

# Contractor HSSE Standards

Doc No. IMS\_01\_HSE\_STD\_008

Revision No. 000

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## 1 OBJECTIVES

The objective of this document is to specify the Health, Safety, Security and Environment standards applicable to any Contractor. The Contractor and its Subcontractor shall comply with specific HSSE requirement as set forth in this procedure and applicable local legislation while performing their scope of work for whole life cycle business operations at the Employer to prevent any incident and ensure a continuous improvement in HSSE performance.

The Employer and the Contractor shall have regular HSSE discussion with staff and, where necessary, with suppliers of equipment and services, to ensure that HSSE management is of the highest standard.

The Contractor shall undertake regular risk assessments to identify and control all foreseeable hazards to As Low As Reasonably Practicable (ALARP).

## 2 SCOPE

This document shall be used in conjunction with the Contract documents. It sets out the standards for Health, Safety, Security, and Environment (HSSE) that the Contractors are expected to meet and to implement as a standard during the execution of Contractor scope of works.

## 3 ABBREVIATIONS

ACOP	:	Approved Codes of Practice
ALARP	:	As Low As Reasonably Practicable
AGT	:	Authorized Gas Tester
BESS	:	Battery Energy Storage System
BOP	:	Balance of Plants
BST	:	Basic Safety Training
Employer	:	[Owner of the Project]
COLREG	:	Convention on the International Regulations for Preventing Collision at Sea, 1972
CSE	:	Confined Space Entry
EPCI	:	Engineering, Procurement, Construction, and Installation
EMP	:	Environmental Management Plan
ERP	:	Emergency Response Plan
ERT	:	Emergency Response Team

GWO	:	Global Wind Organization
HSSE	:	Health, Safety, Security and Environment
HV	:	High Voltage
IFC	:	International Finance Corporation
ISO	:	International Organization for Standardization
IMCA	:	International Marine Contractor's Association
ITT	:	Invitation to Tender
JSA	:	Job Safety Analysis
LOTO	:	Lock Out Tag Out
LTI	:	Lost Time Injuries
LTIR	:	Lost Time Injury Rate
MEDEVAC	:	Medical Evacuation
MS	:	Management System
MSDS	:	Material Safety Data Sheet
MWS	:	Marine Warranty Surveyor
MTC	:	Medical Treatment Case
OSS	:	Offshore Substation
PPE	:	Personal Protective Equipment
PTW	:	Permit To Work
RA	:	Risk Assessment
RPE	:	Respiratory Protective Equipment
RWC	:	Restricted Work Case
SOPEP	:	Shipboard Oil Pollution Emergency Response Plan
STCW	:	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978
WAH	:	Working at Height
WTG	:	Wind Turbine Generator
TBM	:	Toolbox Meeting

#### **4 CONTRACTOR HSSE SYSTEM STANDARDS**

In carrying out works on behalf of the Employer, the Contractor shall place the highest emphasis on HSSE standard to achieve the HSSE objectives of excellence which shall contribute to outstanding HSSE performance during all phases of PROJECT.

The Contractor shall operate a documented HSSE management system, which shall, at a minimum, address the following:

#### **4.1 Laws and Regulations**

The Contractor shall comply and ensure the compliance by any of its Subcontractors with all applicable national and international laws and regulations (including the IFC Performance Standards) and the Employer's Supplier Code of Conduct and other relevant requirement relating to health, safety, and environment while providing services to the Employer.

The Contractor shall be responsible for obtaining and maintaining at its own cost all licenses, permits, clearances, certifications, governmental or administrative authorizations necessary for the performance of its obligation hereunder.

On the Employer request, the Contractor shall produce all relevant documents and certificates. The Employer shall have no liability whatsoever in respect thereof.

If there are any specific details and agreements in conflict with applicable local regulations, then these are to be properly documented within the 14 Special Provision and the more stringent position shall prevail.

#### **4.2 HSSE Leadership and Commitment**

The Contractor shall ensure its senior management are actively involved in HSSE matter and demonstrate HSSE leadership and commitment through regular site inspection, and HSSE meeting, etc.

#### **4.3 HSSE Management System**

The Contractor shall maintain a formal system for the management of health, safety and environmental aspects which comply with the principles outlined in:

- ISO 45001:2018 "Occupational Health and Safety Management System"
- ISO 14001:2004 "Environmental Management Systems"

This HSSE Management System shall be documented and fully and effectively implemented by the Contractors.

The Contractor shall ensure all relevant HSSE policies (Smoking policy, Drug and Alcohol Policy, Workplace Harassment and Violence Policy, etc.) and procedures are in place.

