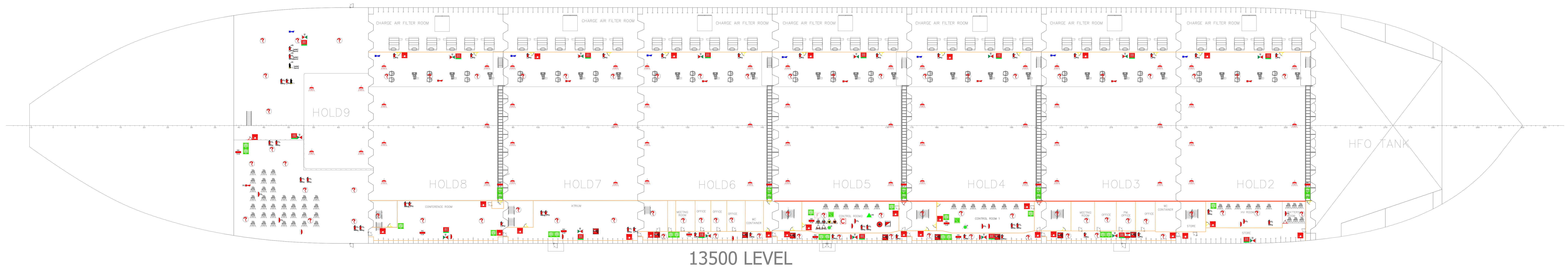
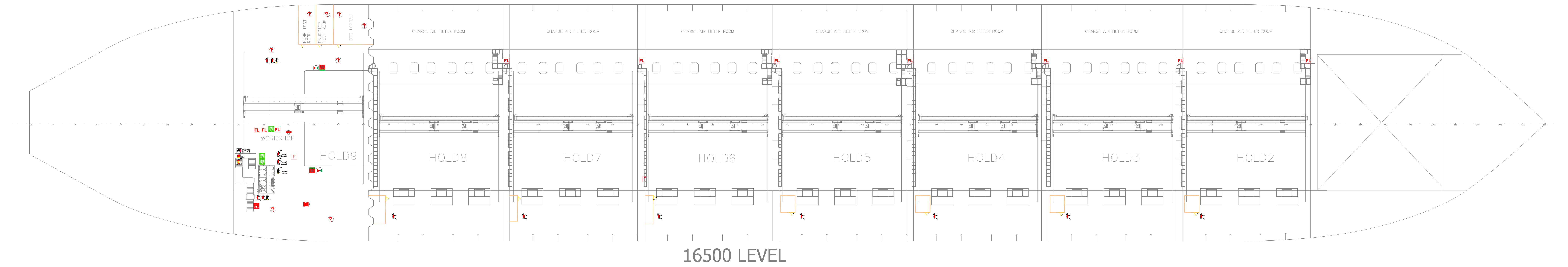
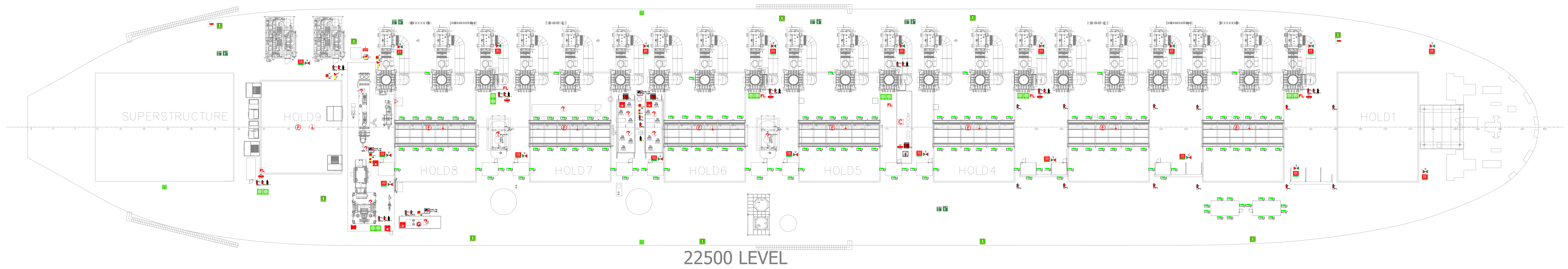


Legend	SYMBOL	DESCRIPTION
1	[Symbol]	Fire Alarm
2	[Symbol]	Fire Extinguisher
3	[Symbol]	Fire Hydrant
4	[Symbol]	Fire Hose
5	[Symbol]	Fire Panel
6	[Symbol]	Fire Alarm Control Panel
7	[Symbol]	Fire Alarm Bell
8	[Symbol]	Fire Alarm Light
9	[Symbol]	Fire Alarm Speaker
10	[Symbol]	Fire Alarm Call Point
11	[Symbol]	Fire Alarm Call Point
12	[Symbol]	Fire Alarm Call Point
13	[Symbol]	Fire Alarm Call Point
14	[Symbol]	Fire Alarm Call Point
15	[Symbol]	Fire Alarm Call Point
16	[Symbol]	Fire Alarm Call Point
17	[Symbol]	Fire Alarm Call Point
18	[Symbol]	Fire Alarm Call Point
19	[Symbol]	Fire Alarm Call Point
20	[Symbol]	Fire Alarm Call Point
21	[Symbol]	Fire Alarm Call Point
22	[Symbol]	Fire Alarm Call Point
23	[Symbol]	Fire Alarm Call Point
24	[Symbol]	Fire Alarm Call Point
25	[Symbol]	Fire Alarm Call Point
26	[Symbol]	Fire Alarm Call Point
27	[Symbol]	Fire Alarm Call Point
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100	[Symbol]	Fire Alarm Call Point



0 FIRST ISSUE	T.DUZGUN	28.09.2020
NO. REVISION NOTE	REVISED BY	REV. DATE
<b>KARADENİZ HOLDİNG</b>		
PRJ. NO / HULL NO	PROJECT NAME	
CLASS / ID NO	KARADENİZ POWERSHIP KHAN CLASS	
SHIPYARD	DRAWING NAME	
REV NO	FIRE FIGHTING PLAN	
CHECKED BY	DRAWN BY	DATE
E. KAPLAN	T.DUZGUN	28.09.2020
	DWG NO	SHEET
	505-001	1/2
	SCALE	A0





0 FIRST ISSUE		T.DUZGUN	28.09.2020		
NO. REVISION NOTE		REVISED BY	REV. DATE		
<p><b>KARADENİZ HOLDİNG</b></p> <p>Karadeniz Holding A.Ş. Menekşe Mahallesi Seydiköy Caddesi No:14 - 34426 Kocaeli / İstanbul - TÜRKİYE Tel: +90 212 295 47 37 Faks: +90 212 295 41 43 Merkezi Sicil No: 0209002043000015 V.D. / Vite. Kocaeli / 309020643</p> <p><small>www.karadenizholding.com.tr</small> Bu belge Karadeniz Holding A.Ş.'nin mülkiyetindedir ve tüm hakları saklıdır. Bu belgeyi izinsiz olarak yayınlamak, kopyalamak, çoğaltmak veya başka amaçlarla kullanmak yasaktır. İzinsiz olarak yayınlamak, kopyalamak, çoğaltmak veya başka amaçlarla kullanmak, Karadeniz Holding A.Ş.'nin hukuki sorumluluğuna tabidir. İzinsiz olarak yayınlamak, kopyalamak, çoğaltmak veya başka amaçlarla kullanmak, Karadeniz Holding A.Ş.'nin hukuki sorumluluğuna tabidir. İzinsiz olarak yayınlamak, kopyalamak, çoğaltmak veya başka amaçlarla kullanmak, Karadeniz Holding A.Ş.'nin hukuki sorumluluğuna tabidir.</p>	PRJ. NO / HULL NO	PROJECT NAME			
	CLASS / ID NO	KARADENİZ POWERSHIP KHAN CLASS			
	SHIPYARD	DRAWING NAME			
	REV NO	FIRE FIGHTING PLAN			
CHECKED BY	DRAWN BY	DATE	28.09.2020	SHEET	2/2
E. KAPLAN	T.DUZGUN	DWG NO	505-001	SCALE	A0