#### **4.4 HSSE Organization**

The Contractor shall define and identify the positions within the organization structure and the specific roles and responsibilities with regard to HSSE management for each of these positions. All

further training and inductions shall be structured for these specific HSSE responsibilities. The HSSE structured organization shall be documented and communicated.

The Contractor shall ensure sufficient level of HSSE resources are in place to supervise site HSSE activities and operate HSSE management system to achieve excellent HSSE performance. The Contractor shall appoint the dedicated HSSE representatives to be on-site at all times to inspect and monitor site HSSE compliance.

#### **4.5 HSSE Responsibilities**

The Contractor shall protect the safety and health of workers and people living or working near their activity from potential hazards created by that activity. The Contractor, at its own cost, shall take all necessary HSSE precautions to ALARP level, to protect the public and minimize disturbance and inconvenience to the public resulting from performance of the work.

The Contractor shall ensure that all aspects of HSSE outlined in these procedures are fully implemented throughout the duration of the CONTRACT.

The Contractor shall confirm that they shall achieve HSSE objectives by addressing each of the following:

- Implementation of PROJECT HSSE Plan
- Evaluation and selection of Subcontractor with strong HSSE capabilities and performance record
- Implementation of effective HSSE communication
- Implementation of effective system for identifying and managing hazards and risks
- Ensuring the participation, commitment, and cooperation with all Subcontractors
- Monitoring HSSE performance including incident management, audits, and inspections
- Continuous enhancement of safety awareness of its personnel by doing regular safety training, meeting, and drill, etc.
- Regular review of the HSSE management system and updating of HSSE Plan to facilitate continual improvement on the HSSE management system.
- Provision of appropriate safety equipment and PPE

#### **4.6 Contractor HSSE Plan**

The Contractor shall develop project specific HSSE Plan to cover all contract phases from mobilization to demobilization and provide a clear indication of the strategies, standards, procedure, etc. to be adopted during each phase of the contract.

The HSSE Plan shall deliver following element, as a minimum

- HSSE policy, targets, and standards
- Applicable laws and regulations

- Risk associated with scope of activities and control and mitigation measures
- The organization structure with sufficient resources including positions for Project HSSE Manager and Coordinators
- HSSE responsibilities of Contractor key workers
- HSSE competency training program to manage HSSE risks
- Subcontractor HSSE capability assessment and management
- Emergency response plan
- HSSE activity program with specific schedule
- Incident reporting and investigation
- The interfaces between the Employer and Contractor/Subcontractors
- The availability of the critical procedures such as permit to work (PTW), emergency response plan (ERP), lock out and tag out (LOTO), etc. and controls to achieve the objectives of the contract.

The Contractor shall present to Employer the proposed HSSE Plan during kick off meeting for their endorsement prior to actual physical mobilization to worksite and/or work commencement at worksite.

The HSSE Plan is subject to Employer's review.

#### **4.7 HSSE Target & KPI**

The Contractor shall establish Project HSSE target which is to be achieved during the execution of project. The Contractor may refer the Employer's HSSE KPIs in Appendix 1 for consideration in developing HSSE KPIs.

#### **4.8 HSSE Budget**

The Contractor shall ensure that sufficient HSSE budget is allocated as per relevant local HSSE requirement, and it shall be only used for HSSE management purposes.

The Contractor shall record the budget spent per items and make it available for review by Employer when it is requested.

#### **4.9 HSSE Documentations**

The Contractor shall have a system to ensure that its HSSE related documents and records are identified, verified, available to the Employer upon request. The documents include but not limited to:

- HSSE applicable local laws and regulations
- HSSE management plan, policies, and procedure
- Risk assessment or JSA for the work
- HSSE organization and coverage plan
- HSSE training matrix

- Maintenance and inspection manual
- Audit and inspection program
- Incident report and HSSE performance statistics
- Emergency response plan and drill program
- Documented evidence for equipment and machineries used which includes fitness to service certificate, calibration certificate, third party inspection certificate, etc.

#### **4.10 Risk Management**

The Employer expects the Contractor to also fulfil this commitment and in so doing provide for the protection of people, property, reputation, and the environment. The Contractor shall undertake regular risk assessments to identify and control all foreseeable hazards to ALARP. The Employer may request the Contractor to provide the risk assessment for check if necessary.

The Contractor shall hold Risk Assessment workshop at appropriate stages in project lifecycle which shall be attended by the Employer, the Contractor, and relevant parties for coordination and HSSE risk management.