# **APPENDIX 11.4: FIRE ALARM SYSTEM**



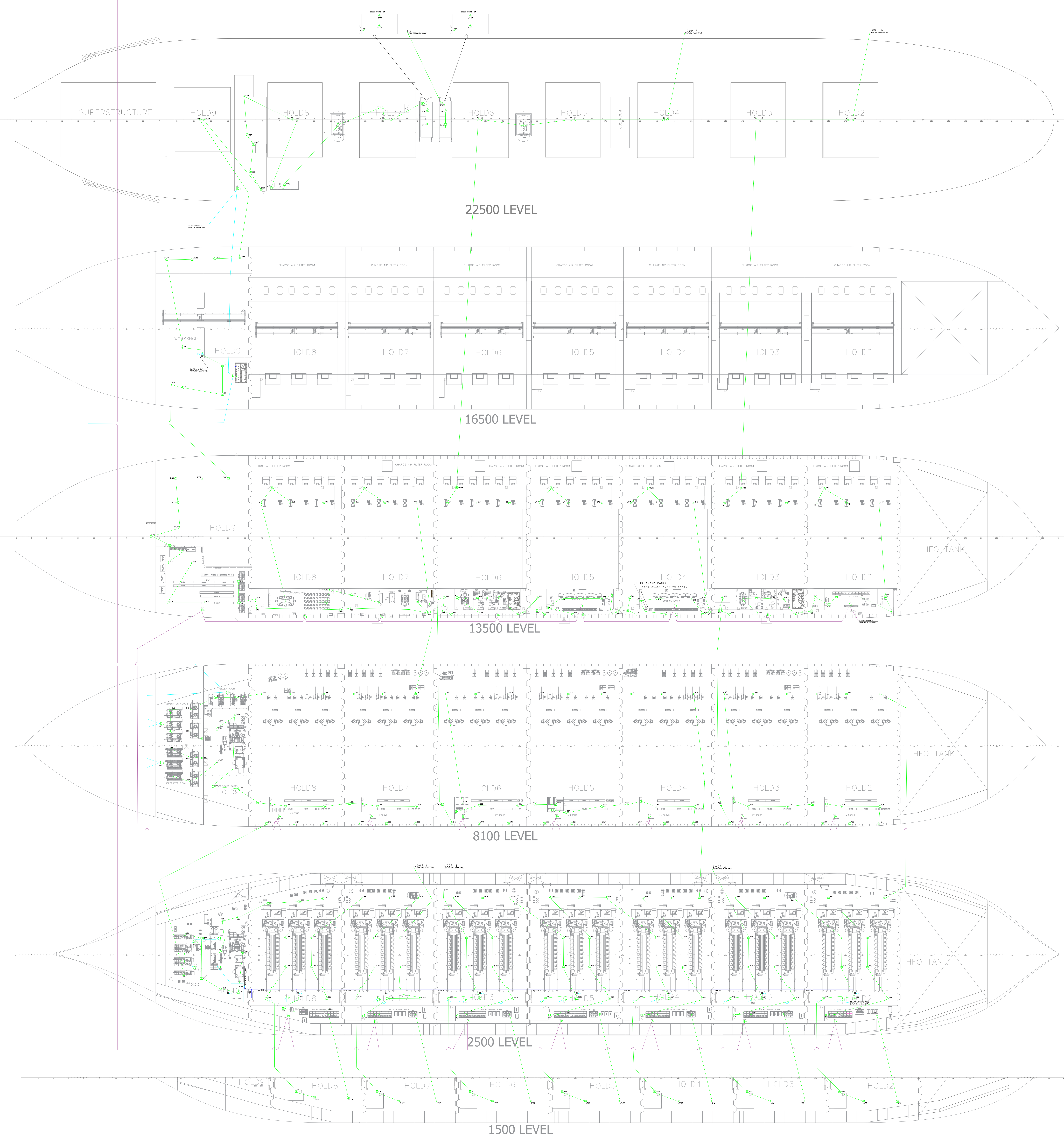
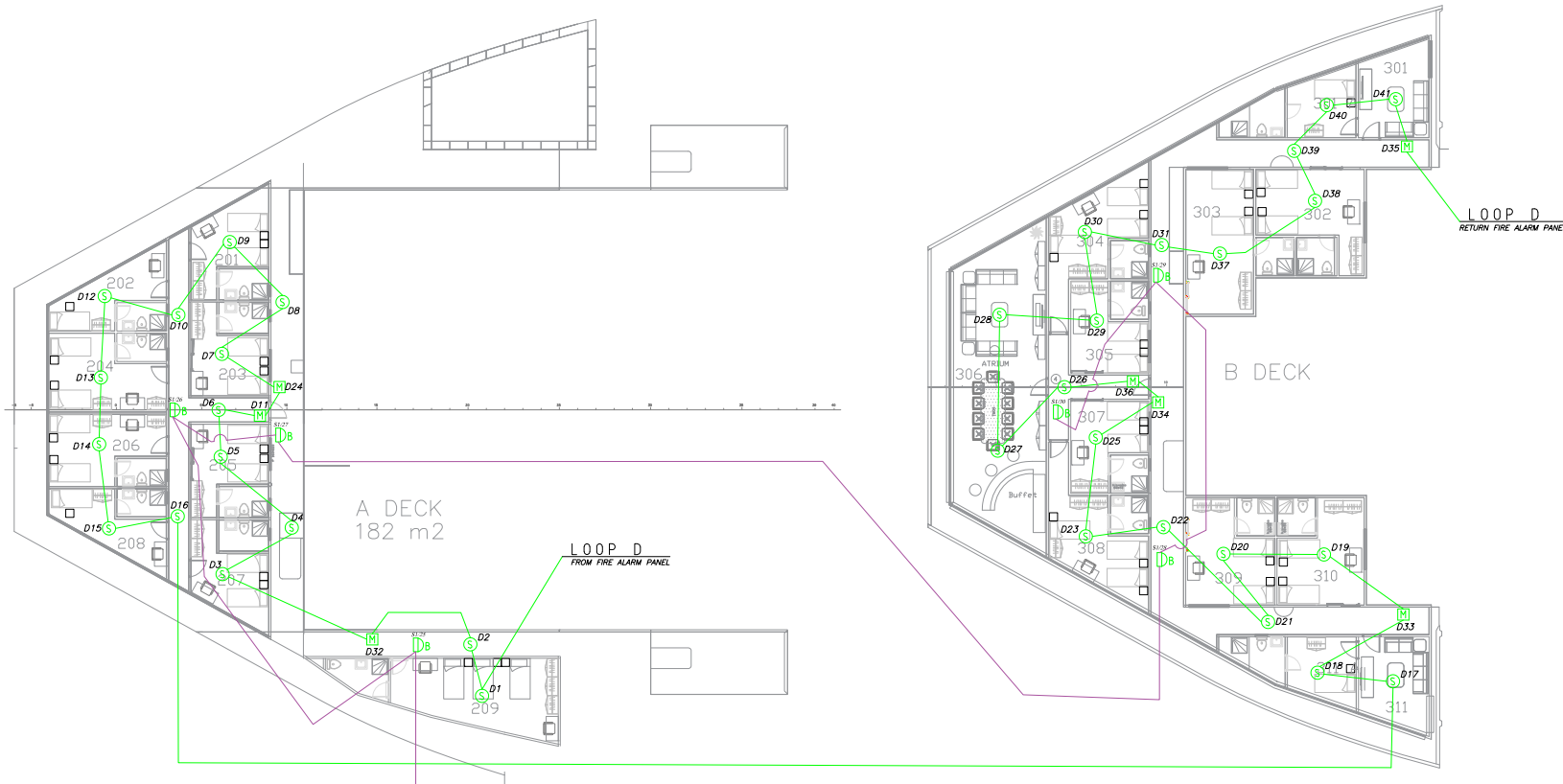


TABLE 3 - MAXIMUM SPACING OF DETECTORS

Type of detector	Maximum floor area per detector	Maximum distance apart between centres	Maximum distance away from bulkheads
Heat	37 m <sup>2</sup>	9 m	4,5 m
Smoke	74 m <sup>2</sup>	11 m	5,5 m

SYMBOL	QTY	DESCRIPTION	MAKE	TYPE	ITEM NO.
1	1	12000 Mantra Marine Fire Alarm Panel and Battery Box	TICO	12000	808.025.153
78	1	Combined Smoke and Heat Detector Dry/Clean Area	BSIPH	BSIPH	819.882.922
230	1	Combined Smoke and Heat Detector Dirty/Dirty Area	BSIPH	BSIPH	817.882.921
231	1	Combined Smoke and Heat Detector with Sounder Base	BSIPH	BSIPH	818.882.920
8	1	Heat Detector	TICO	8008	817.882.921
8	1	Detector Dirty/Dirty Area	TICO	8008	817.882.921
40	1	Manual Callpoint	CHRS2M	CHRS2M	818.881.897
25	1	Manual Callpoint Dirty/Clean Area	TICO	CHRS2M	814.880.470
1	1	ES Smoke Detector	BSIPH	BSIPH	819.882.922
8	1	Flame Detector	BSIPH	BSIPH	819.882.923
8	1	Flame Detector Dirty/Dirty Area	TICO	811F	817.882.921
15	1	Sounder	BSIPH	BSIPH	819.882.920
15	1	Sounder Dirty/Dirty Area	TICO	811F	817.882.921
15	1	Sounder with Sounder Base	TICO	811F	817.882.921
30	1	Shower Dry/Clean Area	TICO	812M	814.880.470
1	1	Air Horn Selenoid Valve (1)	SELEN	88	528.501.022.7
1	1	Timer and Contact Input Mod.	TICO	811F	817.882.921
1	1	Safety Barrier	TICO	811F	817.882.921

**CABLE TYPE**  
 Loops Cable Type : 2 x 2 x 1,50 Fire Resistant  
 Repeater Panel Communications Cable Type : 2x2X0,75 Fire Resistant  
 Main Supply Cable Type : 3 x 1,5 Fire Resistant  
 24v DC standby Supply Cable Type : 2 x 2,5 Fire Resistant  
 Sounders Cable Type : 2 x 1,50 Fire Resistant  
 Not: Detectors are short circuit protected.

**POSITIONING OF DETECTORS**  
 1- Detectors shall be located for optimum performance. Positions near beams and ventilation ducts or other positions where patterns of air flow could adversely affect performance and positions where impact or physical damage is likely shall be avoided. In general, detectors which are located on the overhead shall be a minimum distance of 0,5 m away from bulkheads.  
 2- The maximum spacing of detectors shall be in accordance with Tab 3. The Society may require or permit other spacings based upon test data which demonstrate the characteristics of the detectors.

0 FIRST ISSUE	T.DUZGUN	28.09.2020
NO. REVISION NOTE	REVISED BY	REV. DATE

**KARADENİZ HOLDİNG**

PROJECT NAME: KARADENİZ POWERSHIP KHAN CLASS

DRAWING NAME: FIRE ALARM SYSTEM

CHECKED BY: E. KAPLAN  
 DRAWN BY: T. DUZGUN  
 DATE: 28.09.2020  
 SHEET: 0/1  
 SCALE: A0



# **APPENDIX 11.5: TANKS INTEGRATED MANAGEMENT PLAN**



# Tanks Integrity Management Plan

Page No:	1 / 13
Document No:	KH-HSE-INS-013
Release Date:	15.12.2020
Revision No:	0
Revision Date:	15.12.2020

## 1 PURPOSE

The purpose of this document to define the inspection and control processes for pressure vessels (starting air eliminators, starting air compressors, exhaust gas boiler compressors, auxiliary boilers, exhaust gas steam-boilers, etc.) in the workplace and to minimize the risk of pressure vessel failure that can harm the environment, employees or cause important business interruption by forming minimum requirements for testing, control inspection, and audit of the pressure vessels defined in this directive.

The document includes the mandatory conditions for the inspection and control of the pressure vessels used by Karpowership and its contractors. The inspection, test, audit, control, and certification requirements are given in detail with a holistic approach.

## 2 SCOPE

This procedure applies to starting air eliminators, starting air compressors, exhaust gas boiler compressors, auxiliary boilers, exhaust gas steam-boilers, etc. of the workplace.

This directive provides requirements for inspection, test, audit, control, and certification of all pressure vessels owned and operated by the employees, subcontractors, when necessary (nature of the conducted work, conditions of contract, etc.), contractors, and other third persons (visitors, interns, etc.) working in all workplaces.

## 3 RESPONSIBLES

### **Workplace Senior Manager;**

- He is responsible for monitoring that the requirements of this directive are met,
- Providing budget for the supply of the equipment to be used in the test, control, inspection, and audit of the pressure vessels directive,
- Providing the necessary sources (employee, finance, time, consultancy, etc.) for the practice of and conformance to the test, control, inspection, and audit of the pressure vessels directive.

### **Workplace Manager (Employer Representative);**

- He is responsible for controlling and monitoring that the requirements of this directive are met,
- Setting a budget for the supply of tools and appliances deemed necessary in the test, control, inspection, and audit of the pressure vessels directive and assigning the relevant person to use this budget,
- The implementation of this directive.

### **Line Manager;**

- He is responsible for continuously audit that the test, control, inspection, and audit of the pressure vessels are performed in accordance with the purpose of the directive and in line with the stated standards,
- Auditing that the requirements of the test, control, inspection, and audit of the pressure vessels are maintained and performed in accordance with the directive,



## Tanks Integrity Management Plan

Page No:	2 / 13
Document No:	KH-HSE-INS-013
Release Date:	15.12.2020
Revision No:	0
Revision Date:	15.12.2020

- Ensuring that the employees affiliated with him within the stated directive articles act in accordance with the stated articles,
- Ensuring the use of pressure vessels in a safe manner,
- Ensuring the proper protection of pressure vessels in the establishment/plant,
- Appointing Marine Engineer/Mechanical Engineer/Auditor/Technician for pressure vessels,
- Ensuring that records are kept for the pressure vessels,
- Taking joint action with the Marine Engineer/Mechanical Engineer/Maintenance Auditor/Technician,
- Ensuring the safe work of the pressure vessels,
- Ensuring the protection for the pressure vessels,
- Confirming that the contractors are complying with all relevant Karpowership pressure vessel requirements regarding the documentation.
- Knowing the articles subject to this directive, taking them into consideration in employee assignments and works, and implementing them.

### Maintenance Responsible

- He is responsible for ensuring the implementation of the pressure vessels maintenance plans,
- Providing maintenance reports and circuit integrity reports to the pressure vessel auditors before audits,
- Preparing annual work plans about the periodic inspection and control of the pressure vessels,
- Preparing annual work plans about the periodic inspection and control of the lifting equipment,
- Monitoring the maintenance activities documented,
- Ensuring that color coding is applied for the audited items correctly,
- Keeping qualified staff records,
- Taking joint action with the Marine Engineer/Mechanical Engineer/Maintenance Auditor/Technician,
- Eliminating the non-conformances that come out during the control of the equipment subject to this directive,
- Ensuring the use of all pressure vessels in a safe manner,
- Developing and continuing the standards, directives, and forms of pressure vessels,
- Keeping the pressure vessels record book,
- Participating in incident investigations where pressure vessels are involved.
- Reporting the non-conformances upon elimination.

### KH Investment, Design, and Powership Equipping Department

- They are responsible for choosing suitable pressure vessels and including them in the scope of the new establishments/plants.



## Tanks Integrity Management Plan

Page No:	3 / 13
Document No:	KH-HSE-INS-013
Release Date:	15.12.2020
Revision No:	0
Revision Date:	15.12.2020

### SCM ( Supply Chain Management);

- They are responsible for making sure that the production, test, and commissioning plans are included in the relevant contract for new equipment purchases. Providing coordination between the relevant technical team and the supplier regarding tests, audits, services, and all other necessary services,
- Including all specification details given by the technical staff during new equipment purchases in the contract completely and conformably with the supplier,
- Providing coordination between the technical staff and the supplier for the engineering/supervising services during the test and commissioning processes of equipment purchases.

### HSE Representative;

- He is responsible for determining, knowing, auditing, and reporting the articles subject to this directive,
- Ensuring the use of pressure vessels in a safe manner,
- Consulting with the workplace maintenance responsible for the safety of the pressure vessels,
- Controlling the inspection, test, audit, control, and certification process of pressure vessels,
- Taking joint action with the Marine Engineer/Mechanical Engineer/Maintenance Auditor/Technician,
- Auditing whether the equipment complies with the test, control, inspection, and auditing directive and whether they were performed on time,
- Informing the employees regarding against which risks implementing the lifting equipment test, control, inspection, and auditing directive,
- Auditing and controlling that this directive is implemented,
- For notifying the Workplace Manager regarding the non-conformances that he finds as a result of his audits and controls and reporting in written form (via the H&S Software or Quality Document Management System (QDMS), Corrective and Preventative Action (CPA)), and monitoring these matters.

### HQ HSE Management;

- They are responsible for the auditing and control of the implementation of this directive in all workplaces,
- Reporting the non-conformances that are discovered to the Workplace Manager in writing along with the solution suggestions and advising and guiding the Workplace Senior Manager.

### Employees;

- They are responsible for knowing and implementing the articles subject to this directive.
- In the event that they are face to face with a serious and imminent hazard because of the situations where conformance is not achieved during the test, control, inspection, and audit of the used pressure vessels and because of non-conforming equipment, requesting the determination of the case by consulting the workplace Health and Safety (H&S) committee



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and the Workplace Manager in workplaces that do not have such committee, requesting to take necessary measures, using the right to abstain from work in the case where the serious and imminent hazard cannot be prevented,

- Knowing that administrative penalty can be applied for using non-conforming pressure vessels knowingly and willfully,
- Knowing to continue the operation with the regularly controlled equipment during operation time.

#### 4 RELATED PROCESSES

İSGÇ-010 Occupational Safety

İSGÇ-020 Occupational Health

İSGÇ-030 Environment Management

#### 5 DEFINITIONS

**KH:** Karadeniz Holding and the Group Companies

**KPS:** Karpowership Plants

**H&S:** Health and Safety

**HSE:** Health, Safety, and Environment

**HR:** Human Resources

**SCM:** Supply Chain Management

**JHSU:** Joint Health and Safety Unit

**QDMS:** Quality Documents Management System

**H&S Software:** It refers to the digital platform where recording, tracking, and reporting can be done using the modules it contains regarding H&S.

**Workplace:** All offices, plants, shipyards, project sites, buildings and recreation, lactation, food, accommodation, hygiene, examination, treatment, and training rooms where the workplace and its extensions affiliated to Karadeniz Holding and Group Companies carry out their activities to produce goods or services, refers to the organization that involves other add-ons and tools such as training places.

**Workplace Senior Manager:** Refers to senior executives employed in the workplaces affiliated with Karadeniz Holding and Group Companies. It is the next manager for workplaces in Turkey, to which the Workplace Manager reports. For the workplaces abroad, the country responsible managers who worked as Country Coordinator for the Karpowership facilities on the date of publication of this procedure and will carry related responsibilities within the corresponding job description even if the title changes from now on, and for offices, a top manager or an office in the trade group managers. If there is more than one person with the same title, seniority (duration of employment in Karadeniz Holding and Group Companies) is considered.



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**Workplace Manager (Employer Representative):** Employer representatives such as Plant Manager, Shipyard Manager, Project Manager in Karadeniz Holding and Group Companies, employer representative or office manager in offices, and when they are not available, it is the assistant or deputy. If there is more than one person with the same title, seniority (duration of employment in Karadeniz Holding and Group Companies) is considered.

**Line Manager:** The middle-level managers, such as engineers, supervisors, chief technicians, etc., who make assignments to employees. If there is more than one person with the same title, seniority (duration of employment in Karadeniz Holding and Group Companies) is considered

**Workplace HSE Representative:** Real or legal persons assigned to HSE management in Karadeniz Holding and Group Companies. (Workplace H&S Specialist/Director, Deck Officer, officials appointed by JHSU, etc.) In the Karpowership facilities, when there is no H&S Expert/Director or when the expert/director is under the supervision of the expert/director, the Deck Officer is responsible for the implementation, follow-up, and maintenance of the facility's HSE management system, employer's representative is accountable for the equivalent period.

**H&S Specialist (HSS):** Refers to the certified H&S specialist affiliated with Karadeniz Holding and Group Companies and assigned for workplaces in Turkey.

**Workplace Medical Services Representative:** Real or legal persons assigned to HSE management in Karadeniz Holding and Group Companies. (Workplace Doctor and/or Other Medical Personnel, Health Officer, Workplace Nurses, etc. appointed by doctor, company or JHSU) If there is more than one person mentioned in this definition at a workplace, the responsibility, in order of title, is first Workplace Doctors, then Other Medical Personnel, and finally Workplace Nurses and Health Officers.

**Workplace Doctor (WD)** Refers to the certified workplace doctor affiliated with Karadeniz Holding and Group Companies and assigned for workplaces in Turkey.

**Other Medical Personnel (OMP):** Refers to other certified healthcare professionals (Emergency medical technician, health officer, nurse) affiliated to Karadeniz Holding and Group Companies and assigned for workplaces in Turkey.

**Workplace H&S Committee (H&S Committee):** It refers to the committee/boards established to develop cooperation by including employees in the management of health and safety, to ensure effective control of health and safety, and to reduce occupational accidents and occupational diseases.

**HQ HSE Management:** Employees of the HSE department at Karadeniz Holding and Group Companies' HQ management office.

**HQ HR Management:** The HR unit's top manager in Karadeniz Holding and Group Companies' HQ management office. If there is more than one person with the same title, seniority (duration of employment in Karadeniz Holding and Group Companies) is considered.

**Employees:** It covers everyone who operates in the workplaces and their annexes affiliated with Karadeniz Holding and Group Companies, with or without payroll in these companies (including subcontractor, short-term service provider).





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**Subcontractor:** Refers to the party (real or legal person) that agrees to provide materials or services following a legal contract/protocol/agreement established with Karadeniz Holding and Group Companies workplaces.

**Contractor:** Refers to the party (natural or legal person) who undertakes to do all of the work for Karadeniz Holding and Group Companies' for a fee.

**Periodical Service Company:** Refers to the party (real or legal person) who is not a subcontractor but agrees to provide materials/services under a short-term agreement with Karadeniz Holding and Group Companies.

**Visitor:** Refers to people who come to visit the KH workplace and its extensions.

**Maintenance Responsible:** The employee who provides the mechanical, electrical, and technical management and business order.

**Fault:** A type of defect whose type or size exceeds the applicable acceptance criteria.

**Pressure Vessel:** Vessels with internal pressure greater than 0.5 bar. These may be:

- Exhaust gas boilers,
- Auxiliary boilers,
- Startup air compressors,
- Device service air unit,
- Gas/liquid fuel steam boiler,
- Air to the water heat exchanger,
- Pressurized auxiliary engine,
- Air sprayer,
- Tanks belonging to the enterprise,
- Other warehouse and process containers, and
- Other pressure vessels.

**Working Pressure and Temperature:** The temperature and pressure at which the container normally works (as measured by the gauge on the container).

**Inspection:** It is the process to obtain a systematic, independent, and documented/reported audit result, to determine the extent to which the audit criteria are fulfilled, and to evaluate objectively.

**Auditor:** A competent person who can perform the audit.

**Auditee:** The workplace where the inspection is made.

**Surveyor:** A person who assists the auditor by performing specific non-destructive testing (NDT) on pressure vessel components but does not evaluate these tests' results unless specifically trained and authorized by the owner/user.

**External Inspection:** A visual inspection from the outside of a pressure vessel to detect conditions that might affect the ability to maintain the vessel's pressure integrity or compromise the integrity of supporting structures such as ladders and platforms. This inspection can be done while the container is in operation or when the container is out of service.

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**Internal Inspection:** Inspection from inside a pressurized container using visual and/or NDT techniques.

**Equipment Ticket Number (ETN):** A unique identification number given to the pressure vessel item for registration purposes to facilitate traceability.

**Defects:** Defects or other discontinuities recorded during the inspection may or may not exceed applicable acceptance criteria.

**Inspection and Visual Inspection:** Visual inspection and inspection performed once a month by the Karpowership Marine Engineer/Mechanical Engineer/Maintenance Supervisor/Mechanical Technician.

**Inspection and Testing:** A detailed inspection carried out annually by a third party company ship engineer/mechanical engineer/maintenance inspector/mechanical technician, supported by other methods such as measurement and required non-destructive testing to arrive at the result of the condition and safety of the equipment.

**Maximum Allowable Working Pressure (MAWP):** The maximum allowable gauge pressure on the vessel in normal operating position at coinciding temperature (corrected for pressure head) specified pressure.

**Third-Party Certification Company:** Independent organization that provides inspection services on satisfactory results, its certificates are issued and comply with the requirements of TS EN ISO/IEC 17020.

**Design Temperature:** The temperature used in pressure vessel design per applicable construction code.

**Technical Authority:** It is an institution that has been informed about periodically testing the equipment.

**Test and Inspection Certificate:** A Test Certificate is issued by a third party certification mechanical engineer upon completion of a satisfactory investigation.

**NDT:** Non-Destructive Testing

**Certificate of Conformity:** A document in which the manufacturer confirms that the products provided comply with the order's requirements without any test results.