#### **4.11 Design Risk Assessment**

The Contractor shall submit Design Risk Assessment and design related HSSE information when the Contractor undertakes project related design work.

The Contractor shall identify all HSSE element on its design process and provide the details of design activities, HAZID, etc. and design risk assessment to identify the design related HSSE risks and eliminate/reduce the risks to ALARP.

The Contractor shall identify and establish the construction method during DRA process. Design review meeting and any other design related workshop such as HAZID will be conducted.

The Contractor shall conduct a Design Risk Assessment (DRA) / HAZID to identify all HSSE hazards in the design process. The Contractor shall then submit to the Employer for review, a document identifying the risk and suitable control measures. The Employer may, at any time, request revisions for the improvement to ensure all HSSE aspects are addressed.

The Contractor shall hold DRA / HAZID workshop at appropriate stages, which shall be attended by the Employer, the Contractor, and relevant parties for design coordination and HSSE risk management.

#### **4.12 Management of Change**

The Contractor shall ensure that risks associated with technical or procedural changes and their implementation are identified and managed effectively. It shall be implemented across all project phases and the changes can be introduced effectively.

#### **4.13 HSSE Observation**

The Contractor shall have HSSE observation program enabling workers to proactively identify and address hazards and risks at site which includes but is not limited to unsafe/safe condition and act. Therefore, it can proactively prevent incidents and injuries before they occur through the monitoring, trending, and management of HSSE data and reporting.

The Contractor shall ensure effective communication to workers, of the Trends identified during HSSE observation. The Contractor supervisor and HSSE workers shall consult with impacted workers to eliminate the hazards and the risks.

#### **4.14 Event Reporting, Investigation and Recording**

The Contractor shall notify the Employer of any incident which includes death, personal injuries, property damage, environment impact; grievances or complaints, outbreak of an infectious/contagious disease affecting any part of the provision of services, the existing Contractor facilities, and equipment.

Event notification format and/or email shall contain the following information as a minimum:

- Location of incident
- Date and Time of Incident
- Incident Categorization i.e. LTI, RWC, MTC, FAC, Property Damage, details of the complaints or grievance, etc.
- Short Description & Immediate action taken
- Medical emergency response action taken in case of personal injury

The Contractor shall investigate the incident and issue the incident investigation report accordingly. The Employer reserves the right to investigate further, as necessary.

#### **4.15 HSSE Training and Competency**

The Contractor is responsible for ensuring that their workers are fully trained, qualified, and certified to carry out the provision of service and shall furnish records of training when requested by the Employer.

The Contractor shall maintain procedures and records to ensure that new employees are familiarized with HSSE policies, procedure, practices, and site HSSE condition.

The Contractor shall identify individual HSSE training requirement and maintain the HSSE training matrix and keep the record after training.

The Contractor shall ensure that all relevant workers (e.g., crane driver, forklift driver, confined space entrants, first aider) have been trained and are competent before they are allowed to perform the

provision of services. These workers shall possess the competency certificate from authorized institution or certification body.

The Contractor shall provide Project HSSE induction to all workers with access to the Project site and have work responsibilities on the Project before commencing work and accessing the location. The objective of the induction is to provide all workers an understanding on:

- Employer and Contractor HSSE Policies
- Overview of work activities and general HSSE awareness at site
- Permit to Work and Risk Assessment processes
- Emergency response and evacuation process
- Incident management
- PPE standards
- Handling of hazardous materials and waste management
- Housekeeping and hygiene management rules
- Smoking policy
- Drug and alcohol policy
- Medical and first aid facilities
- Security
- Any other relevant information

#### **4.16 Subcontractor HSSE Management**

The Contractor might engage the Subcontractors for certain scopes of works. All Subcontractor appointments shall be notified to the Employer for review.

Where engaging Subcontractors, the Contractor shall review Subcontractor's HSSE capability to complete the works. Where the Subcontractor does not have a recognized HSSE management system that is compliant with local regulations (i.e., local to the Site where the Works are performed), it shall not be selected. The Contractor shall establish the Subcontractors' HSSE evaluation and selection procedure to ensure that only HSSE capable Subcontractors are selected after thorough evaluation of their HSSE capabilities and HSSE plans.

The Subcontractors are required to comply with the relevant HSSE regulations and the site-specific management plans of the Contractor. The Contractor shall ensure that all relevant HSSE standards contained or implied in the tender documents are fully communicated to any of its Subcontractors.

The Contractor shall ensure that roles, responsibilities, accountabilities, and interfaces in relation to HSSE are clearly defined and agreed with the Subcontractors.