**Authorized Pressure Vessel Inspector:** A qualified and certified employee of an inspection company authorized to conduct inspections under this inspection instruction. Non-destructive (NDT) inspection is not required to be a qualified pressure vessel inspector. When the term inspector is used in this instruction, it means an authorized pressure vessel inspector.

## 6 APPLICATION PRINCIPLES

### 6.1 Periodic Inspections

Maintenance Responsible plans the periodic maintenance and controls of the pressure vessels (daily, weekly, monthly, etc.). In addition to this planning, all periods for maintenance, control, testing and inspections, including technical periodic inspections, are determined by considering two criteria. The first

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of these is local legislation and the other is producer extensions. Whichever of them is shorter, the relevant period is taken into account. There may be different types of inspection, inspection and inspection depending on the conditions and the pressure vessel. For example, non-destructive testing methods (NDT) can be selected, as well as destructive methods such as hydrostatic pressure tests. In this election; relevant legal regulations and manufacturer's recommendations are taken into consideration. The inspections should be made in accordance with the inspection plan. Defects detected during inspection and inspection are identified, sized, evaluated and corrective actions determined by the Maintenance Responsible.

### 6.2 Performing Periodic Inspections

Considering the Regulation on Health and Safety Conditions in the Use of Work Equipment for the domestic and national / international requirements for the outside, if the person / persons authorized to perform the periodic inspections are employed in the facility, these inspections can be performed primarily by these persons. If the authorized personnel are not in the workplace, these inspections are carried out by inspection bodies (for example Type A Inspection Organization) that are accredited by the approved institutions for periodic inspections and have the authority of the machines and equipment to be checked periodically. For the services to be received from local inspection organizations abroad, the situation of meeting the local requirements (law, standard) of these organizations is evaluated by the Workplace Manager, Maintenance Responsible and Workplace HSE Representative and selection is made.

### 6.3 Evaluation of Periodic Inspection Reports

Maintenance Responsible notifies the Workplace HSE Representative and the Workplace Manager of the nonconformities detected in the periodic controls and inspections he / she has performed. Workplace HSE Representative processes and follows up the nonconformities in the "KH-KPS-FR-039 H&S Nonconformity Follow Up Log" or H&S Software. In the periodic inspection reports, if the unconformity/ies detected for the machine or equipment are serious to threaten the safety of this equipment and therefore the employee / workplace safety, the Unit Manager of the area where the relevant machine / equipment is located, this machine or equipment will be used until the nonconformity is corrected and a new periodic inspection is made and its safe use is approved. and takes all precautions to prevent it from being used.

## 7 OPERATION

Pressure vessel is a general term and includes boilers, steam boilers, air compressors, air service units, fuel boilers, heat exchangers, and boosters.

Design, supply, maintenance, operation, testing and inspection processes are carried out according to national / international standards. In addition to these references, the following societies and institutions' standards and regulations can be considered when necessary and applicable.

- American National Standards Institute (ANSI)
- American Petroleum Institute (API)
- American Association of Mechanical Engineers (ASME) Boiler and Pressure Vessels Code
- British Standards Institute (BSI)
- Federal Regulations Law
- Provision and Use of Work Equipment Regulations

- Local Pressure Vessels Regulation
- European National Standard (EN)
- International Standards Organization (ISO)
- Occupational Safety and Health Administration (OSHA)

### 7.1 Procurement Process

The procurement process of all pressure vessels is carried out by the Supply Chain Management Department with the coordination of the Workplace Manager.

After commencing the workplace operation, the workplace management is responsible for monitoring the test / inspection intervals. Before the inspection date of the relevant third party, the service provisions can be executed bilaterally, taking into account time constraints, cost and accessibility factors.

Workplace Management makes a purchase request to SAP. After the purchase request, the relevant Purchasing Group Responsible Business Management and Third-Party Supervision Authority has to set in communication or related services from Turkey with the producer.

Workplace Management submits the purchase request to the Local Procurement / Purchasing Officer. The Procurement / Purchasing Officer receives offers from the local market to arrange the relevant service locally.

All purchasing processes are carried out according to the "**KH-SCM-PR-001 Purchase Request Management Procedure**" and / or the "**KH Local Purchase Instruction**".

### 7.2 Identification and Traceability

Third party pressure vessels at the workplace or workplace must have a unique identification number (ETN Equipment Tag Number) to ensure recognition throughout their life. This number must be clearly visible on the equipment. The unique number distribution is controlled by the Maintenance and Repair Officer. It is identified by the number assigned by the pressure vessel manufacturer or the Maintenance and Repair Officer. These identification numbers are used in all documents and records regarding the specified equipment.

Standard Labels for these equipment should contain at least one of the information listed below.

Equipment Tag Number	
Manufacturer Serial Number	

### 7.3 Maintenance and Repairs

To ensure the reliability of the pressure vessel, a maintenance management system is established for all pressure vessels. The system is based on the manufacturer's recommendations, operating experience and integration of preventive and predictable maintenance techniques.

The system ensures the supply of sufficient spare parts, qualified maintenance technicians, maintenance procedures and manufacturer manuals.



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A maintenance plan will be available for each pressure vessel. Maintenance plans proposed by the contractor are also uploaded to QDMS (Quality Documentation Management System) and maintenance work orders are recorded in the relevant SAP module. Suggestions for changing maintenance schedules should be reviewed and approved by the Maintenance Repair Officer before they are implemented.

The quality of maintenance with contractors is verified by the workplace by monitoring the pressure vessel performance and through inspections.

The maintenance database system of the workplace related SAP module should contain information about all pressure vessels of the workplace. The system generates work orders for the pressure vessel according to the defined schedule. The contractor will work with a similar system.

All major spare parts must be equal or equivalent to or exceed the original pressure vessel manufacturer's recommendations. Written reports should be maintained by the business or contractors and confirm the adequacy of major repairs or changes implemented.

### 7.4 Testing, Inspection, Inspection, Inspection and Certification

All pressure vessels used in the workplace must be subjected to new and existing testing, inspection and certification. It is very important to ensure the integrity of the pressure vessels and therefore the safe operation of the pressure vessels.

All pressure vessels should be inspected and maintained at certain intervals to eliminate the inconveniences seen in the vessels.

Routine, external and internal controls, testing and inspection activities are categorized according to the following items.

- Inspection and visual inspection is the visual inspection and inspection performed and recorded at regular intervals by the Maintenance Responsible.
- Inspection and visual inspection:
  - No cracks, loose connections, no deformation, abrasion or corrosion in parts,
  - Pressure gauge has a current calibration label,
  - Pressure relief valve, safety valve, drain valve, inlet valve, outlet valve, blowdown valve and barometer, if any, work safely,
  - Ensures that there is no air outlet from the connection points.

Periodic testing, inspection and certification intervals are defined by the Maintenance Responsible and should not exceed the specified intervals.

The following process principles should be applied during the activities:

- The maintenance and repair officer of the workplace verifies that inspection and certification requirements are met for all pressure vessels operated in the workplace through inspection.
- All new pressure vessels must be checked before first use and have the correct certification. The audit will comply with the requirements as specified and will be approved by the workplace and / or an approved inspection company.
- Prior to testing / inspection, risks are checked and documented with workplace risk assessments.



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- When the existing pressure vessel is substantially changed or a major repair is performed, it will be thoroughly tested by the workplace and / or an approved inspection company and approved by the test workplace and / or an approved inspection company.
- Deviation from this requirement should be defined by the maintenance and repair officer of the workplace and documented in the pressure vessels list.
- All existing pressure vessels should be subject to periodic inspection.
- Prior to installation, all pressure vessels will be visually inspected by / under the supervision of the Maintenance Responsible to ensure they are in safe use.
- The intervals should not exceed the specified times.
- If the structural integrity of the pressurized container is affected by:
  - Failure,
  - Exposure to excessive pressure,
  - Modification or repair,
  - Change in conditions of use, eg: environmental.
- Original certificates should be kept in the workplace certificate file and kept by the Maintenance Responsible.
- Certification services are provided by an independent authority. This authority records the results of his activities and the certificate clearly states whether it is safe to use.

Details of existing and new pressure vessels are added to the "**KH-HSE-FR-051 Equipment List Requiring Technical Inspection**" by the Maintenance Responsible, shared with the Workplace HSE Representative and recorded in the H&S Software by the Workplace HSE Representative. Up-to-dateness of the list and follow-up of the periodic inspections of the equipment in the list are under the responsibility of the Maintenance Responsible.

### 7.5 Audit and Review

Auditing is an important activity to verify the implementation of the workplace requirements and to identify areas for improvement. The inspection is carried out at regular intervals for pressure vessels within the operations of the workplace throughout the year. The activities of contracted suppliers are also audited.

An annual inspection plan for pressure vessels is prepared by the workplace at the beginning of each year. The plan takes into account the status and importance of the activities to be audited. The results of previous inspections are taken into account during planning.

Corrective actions detected during the audit are recorded in the audit report. The report is sent to the person responsible for taking action. All corrective actions arising from the report are also recorded, stored and monitored on the QDMS Corrective Action Module in accordance with the "**KH-KPS-PR-003 Corrective Action Procedure**". In addition, "**KH-KPS-FR-039 H&S Nonconformity Follow Up Log**" or H&S Software can be used for these corrective actions.

The applicability and implementation of these procedures in the workplaces are audited at least once a year during the Management System Audits and audits to be carried out by the KQ HSE Management in accordance with the "**KH-CD-PR-002 Internal Audit Procedure**". In addition, corrective action and inspection results are reviewed at Monthly Operational Performance and H&S Board / Committee Meetings conducted in accordance with the "**KH-KPS-PR-001 Communication Procedure**".





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## 8 REPORTING

3rd Party Test and Inspection Reports

Maintenance Records

H&S Software (Relevant forms / plans are tracked, reported and recorded through the software)

## 9 RELATED DOCUMENTS

KH-CD-PR-002 Internal Audit Procedure

KH-KPS-PR-001 Communication Procedure

KH-KPS-PR-003 Corrective Action Procedure

KH-SCM-PR-001 Purchase Request Management Procedure

KH-HSE-PR-039 HSE Technical Periodic Inspection Procedure

KH-KPS-FR-039 H&S Nonconformity Follow Up Log

## 10 REFERANCES

EBRD (European Bank for Reconstruction and Development)

EPA (Environmental Protection Agency)

IFC (International Finance Corporation)

ILO (International Labor Organization)

IMO (International Maritime Organization)

ISM (International Security Management)

ISPS Code (International Ship and Port Security Code)

MARPOL (International Convention for the Prevention of Pollution from Ships)

SOLAS (Safety of Life at Sea)

WHO (World Health Organization)

OSHA (Occupational Safety and Health Administration)

Social Insurance and General Health Insurance Law No.5510 and Regulations

Occupational Health and Safety Law No. 6331 and Regulations

Labor Law No. 4857 and Its Regulations

Environmental Law and Regulations No. 2872

ISO 45001 Occupational Health and Safety Management System

ISO 14001 Environmental Management System

Other relevant national and international legislation, standards and guidelines

Regulation on Health and Safety Conditions in Use of Work Equipment, Issue No: 28628



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TS 1203 EN 286-1 Tanks - Simple - Non-flammable - Pressurized - Designed for air or nitrogen storage - Part 1: Pressure tanks for general purposes

TS 2025 Steam Boilers Operation, Inspection and Maintenance General Rules

API RP 571 Damage Mechanisms Affecting Fixed Equipment in the Refining Industry

API RP 572 Inspection of Pressure Vessels

API RP 576 Inspection of Pressure-Relieving Devices

API RP 577 Welding Inspection and Metallurgy

API RP 578 Material Verification Program for New and Existing Alloy Piping Systems

API RP 579 Fitness-For-Service

API RP 580 Risk-Based Inspection

API Publication 581 Risk-Based Inspection - Base Resource Document

API RP 582 Recommended Practice and Supplementary Welding Guidelines for the Chemical, Oil, and Gas Industries

API Publication 2201 Procedures for Welding or Hot Tapping on Equipment in Service


API 510 Inspector Certification Examination Body of Knowledge

ASME Boiler and Pressure Vessels Code

- Section V: Non-Destructive Testing
- Chapter VIII: Chapter I, Rules for the Manufacture of Pressure Vessels
- Chapter VIII: Chapter 2, Rules for the Production of Pressure Vessels-Alternative Rules
- Section IX: Welding and Soldering Competencies



## **APPENDIX 11.6: HOUSE KEEPING AND LEAK EMERGENCY ON BOARD**

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## 1 PURPOSE

The purpose of this procedure is to outline the requirements for managing and controlling housekeeping operations in all areas of work, including plants, camps and fabrication yards.

## 2 SCOPE


Good housekeeping is one of the principles of accident prevention. Many injuries occur every year because people trip, stumble or fall over objects in their way. These instructions shall apply equally to office, workshop, plant or locations used by subcontractor personnel or their contractors during the course of the Project relating to the Karpowership direct operations and locations.

## 3 RESPONSIBILITIES

- The Plant Manager is responsible for ensuring good housekeeping practices are applied for the project in line with this procedure and that suitable arrangements are in place to maintain site tidiness to a high standard.
- The Safety Officer is responsible for the implementation and monitoring of this procedure with the Supervisors ensuring that waste material removed from site reaches the registered / licensed landfill/disposal area or incineration facility, and is not being 'fly tipped' or causing environmental damage.
- Assistant Plant Manager, Engineers and Discipline Managers are responsible for ensuring that good housekeeping is maintained in all areas and activities under their control and that conditions are monitored daily and remedial actions are implemented.
- It is the responsibility of all Assistant Plant Manager, Engineers and Discipline Managers to ensure their work areas are maintained in a good state of housekeeping and to ensure workers under their authority follow good housekeeping practice and conduct regular housekeeping in these areas.
- Workers and ALL personnel at site are ULTIMATELY responsible for complying with good housekeeping practices and for maintaining the site in a tidy and safe condition.

## 4 HOUSE KEEPING – GENERAL

- When not in use, all tools and equipment will be stored properly in a designated place. During use they will be kept orderly.
- Scrap will not be accumulated in working areas.
- Do not depend upon periodic cleaning to eliminate hazards. Do it continuously.
- Scraps of food, papers, oily rags, waste material, refuse, etc. will be placed in metal containers designated for that purpose and not thrown on the ground.
- Ends of wires and other such items protruding from any material will be bent over.
- The work area, especially walking areas, roadways, access ways, aisles, stairways and ladders, obstructions which may cause tripping or other accident hazards will be kept clear.


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- Loose and surplus materials such as nuts, bolts, fuses or similar items will not be stored within operational areas.
- Both during performance and upon completion of work, the work areas will be kept in a neat, clean and safe condition.
- Keeping change rooms, toilets, first aid and canteen facilities in a clean and sanitary condition will be given due care.
- All exits passageways, fire doors, break-glass alarm points, firefighting equipment, first aid stations, and other emergency stations shall be kept clean, unobstructed and in good working order.
- Good working practice shall be employed when storing or placing materials, boxes, pallets or containers such that they do not pose a threat to workers from lifting, tripping or blocking egress routes.
- Any instances of poor housekeeping that results in the creation of a tripping, slipping or fire hazard shall be immediately dealt with;
- Materials shall be stacked or stored in a safe manner that prevents sliding, falling or collapse.
- Housekeeping in site location offices and containers is scheduled by the responsible occupants (Supervisor, Store men or Warehouseman etc).
- Smoking is only permitted in designated areas at all locations and not in public areas.

#### **4.1. Office Housekeeping**


The following basic housekeeping rules will be applied at main plant offices and all plant satellites.

- All doorways, exits, emergency exits, access passageways, alarm points, fire safety equipment shall be kept clear and unobstructed at all times.
- Litter bins will be provided and emptied as required.
- Offices shall be regularly tidied and cleaned.
- A clean desk policy will be applied and no build-up of paper and other flammable materials allowed to develop.
- Electrical cords and leads will be routed so as not to cause a trip hazard.
- Desk and filing cabinet drawers shall be kept closed when not in use so as not to create a trip hazard.
- The Administration Manager is responsible for coordinating housekeeping activities in the main offices and maintaining the schedules.

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#### 4.2. Plant Housekeeping

- Good Housekeeping is one of the basic premises of a safe working site, helping to prevent accidents fire hazards and many other environmental and health problems. It is therefore one of Managements primary concerns.
- Supervisors, Chiefs and Engineers have the ultimate responsibility for the maintenance of good housekeeping on site in the areas they are responsible for and for the safety and wellbeing of workers under their authority.
- Adequate time will be assigned by Supervision to ensure that good housekeeping is practiced. This may be carried out by the workers in a particular office, workshop or plant or, at the discretion of the Plant Management, by a team of nominated cleaners.
- Scrap and construction debris shall be segregated and removed from all work areas as a minimum at the end of each shift to designated skips or to a proper holding area.
- A specialist waste Disposal Contractor shall be employed to remove all waste, both Hazardous and Non-Hazardous from plant to an approved waste disposal facility. No ‘fly tipping’ shall be tolerated and KH HSE Officer shall monitor and coordinate waste disposal (both hazardous and non-hazardous) and report to HSE Manager.
- An adequate number of skips and trash drums for the areas shall be assessed and maintained.
- Timber with protruding nails is removed immediately to a designated “de-nailing area” so as to protect from puncture wounds or nails are immediately bent over. When carrying out shuttering operations or any other activity that results in splinters, nails or other sharp edges the activity will be controlled by removal or other methods as appropriate.
- Dust control measures such as wetting down and limiting vehicle access and speed will be practiced.
- Hazardous spills shall be cleared as per MSDS and requirements and disposed of accordingly including those materials used for clean-up.
- Cables and hoses shall be routed above grade where possible so as not to create a trip hazard. They shall be suitably protected against traffic movements and covered or bound where routing above grade is not possible.
- When cleaning up at height nothing will be thrown or dropped from upper levels to lower levels. Area shall be barricaded and signposted and winches or hoists used so as to reduce or eliminate danger from falling materials.
- Tools, equipment, chemicals, fuels and raw materials at the workplace should be kept to a minimum commensurate with efficient working practice. Finished work, tools and equipment should be removed as soon as possible to a defined storage area such that the workplace is maintained clear.

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### 4.3. Workshops, Warehouses, Laydown and Fabrication Yards

- Flammable liquids including fuels, solvents, paints, thinners, chemicals etc will be stored in designated purpose built containers / areas away from sources of ignition, clearly labelled and signposted with signage such as “Danger - Flammable Liquids”, “No Smoking or Naked Flame” and inclusive of appropriate fire protection / prevention measures.
- Incompatible chemicals shall not be stored together.
- Oil storage shall be adequately bunded or otherwise protected so as to contain any spills.
- Passageways, exits, emergency equipment shall be maintained clear at all times.
- Areas around workshop machinery shall be kept clear at all times.
- Trash, rags and any other combustible waste must be cleared immediately.
- Sumps and drip trays shall be drained of spills from maintenance works regularly to prevent build-up. They shall not be used as trash cans.
- Materials shall be stored in such a manner that they do not create a trip hazard and shall be stacked in such a manner that prevents falling or collapse.

## 5 Emergency Actions on Board

### 5.1. Hazardous Vapour-LNG Release Action on Board


1 - IMMEDIATE ACTION ON BOARD		Check
1.1	Sound alarm followed by PA announcement.	
1.2	MUSTER all crew and passengers in CITADEL	
1.3	Shout verbal warnings and sound ships whistle and alarm bells.	
2 - INITIAL RESPONSE		
2.1	Establish immediate risks.	
2.2	Assess wind direction and alter course so vapour stream passes well clear of accommodation.	
2.3	Stop non-essential air intake into accommodation and engine room.	
2.4	Assess proximity of land and other vessels.	
2.5	Broadcast GMDSS message PANPAN/SECURITE	
2.6	Call MOL LNG 24hrs Emergency telephone number.	
2.7	Prepare and transmit Telefax Form 14 – LNG / Hazardous Vapour Release Report to Managers	
2.8	Confirm any operations that could cause an ignition source are stopped.	
2.9	At sea enforce smoking rules.	
2.10	Inform Port Authorities or nearest Coast State.	
2.11	In port, advise Terminal	
2.12	Direct small craft in vicinity away from the vessel.	
2.13	Vessel at Anchor: <ul style="list-style-type: none"> <li>- Use of main engine to manoeuvre vessel to carry vapour stream away from accommodation block.</li> </ul>	

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	- Consider proceeding to sea and reach safe point taking proximity of land and other vessels into account.	
2.14	Obtain weather forecast and assess effect on incident.	
2.15	Lead BA Team designated and preparing.	
2.16	Back-up BA Team designated and preparing.	
2.17	Prepare First Aid equipment.	
<b>3 - CONTINUED RESPONSE</b>		
3.1	Investigate cause of pressure rise.	
3.2	Check if single tank has pressure spike.	
3.3	Monitor pressure trend and if necessary stop Return Gas Blower (RGB) to prevent venting.	
3.4	In case of Machinery/Valve malfunction determine location of source of leak.	
3.5	In Discharging Port continue discharging to reduce tank pressure.	
3.6	In Loading Port reduce loading rate to minimum or stop loading.	
<b>4 – FURTHER RESPONSE</b>		
4.1	Collect evidence for Incident investigation including VDR, Statements, photos, and written records.	
4.2	Consider D&A Testing of key personnel ref: Drug & Alcohol procedure.	
4.3	Time of START and STOP Venting to be recorded and the volume of vapour vented to be calculated and recorded as a statement of facts.	
4.4	Consider leaving berth or anchorage.	

## 5.2. Jettison of Cargo- Action on Board


<b>1 - IMMEDIATE ACTION ON BOARD</b>		<b>Check</b>
1.1	Sound alarm followed by PA announcement.	
1.2	Stop any operation on board cargo, bunkering, gas freeing etc.	
1.3	MUSTER all crew and passengers/visitors	
1.4	Prepare Jettison cargo equipment on lee side manifold.	
<b>2 - INITIAL RESPONSE</b>		
2.1	Establish immediate risks, such as fire and injury.	
2.2	Assess wind direction and alter course so vapour stream passes well clear of accommodation.	
2.3	Stop non-essential air intake into accommodation and engine room.	
2.4	Assess proximity of land and other vessels.	
2.5	Broadcast GMDSS message PANPAN/SECURITE	
2.6	Call MOL LNG 24hrs Emergency telephone number.	
2.7	Prepare and transmit Telefax Form 15 – Primary Harmful Substance Report (MOLNG 145)	
2.8	Confirm any operations that could cause an ignition source are stopped.	