In general, the Contractor shall limit the level of subcontracting to maximum 2 tiers.

The Contractor shall replace any Subcontractor who has failed to and continues to fail to perform their activities in accordance with the relevant HSSE regulation and standards.

The Employer may examine the construction capability of the Subcontractor and request the Contractor to change the Subcontractor should it is determined that the Subcontractor is significantly not suitable for the construction work in terms of HSSE capability.

#### **4.17 Emergency & Security Management**

The Project Emergency Response Plan (ERP) including applicable interfaces shall be developed for the overall Project, including areas of scope that may fall outside the Contractor's scope of work.

The Contractor shall develop a comprehensive Site Emergency Response Plan (ERP) for their facilities and the scope of work whether offshore or onshore and the Contractor's ERP shall be aligned to the Project ERP. The ERP shall cover the emergency situations and address the necessary requirement such as incident action plan for potential incident scenarios, required emergency response equipment and tool, emergency response communication protocol, emergency exercise and drill plan, management of an infectious/contagious disease outbreak, security breach, etc.

At all times during the performance of the provision of services, the Contractor shall take all necessary security measures and conduct all activities in a manner which shall minimize the risk of loss, theft, sabotage, damage by vandalism.

#### **4.18 Plant, Equipment and Materials**

The Contractor shall provide suitable plant, equipment, tools, and other such items as are required to provide the scope of services, in good working order and in compliance with the appropriate directives or regulations. Relevant certificates such as fitness certificates, calibration certificates and inspection certificates, etc. shall be provided to the Employer when it is requested.

The plant, equipment, and tools shall be maintained in an orderly fashion so as not to cause additional hazards during periods of non-use or low activity, inspected and, where required, tested at appropriate intervals (in line with relevant legislation/standards) to ensure that it is in good working order and remains fit for purpose.

HSSE critical equipment shall always be available in a serviceable condition for immediate use. Their details, maintenance, tests, and inspections shall be recorded and made available for check by the Employer at any time.

The Employer may check and monitor the HSSE preparation status of the key high-risk plant, equipment, or material (e.g., vessel) prior to use or work commencement, in cooperation with the Contractor.

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

PPE shall be required based on the national and local requirements and as a result of the Contractor's risk assessment. The Contractor shall, at its own expense, provide its workers with all PPE and clothing required at the location where the work is being performed.

The Contractor shall ensure appropriate PPE is worn based on the type of activity and location and the outcome of the Contractor's risk assessment. The Contractor shall ensure all personnel are trained in the proper use and limitation of the PPE provided.

#### **4.20 Environmental Management System & Plan.**

The Contractor shall implement an Environmental Management System (EMS) program in accordance with ISO14001:2004 that details the practices and procedures for effective management of environment during Project lifecycle.

The Contractor shall comply with all applicable acts, regulations, guidelines, etc. The Contractor shall take full cognizance of all environmental issues and comply with all acts and regulations relating to the environment. This shall include but not limited to avoiding proper discharge of effluent, dust control, emission control of noise, fumes and waste, toxic and other appropriate methods of disposal or discharge.

All works activities, including those of the Contractors, shall not commence unless the necessary consents and licenses have been obtained, and procedures are in place ensuring compliance with all rules, regulations, and guidelines as stipulated by MARPOL (for offshore projects) and other relevant legislation.

The Contractor shall prepare, submit, and maintain an Environmental Management Plan (EMP) where it is required by Employer. This EMP shall include, but is not limited to, the following elements:

- Environmental organization and responsibilities
- Environmental aspects and impact register
- Environmental risk register
- Environmental monitoring of protected habitats and species
- Noise, vibration, and light pollution
- Waste management
- Air pollution control
- Discharge to water and the marine environment
- Oil, chemical and fuels delivery, storage including list of chemicals and hazardous substances
- Contingency plan
- Training and awareness
- Performance monitoring, inspection, and audits

#### **4.21 Hazardous Substances Management**

The Contractor shall ensure supplied products do not contain any of banned chemical as per local regulation.

When hazardous substance is used at site, the Contractor shall ensure that quantity inventory and Material Safety Data Sheet (MSDS) written in local language for every hazardous substance are available at site. The Contractor shall ensure chemicals are labelled and use suitable container for safe handling and storage, including the use of chemical storage bund, where required.

The Contractor shall comply with all requirements written in MSDS and take appropriate measures to ensure all workers have reviewed and understood the MSDS HSSE controls to prevent incidents from occurring and to minimize the consequence of an event when it occurs.