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2.9	At sea enforce smoking rules.	
2.10	Inform Port Authorities or nearest Coast State.	
2.11	Prepare and transmit Telefax Form 1 – Emergency Report to Competent Authorities	
2.12	In port, advise Terminal	
2.13	Direct small craft in vicinity away from the vessel.	
2.14	Vessel at Anchor: <ul style="list-style-type: none"> <li>- Use of main engine to manoeuvre vessel to carry vapour stream away from accommodation block.</li> <li>- Consider proceeding to sea and reach safe point taking proximity of land and other vessels into account.</li> </ul>	
2.15	Obtain weather forecast and assess effect on incident.	
2.16	Lead BA Team designated and preparing.	
2.17	Back-up BA Team designated and preparing.	
2.18	Prepare First Aid equipment.	
<b>3 - CONTINUED RESPONSE</b>		
3.1	Investigate cause of pressure rise.	
3.2	Check if single tank has pressure spike.	
<b>4 – FURTHER RESPONSE</b>		
4.1	Collect evidence for Incident investigation including VDR, Statements, photos, charts and written records.	
4.2	Consider D&A Testing of key personnel ref: Drug & Alcohol procedure.	
4.3	Time of START and STOP of Jettison Cargo to be recorded and the volume of vapour vented to be calculated and recorded as a statement of facts.	

### 5.3. Emergency Breakaway from Jetty During Cargo Operation-Action on Board

<b>1 - IMMEDIATE ACTION ON BOARD</b>		<b>Check</b>
1.1	Stop any operation on board cargo, bunkering, gas freeing etc.	
1.2	Sound alarm followed by PA announcement.	
1.3	MUSTER all crew and passengers/visitors.	
<b>2 - INITIAL RESPONSE</b>		
2.1	Stop Cargo Transfer operations. Initiate Emergency Shutdown procedure.	
2.2	Instruct deck watch to proceed to manifold for disconnection.	
2.3	Crew not required for disconnection to proceed to mooring stations and prepare to un berth.	
2.4	Engine room officers and ratings should proceed to ready Main Engine and Auxiliaries for immediate un-berthing.	
2.5	If there are other vessels alongside order their immediate departure	
2.6	Confirm the Fire Main is fully pressurized and set for immediate use.	

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2.7	Call MOL LNG 24hrs Emergency telephone number.	
2.8	Inform Terminal & Port Authorities.	
2.9	Determine current weather conditions.	
2.10	Determine proximity of hazards to vessel.	
2.11	Shut manual manifold valves.	
2.12	Drain shore loading arms / hoses (if not already done).	
2.13	Disconnect shore cargo and bunker hoses (if not already done).	
<b>3 - CONTINUED RESPONSE</b>		
3.1	Ascertain nearest hazards in the vicinity of the berth and distances to them.	
3.2	Check the effect of present weather and tidal stream on the vessel and likely direction of drift.	
3.3	BEFORE the vessel goes to open water, the current stability condition should be assessed/calculated in seagoing mode.	
3.4	If the vessel is outside of a safe seagoing condition and/or in the sloshing damage range then ballasting/cargo transfer operations are to be undertaken.	
3.5	If the cargo is within the sloshing damage range then where possible/safe the vessel should stay within safe sheltered waters until appropriate arrangements can be made.	
3.6	Ascertain availability of tugs and estimated time of arrival.	
3.7	Maintain communications with the jetty and or terminal for continuous updating on the emergency situation.	
3.8	Once hoses disconnected, shore personnel should disembark - if circumstances permit, clear ship / shore gangway.	
3.9	Notify shore vessel is ready to vacate berth.	
3.10	Prepare anchors and mooring equipment.	
3.11	Secure tugs.	
3.12	Determine availability of external assistance	
<b>4 – FURTHER RESPONSE</b>		
4.1	If shore crew available order them to release mooring lines. If shore personnel are not available it may be necessary to cut lines or fully run out. (cutting is preferred to minimise the chance of fouling propeller/thrusters)	
4.2	The vessel should be manoeuvred away from the berth. Be aware that other vessels may also be un-berthing in the emergency.	
4.3	Proceed to a safe location / emergency anchorage until the emergency is over.	
4.4	Assess any damage to the vessel.	
4.5	Collect evidence for Incident investigation including VDR, Statements, photos, and written records.	
4.6	Consider D&A Testing of key personnel ref: Drug & Alcohol procedure.	
4.7	When safe resume normal operations.	



# **APPENDIX 11.7: TECHNICAL PERIODIC INSPECTION PROCEDURE**



# HSE Technical Periodic Inspection Procedure

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## 1 PURPOSE

The purpose of this procedure is to define the mandatory conditions for the protection of the environment, health and safety of the staff working at the workplace, the subcontractors, and as necessary (the nature of the work that is conducted, contractual conditions...etc.), the contractors and other third parties (visitors, interns...etc.) and the inspection and control of the lifting-transfer, loading vehicles, pressurized vessels, electricity distribution panels and feeder pipes that are being used.

It aims to carry out and report the equipment controls, tests and inspections based on the inspection, test, auditing, control and certificate requirements, the national/international legal requirements (Regulation for Health and Safety Terms in Using Work Equipment), IMO, SOLAS and ISO 45001 Health and Safety Management System Standard principles, or to have them done and reported.

## 2 SCOPE

This procedure comprises the test, control and inspections of the equipment such as the lifting-transfer, loading vehicles, pressurized vessels, electricity distribution panels, feeder pipes...etc. that is used at the workplace and additions of Karadeniz Holding and the Group Companies.

## 3 RESPONSIBLES

### **Workplace Senior Manager;**

- He is responsible for ensuring and monitoring the requirements of this procedure,
- Providing the sources (employee, finance, time, consultancy...etc.) necessary to ensure obtaining and compliance with the relevant legislation and standards regarding tests and inspections.

### **Workplace Manager (Employer Representative);**

- He is responsible for controlling and monitoring the requirements of this procedure,
- Requesting necessary sources from the Workplace Senior Manager for fulfilling the requirements of the procedure,
- The implementation of this procedure.

### **Line Manager;**

- He is responsible for continuously auditing that the tests and reportings are being performed in compliance with their purpose and within the stated standards,
- Auditing that the inspections, test, controls, and maintenance are performed adequately so that the equipment is continuously and safely operative,
- Informing the employees on the importance of technical inspections, test, controls, and maintenance (along with the Workplace HSE Representative),
- Being familiar with the legislation and standards subject to this procedure, considering and implementing those in employee and project assignments



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### **Maintenance Responsible;**

- He is responsible for recording the periodic control, inspection, test and maintenance repairs of the vehicles and equipment that are the subject of this procedure, controlling and approving its structural compatibility,
- Notifying the Workplace Manager about the spare part supply, stock management and needs for the maintenance and repair of the equipment,
- Keeping the records of equipment after maintenance,
- Carrying out the maintenance of the equipment based on its properties, and notifying the relevant persons (Workplace Manager, Line Manager, Workplace HSE Representative, users).

### **SCM ( Supply Chain Management);**

- They are responsible for the inspections to be performed by competent bodies as well as the equipment and managing the supply processes for the spare part supplies.

### **Workplace HSE Representative (HSS);**

- He is responsible for determining, knowing, auditing, and reporting the legislation and standards subject to this procedure,
- Auditing whether the technical inspections of the equipment are performed relevantly and on time and informing the Workplace Manager regarding the non-conformances,
- Informing the employees on the importance of maintenance, repair, test, and inspection of the equipment (along with the Line Manager),
- Auditing and controlling the legislation and standards regarding HSE of the country that supplied by the Workplace Manager, advising and guiding Workplace Manager,
- Auditing and controlling the implementation of this procedure,
- For notifying the Workplace Manager regarding the non-conformances that he finds as a result of his audits and controls and reporting in written form (via the H&S Software or Quality Document Management System (QDMS), Corrective Action (CPA)), and following these matters.

### **Workplace Medical Service Representative (Workplace Doctor);**

- He is responsible for determining, knowing, auditing, and reporting the legislation and standards subject to this procedure,
- Informing the employees on the importance of maintenance, repair, test, and inspection of the equipment,
- Performing the tests, controls, inspections, examinations, and maintenance of the health-related equipment and tools that are the subject of this procedure and following whether these are performed, and informing Workplace Manager and Workplace HSE Representative about the non-conformances,
- Ensuring that the equipment under his responsibility has been inspected, constantly operative and compliant with the standards.



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### HQ HSE Management;

- They are responsible for the audit and control of the implementation of this procedure in all workplaces affiliated with Karadeniz Holding and the Group Companies,
- Reporting the non-conformances that are discovered to the Workplace Manager in writing along with the solutions suggestions, and advising and guiding the Workplace Senior Manager.

### Employees;

- They are responsible for being familiar with and implementing the legislation and standards subject to this procedure,
- In the event that they are face to face with a serious and imminent hazard because of the equipment and the situations where the requirements of this procedure are not met in the activities to be conducted, requesting the determination of the case by consulting the Workplace Health and Safety (H&S) committee and the Workplace Manager in workplaces where do not have such committee, requesting to take necessary measures, using the right to abstain from work in the case where the serious and imminent hazard cannot be prevented,
- Informing the Line Manager and Workplace HSE Representative for the equipment that is damaged or date of periodic control and test is outdated with risk notification,
- Knowing that in the event that they knowingly and willfully damage or deactivate the safety devices of the equipment that they use, the requirements of the disciplinary procedure will be applied.

## 4 RELATED PROCESSES

İSGÇ-010 Occupational Safety

İSGÇ-020 Occupational Health

İSGÇ-030 Environment Management

## 5 DEFINITIONS

**KH:** Karadeniz Holding and the Group Companies

**KPS:** Karpowership Plants

**H&S:** Health and Safety

**HSE:** Health, Safety, and Environment

**JHSU:** Joint Health and Safety Unit

**QDMS:** Quality Documents Management System

**H&S Software:** It refers to the digital platform where recording, tracking, and reporting can be done using the modules it contains regarding H&S.

**Workplace:** All offices, plants, shipyards, project sites, buildings and recreation, lactation, food, accommodation, hygiene, examination, treatment, and training rooms where the workplace and its extensions affiliated to Karadeniz Holding and Group Companies carry out their activities to produce goods or services, refers to the organization that involves other add-ons and tools such as training places.



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**Workplace Senior Manager:** Refers to senior executives employed in the workplaces affiliated with Karadeniz Holding and Group Companies. It is the next manager for workplaces in Turkey, to which the Workplace Manager reports. For the workplaces abroad, the country responsible managers who worked as Country Coordinator for the Karpowership facilities on the date of publication of this procedure and will carry related responsibilities within the corresponding job description even if the title changes from now on, and for offices, a top manager or an office in the trade group managers. If there is more than one person with the same title, seniority (duration of employment in Karadeniz Holding and Group Companies) is considered.

**Workplace Manager (Employer Representative):** Employer representatives such as Plant Manager, Shipyard Manager, Project Manager in Karadeniz Holding and Group Companies, employer representative or office manager in offices, and when they are not available, it is the assistant or deputy. If there is more than one person with the same title, seniority (duration of employment in Karadeniz Holding and Group Companies) is considered.

**Line Manager:** The middle-level managers, such as engineers, supervisors, chief technicians, etc., who make assignments to employees. If there is more than one person with the same title, seniority (duration of employment in Karadeniz Holding and Group Companies) is considered

**Workplace HSE Representative:** Real or legal persons assigned to HSE management in Karadeniz Holding and Group Companies. (Workplace H&S Specialist/Director, Deck Officer, officials appointed by JHSU, etc.) In the Karpowership facilities, when there is no H&S Expert/Director or when the expert/director is under the supervision of the expert/director, the Deck Officer is responsible for the implementation, follow-up, and maintenance of the facility's HSE management system, employer's representative is accountable for the equivalent period.

**H&S Specialist (HSS):** Refers to the certified H&S specialist affiliated with Karadeniz Holding and Group Companies and assigned for workplaces in Turkey.

**Workplace Medical Services Representative:** Real or legal persons assigned to HSE management in Karadeniz Holding and Group Companies. (Workplace Doctor and/or Other Medical Personnel, Health Officer, Workplace Nurses, etc. appointed by doctor, company or JHSU) If there is more than one person mentioned in this definition at a workplace, the responsibility, in order of title, is first Workplace Doctors, then Other Medical Personnel, and finally Workplace Nurses and Health Officers.

**Workplace Doctor (WD)** Refers to the certified workplace doctor affiliated with Karadeniz Holding and Group Companies and assigned for workplaces in Turkey.

**Other Medical Personnel (OMP):** Refers to other certified healthcare professionals (Emergency medical technician, health officer, nurse) affiliated to Karadeniz Holding and Group Companies and assigned for workplaces in Turkey.

**Workplace H&S Committee (H&S Committee):** It refers to the committee/boards established to develop cooperation by including employees in the management of health and safety, to ensure effective control of health and safety, and to reduce occupational accidents and occupational diseases.

**HQ HSE Management:** Employees of the HSE department at Karadeniz Holding and Group Companies' HQ management office.

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**HQ HR Management:** The HR unit's top manager in Karadeniz Holding and Group Companies' HQ management office. If there is more than one person with the same title, seniority (duration of employment in Karadeniz Holding and Group Companies) is considered.

**Employees:** It covers everyone who operates in the workplaces and their annexes affiliated with Karadeniz Holding and Group Companies, with or without payroll in these companies (including subcontractor, short-term service provider).

**Subcontractor:** Refers to the party (real or legal person) that agrees to provide materials or services following a legal contract/protocol/agreement established with Karadeniz Holding and Group Companies workplaces.

**Contractor:** Refers to the party (natural or legal person) who undertakes to do all of the work for Karadeniz Holding and Group Companies' for a fee.

**Periodical Service Company:** Refers to the party (real or legal person) who is not a subcontractor but agrees to provide materials/services under a short-term agreement with Karadeniz Holding and Group Companies.

**Visitor:** Refers to people who come to visit the KH workplace and its extensions.

**Third-Party Certification Company:** Independent organization that provides inspection services on satisfactory results, its certificates are issued and comply with the requirements of TS EN ISO/IEC 17020.

**EN (European Norms):** European Norms

**ANSI (American National Standards Institute):** It is a private institution that prepares and publishes industrial standards in the USA.

**ASTM (American Society for Testing and Materials):** An international standards organization that develops and publishes technical standards for various materials, products, and systems.

**ISO (International Organization for Standardization):** International Organization for Standardization

**ILO (International Labour Organization):** International Labor Organization

**Operator:** Employee or employees tasked with using work equipment.

## 6 APPLICATION PRINCIPLES

### 6.1 Equipment Planned to be Used at the Workplace

Before the equipment that is planned to be used enters the workplace, the equipment is visually checked along with the periodic control and test, inspection papers within the stated legislation and standards. The equipment that meet the necessary conditions is allowed to enter and operate at the workplace. A control card is prepared for each new piece of equipment that falls under the scope of this procedure and that arrives at the workplace, and the it includes the relevant information (under the tile 7.2).

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### 6.2 Preparation of the List of Equipment Requiring Technical Periodic Inspection

While determining the equipment that is subject to periodic inspection at the workplace, it needs to be firstly divided based on the working groups. In general, the groups of equipment are as follows.

- Electrical equipment (distribution panels, lines, electrical hand tools...etc.)
- Pressurized vessels (vessels with an internal pressure of more than 0.5 bars)
- Lifting and transfer equipment (forklifts, scrapers, loaders, cranes, hoists, lever jacks, lever block, pallet trucks...etc.)

### 6.3 Planning

The inspection principles and standards of the equipment that is grouped needs to be planned at periods as specified by the manufacturing company. If the manufacturing company has not specified a period, planning is done based on the relevant legislation and the procedures/directives prepared at the workplace.

### 6.4 Monitoring and Recording

The monitoring and recording of the equipment within the workplace are performed and recorded via “**KH-HSE-FR-051 List of Equipment Requiring Technical Inspection**”. Additionally, the monitoring of the electrical equipment is performed separately through the articles stated in the “**KH-HSE-INS-015 Color Coding Instruction**” where the application that facilitates visual control with colors is explained and which is to be renewed at determined periods.

### 6.5 Writing the Corrective Action Report

The Workplace HSE Representative records the non-conformance records on the H&S Software, QDMS or “**KH-HSE-FR-039 H&S Nonconformity Follow Up Log**” based on the non-conformance notifications for the work equipment used at the workplace, and starts and monitors the corrective actions. The responsables for these corrective actions are appointed by the Line Manager or the Workplace Manager, and their due dates are given based on their risk levels. The activities are monitored by the relevant Workplace HSE Representative based on the due dates that are given, and the closing records are created.

### 6.6 Updating the Risk Assessment (Specific to this Procedure)

The risk assessments are performed by the risk assessment teams as per the “**KH-HSE-PR-036 H&S Hazard Identification and Risk Assessment Procedure**” for the existing equipment that is the subject of this procedure and new equipment to arrive at the workplace, and they are recorded by the Workplace HSE Representative.

## 7 OPERATION

The periodic testing and inspections of the categorized equipment are performed within the relevant standards and recorded, regardless of whether the equipment is used. (The equipment that is faulty and waiting to be repaired is included in this application after the fault is repaired). Before the acceptance of the work equipment that are being operated at the workplace temporarily or permanently, it is made sure that the inspection papers are complete within the specified manufacturer’s standards or that the said equipment meets the legislation requirements aside from visually inspecting it.



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In this sense, the lists containing the brand, model, location, serial number, capacity...etc. of the equipment based on the working groups are prepared and monitored by the workplace maintenance responsible.

### 7.1 Definition and Traceability

A special identification number (an Equipment Ticket Number) is needed in order to ensure the identification of the equipment that is used at the workplace and that is subject to technical periodic inspection and ensure its traceability. This number should be attached to the equipment clearly and permanently along with the next inspection date.

The arrangement of this special number is controlled by the Maintenance Responsible. The contracted equipment is identified with a special number that is assigned by its manufacturer or its owner. If there is no such number assigned by the manufacturer, the Maintenance Responsible gives and records a serial number special to the equipment for each equipment. The identification numbers are specifically used in all documents and records regarding the equipment.

A standard equipment label must include the following information;

<b>Equipment Ticket Number:</b>	
<b>Manufacturer Serial No.:</b>	

The equipment that has been exposed to factors such as mechanical damage, corrosion, and chemicals is identified as a result of the tests, controls and inspections, subjected to abolishment of use or the necessary maintenance activities, and the maintenance responsible provides the renewal of the inspections and actions to be reused.

### 7.2 Maintenance and Repairs

A technical periodic inspection system is established to ensure the reliability of all technical periodic inspection equipment. The Maintenance Responsible determines the time intervals for the periodic control and inspection of the equipment by planning. For these and technical inspection criteria, first the local legislation requirements, then the manufacturer's recommendations, respectively, the workplace and equipment specific, environmental conditions, the frequency of use of the equipment, the age of the equipment, the frequency of failure.

It is obliged to apply it in the periods determined in the risk assessment results made by taking into consideration the criteria such as or according to the points specified in the relevant instructions, if any. There may be different types of inspection and inspection depending on the conditions and pressure vessel. Audits should be made in accordance with the audit plan. Defects detected during inspection and inspection must be identified, sized and evaluated.

### 7.3 Test, Auditing, Control, Inspection and Certification

All equipment requiring technical periodic inspection used at the workplace should be subjected to testing, auditing, inspection and certification. It is crucial to preserve the structural integrity of the equipment requiring technical periodic inspection and to guarantee the safe work of the equipment.





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The inspections of the equipment subject to technical periodic inspection by the authorized persons (natural or legal) and institutions at the intervals specified in the relevant list of equipment requiring inspections are performed as explained in the “**KH-HSE-INS-013 Pressure Vessels Instruction**” and the “**KH-HSE-INS-014 Lifting Equipment Instruction**”.

As for regarding electricity, the control, records and approvals of the electrical hand tools at the workplace by competent persons are performed as per the “**KH-HSE-INS-015 Color Coding Instruction**”. In addition, the interior installation controls that are subject to inspection concerning electricity, controls and inspections including earthing, lightning rod...etc. are performed, monitored and recorded with the organization to be established under the electricity unit at the workplace.

Also, aside from the technical periodic inspections, the maintenance and repairs of the equipment that is the subject of this procedure controls and inspections are performed, monitored and recorded with the organization and plans of the relevant mechanical electricity maintenance units.

The electricity interior installments can wear off, have problems with its connections or lose their functions with time. The types of measurements to be performed by the electricity unit representatives so that the electricity installments and systems can be used safely and continuously, various errors and failures can be detected in time are as follows.

- Earthing Controls (Earthing measurements, machine/equipment/lines body earthings and equipotential earthings),
- Electrical Panel Controls (residual current device, open end cables, fuse controls, bar protection controls, other open end cable protection controls...etc.)
- Electricity Interior Installation Controls,
- Thermal Camera Control,
- Generator Controls,
- Control and Measurement of Lightning Protection Installment
- Control and Measurement of Cathodic Protection Installment

Atmosphere measurements; are performed and recorded according to the relevant standards within the “Labor Hygiene” measurements pursuant to the workplace atmosphere or the decision of possible factors such as the noise, lighting, thermal comfort, magnetic field, dust, chemicals...etc. that the employees suffer that are performed specific to the workplace.

The main scope of the said test, auditing, control, inspection and certification works has been defined and explained in the content of the directives stated below.

- KH-HSE-INS-012 Emergency Response Equipment Instruction
- KH-HSE-INS-013 Pressure Vessels Instruction
- KH-HSE-INS-014 Lifting Equipment Instruction
- KH-HSE-INS-015 Color Coding Instruction
- KH-HSE-INS-016 Atmosphere Measurements Instruction

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### 7.4 Approval After the Inspection

As a result of the inspection and controls of the equipment, the availability is determined by the maintenance and repair officer. The Maintenance Responsible notifies the Workplace HSE Representative and the Workplace Manager of the nonconformities detected as a result of the controls and examinations made with the eye or device within the scope of periodic control and inspection planning.

Workplace HSE Representative processes and follows up nonconformities in the "**KH-HSE-FR-039 H&S Nonconformity Follow Up Log**". In the periodic inspection reports, if major inconveniences are detected in order to prevent the operation of the machine and equipment without correcting its inconveniences, the unit manager will ensure that measures are taken to discontinue this machine and equipment until the non-conformity is removed and the new periodic inspection is made and approved.

As for the electrical hand tools, in terms of monitoring of all the workplace employees after the inspection, they are labeled with the color code of the relevant period by the staff members who are responsible for maintenance in 3 month periods. The 3-month color coding and progress during a 12-month period are performed according to the "**KH-HSE-INS-015 Color Coding Instruction**".

### 7.5 Use of Work Equipment Requiring Operator

The operator's certificate is the document given to the people who have been successful in the examinations made by taking the necessary training according to the type of machine to be used by the VQA (Vocational Qualifications Authority) in accordance with the work machine courses and local legislation. For example, an operator certificate is required for lifting and conveying vehicles (cranes, fork loaders, battery powered pallet trucks, etc.) used in workplaces. Accordingly, taking into account the legal conditions of the country of residence, the competency requirements of the personnel to be assigned to perform the works requiring competence and use the equipment are provided by the Workplace Manager.

## 8 REPORTING

The monitoring and documentation of the requirements of this procedure are performed by the maintenance responsible at the workplaces within the "**KH-HSE-FR-051 List of Equipment Requiring Technical Inspection**". The management and monitoring of these processes within the proper standards are carried out by the Workplace Manager and the Workplace HSE Representative. Relevant forms / plans are tracked, reported and recorded through the H&S Software.

## 9 RELATED DOCUMENTS

KH-HSE-PR-034 Sub-Employer and Contractor Management Procedure

KH-HSE-PR-035 H&S Performance Measurement and Monitoring Procedure

KH-HSE-PR-036 H&S Hazard Identification and Risk Assessment Procedure

KH-HSE-INS-010 HSE Risk and Near-Miss Notification Instruction

KH-HSE-PR-038 HSE Site Control and Audit Procedure

KH-HSE-PR-040 HSE Legal Compliance Monitoring and Evaluation Procedure

KH-HSE-PR-043 Personal Protective Equipment Procedure



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KH-HSE-PR-045 Hazardous Energy Resources Control (LOTOTO) Procedure

KH-HSE-INS-012 Emergency Response Equipment Instruction

KH-HSE-INS-013 Pressure Vessels Instruction

KH-HSE-INS-014 Lifting Equipment Instruction

KH-HSE-INS-015 Color Coding Instruction

KH-HSE-INS-016 Atmosphere Measurement Instruction

### 10 REFERANCES

EBRD (European Bank for Reconstruction and Development)

EPA (Environmental Protection Agency)

IFC (International Finance Corporation)

ILO (International Labor Organization)

IMO (International Maritime Organization)

ISM (International Security Management)

ISPS Code (International Ship and Port Security Code)

MARPOL (International Convention for the Prevention of Pollution from Ships)

SOLAS (Safety of Life at Sea)

WHO (World Health Organization)

OSHA (Occupational Safety and Health Administration)

Social Insurance and General Health Insurance Law No.5510 and Regulations

Occupational Health and Safety Law No. 6331 and Regulations

Labor Law No. 4857 and Its Regulations

Environmental Law and Regulations No. 2872

ISO 45001 Occupational Health and Safety Management System

ISO 14001 Environmental Management System

Other relevant national and international legislation, standards and guidelines

Regulation on Health and Safety Conditions in the Use of Work Equipment

ASME (American Society of Mechanical Engineers)

Regulation on Health and Safety Conditions in Use of Work Equipment, Issue No: 28628

TS 1203 EN 286-1 Tanks - Simple - Non-flammable - Pressurized - Designed to store air or nitrogen  
- Part 1: Pressure tanks for general purposes

TS 2025 Steam Boilers Operation, Inspection and Maintenance General Rules



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API RP 571 Damage Mechanisms Affecting Fixed Equipment in the Refining Industry

API RP 572 Inspection of Pressure Vessels

API RP 576 Inspection of Pressure-Relieving Devices

API RP 577 Welding Inspection and Metallurgy

API RP 578 Material Verification Program for New and Existing Alloy Piping Systems

API RP 579 Fitness-For-Service

API RP 580 Risk-Based Inspection

API Publication 581 Risk-Based Inspection - Base Resource Document

API RP 582 Recommended Practice and Supplementary Welding Guidelines for the Chemical, Oil, and Gas Industries

API Publication 2201 Procedures for Welding or Hot Tapping on Equipment in Service

API 510 Inspector Certification Examination Body of Knowledge

ASME Boiler and Pressure Vessels Code

- Section V: Non-Destructive Testing
- Chapter VIII: Chapter I, Rules for the Manufacture of Pressure Vessels
- Chapter VIII: Chapter 2, Rules for the Production of Pressure Vessels-Alternative Rules
- Section IX: Welding and Soldering Competencies

# **APPENDIX 11.8: FUGITIVE EMISSIONS MANAGEMENT PLAN**

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## 1. PURPOSE

The purpose of this plan is to determine the fugitive emissions from NG utilization during Karpowership SA PTY Ltd operations, to evaluate the impacts of these determined aspects and ensuring environmental aspects are controlled and managed. This procedure further intends to comply with the Environmental Legislation Requirements and the Management System requirements.

This plan incorporates the planned activities in routine and non-routine activities, new plant installations and commissioning, all kinds of process changes related to the enterprises, emergency and near-miss incidents, the use of new equipment, materials and the management of fugitive emissions determined in relations with contractors / subcontractors associated directly with the Powership and FSRU operations and maintenance work within the approved Port locations.

## 2. DESCRIPTION OF EMISSION SOURCES

The Karpowership project will generate electricity from two floating mobile Powerships. The ships will be berthed at any one time, during the project's 20 year lifespan (as per the RMIPPPP requirements) - a Floating Storage Regasification Unit (FSRU) and Powerships. A Liquefied Natural Gas Carrier will supply the Liquefied Natural Gas (LNG) to the FSRU over a one-to-two-day period approximately every 20 to 30 days. The natural gas once degasified is pumped from the FSRU to the Powerships via a gas pipeline.

### 2.1. Storage Tanks

The FSRU with an overall length of approximately 272m with a breadth of 47m is made up of a series of pressurized containers and stores the liquefied natural gas (LNG) and converts it to a gaseous state for delivery to the Powerships through a gas pipeline.

### 2.2. Loading Gantries

The ship to ship (STS) transfer of LNG will be managed under an international accredited process ((i.e. the Ship to Ship Transfer Guide (Liquefied Gases) - 2nd edition, OCIMF / SIGTTO) via trained personnel to ensure compliance and within clear quality, health and safety regulations. The fuel lines between the FSRU and the Powership will be via double walled with annular space being inserted and continuously purged with Nitrogen "N2" gas. A gas detector in circuit will identify a leak, so that the fuel gas can be immediately isolated and shut off, the leak identified, and the necessary repairs or replacements made.

The FSRU regasifies the required amount of LNG and sends this to the Powership in gaseous form (NG) continuously through a connecting pipeline. The FSRU is specifically designed, constructed and equipped to supply the fuel gas required for the power generator engines installed on the Powerships.

### 2.3. Operational Leaks

Natural gas boil off of LNG on board the FSRU is not flared or vented. The natural Boil Off Gas (BOG) is used as fuel for the operation of the FSRU and if in excess, is prioritized for export to the Powership for use in the generation of electrical power. In the event that BOG is in excess of the base load demand, then arrangements are provided on-board the FSRU for this excess BOG to be burnt in a specialised internal process. Under normal operations it is anticipated that the demand for gas will be significantly in excess of the natural boil off resulting in liquid LNG being re-gasified for export to the Powership.

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### 3. EMISSION MINIMISATION MEASURES

All LNGC vessels are fitted with fixed gas detection systems which comply with the requirements of the IGC code applicable to the vessel. This includes engine spaces / compressor rooms / hold / tanks (depending on the design of the containment system and Class requirements).

The equipment has Monthly / 3 monthly / 5 yearly maintenance checks to ensure it is performing as designed and all vessels also have portable and personal gas detectors to back up of the fixed systems.

All FSRUs will have a dedicated Class approved maintenance plan for all equipment onboard. This is specifically designed for the;

- Vessel
- Equipment
- Location
- Planned deployment period.

This may differ from the following outlines. But where it does it will be risk assessed and agreed with the makers and Class.

The company has a Class approved Planned Maintenance System for each vessel with set intervals for a periodical maintenance, inspections and surveys. Company PMS is an integral part of the Class Continuous Machinery Survey (CMS) cycle.


The main benefits of operating an approved Machinery Planned Maintenance scheme is that the selected machinery systems and components can be credited for survey based on examinations by the ship's Chief Engineer on an approved schedule over a five years without the need for a Class Surveyor to be present. Approximately 20 per cent of machinery shall be examined each year.

The maintenance periods given in the PMS for the individual equipment are taken from the respective maker maintenance programs. Planned maintenance is primarily concerned with reducing breakdowns and the associated costs.

Critical systems have been identified and a study will take place after second special survey to allow timely preparation for vessels trading at 15 year anniversary. The Company's maintenance philosophy will follow its desired 'condition-based monitoring' program in conjunction with a planned maintenance program, since it may not always be possible to replace planned maintenance programs in their entirety with condition based programs (these exist in parallel).

- Preventive maintenance aimed at preventing failures or discovering a failure at an early stage.
- Corrective maintenance aimed at repairing failures that were expected.
- Condition-based monitoring maintenance

On-board Management Team duty is to recognize importance of maintaining a vessel in appropriate and safe operational condition and to follow the maintenance philosophy and Planned Maintenance System. All machinery failures are subject of a Technical Incident and subsequently a Non Scheduled Work Order is raised.

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Proper maintenance history to be kept in the PMS by providing detailed report for each scheduled and unscheduled work order. Comments such 'work done' or 'all ok' are treated as inappropriate.

All gas detectors are to be maintained and tested as per PMS requirement. Full calibration of the gas detectors should be done at intervals not exceeding 6 months.

All usage, calibration and maintenance must be recorded in the log book. There is no requirement for the gas detectors to be landed ashore for testing or calibration, this can be done on board by ships staff.

Sufficient spares to effect routine repairs shall be maintained on board as most repairs consist of a simple replacement of parts. If, after changing the heads or other parts the detector can still not be calibrated it should then be landed ashore for service.

For multi-gas detectors each detecting element has a defined lifetime, which may be 2 or 3 years after which detector has to be changed.

#### 4. TIMEFRAME

The following table lists the emission minimisation measures identified for LNG utilization during Karpowership SA PTY Ltd operations and the dates for implementation of those measures.

Source	Measure	Date for Implementation
Storage tanks	Leak detection and repair systems	Project lifespan-controlled via SoP's
Loading gantries	Leak detection and repair systems	Project lifespan, STS bunkering of LNG and deliver of natural gas to Powership
Equipment leaks	Routine maintenance and Leak detection and repair systems	Project lifespan

#### 5. REFERENCES

- Pollution Prevention and Abatement Handbook, World Bank Group, July 1998
- European Commission, *Integrated Pollution Prevention and Control, Reference Document on Best Available Techniques on Emissions from Storage*, July 2006.