#### **4.22 Health and Hygiene Management**

Where the Contractor and Subcontractor workers may be exposed to hazards to health, the Contractor shall ensure that suitable health risk assessments carried out. Where such assessments require pre-employment and/or special medical checks and/or ongoing health surveillance, the Contractor shall provide these.

The Contractor shall ensure that every substance, product, and material considered as hazardous by local regulation or international standards of reference is clearly identified, quantified, and known by all personnel.

The Contractor shall ensure that all workers maintain a high standard of hygiene at site. Proper hygiene facilities including toilet, washing and sanitary facilities shall be provided. The site shall be kept clean and always maintained with a high standard of housekeeping. Domestic wastes shall be disposed regularly in accordance with the relevant regulations.

#### **4.23 Stop Work Authority**

The Contractor shall suspend any part of the works performed under CONTRACT at any unsafe condition including adverse weather condition. In this event, the Contractor shall ensure to take all necessary measures to protect the safety of the Employer, the Contractor and Subcontractor workers, equipment, reputation, and worksite. The Contractor shall inform the Employer of their decision to suspend the work and the related reasons accordingly.

The Contractor shall also ensure that all workers have a right to stop work by their own judgement in case of unsafe condition and act.

The Employer reserves the right to stop work if unsafe conditions are not resolved and unsafe acts are not stopped by the Contractor. The suspension of the work shall be continued until the Contractor has satisfactorily rectified and improve such unsafe acts and conditions.

#### **4.24 Inexperienced Person Management**

The Contractor shall have HSSE program for managing inexperienced worker who is new to work location.

A designated experienced and skilled worker who is assigned to guide and oversee all activities performed by new worker at site is responsible to guide and mentor the new worker. Buddy system shall be always maintained.

The Contractor shall ensure new worker is easily distinguished by any means such as putting sticker on helmet and wearing coloured helmet, etc.

#### **4.25 Disease and Pandemic Management**

The Contractor shall ensure necessary barriers and precautions are put in place to mitigate the spread of the disease in case of the outbreaks of the infectious, contagious diseases and pandemic, etc.

The Contractor shall develop the systematic protocol to manage the risks from embarkation point at crew inbound at all areas and activities onboard such as mess room, offices, elevator, recreation room, crew change, TBM, mustering drill, etc. The Contractor shall also initiate specific Incident Action Plan (IAP) in case of the occurrence of suspected case onboard which might include putting person under infection on quarantine room, identifying close contact, sanitizing workstation and cabin room, etc.

#### **4.26 Fitness To Work**

The Contractor shall ensure that work shall not be allowed to commence before all personnel involved in the activity is assessed to be in a fit condition for start of the work.

The Contractor shall ensure that all workers are medically fit and healthy by conducting pre-employment medical examination as per relevant regulations. The Contractor shall maintain the medical examination record of workers.

The Contractor shall ensure that all workers involved in the work are medically, physically, and mentally fit to carry out the duties to which they are assigned. The Contractors shall remove the worker who is assessed to be not medically fit to work at site and travel to the location.

#### **4.27 Medical and First Aid Management**

The Contractor shall ensure to have medical facilities to be available at site for prompt attention to the injured person and consultation on occupational health. The Contractor shall provide first aid treatment for all site workers and provide an AED at site or a location where a first aid risk assessment has identified a need.

The Contractor shall train all first aid workers to use the AED equipment. Location drawing (site maps) highlighting the exact location of the AED shall be clearly visible in multiple areas across the site, and especially in welfare areas.

The Contractor is responsible for the presence of certified first aider on site.

If a worker is treated for a work-related injury at off-site facilities (hospital, clinic, etc.) then the Contractor shall bear the cost of treatment of any workers who do not have medical insurance.

#### **4.28 Welfare, Sanitation and Resting Facilities Management**

The welfare of workers is very important to the safe management of the Project and the wellbeing of all concerned. The Contractor shall ensure that suitable and sufficient welfare, resting, drinking and sanitation facilities are provided and monitored and maintained in a satisfactory condition throughout the Project lifecycle to ensure personnel take suitable and sufficient break to relieve physical and mental stress.

The installation and provision of these facilities shall be complied as per local regulation and relevant standards.

For offshore accommodation, the Contractor shall provide adequate welfare facilities as required by flag state, national and international maritime legislation.

This shall include sanitary and washing facilities, facilities for rest, food preparation, accommodation clothing storage and drinking water. This shall be fully provided prior to mobilization and to any works commencing at the location or work site. All facilities provided shall be maintained in good order and cleaned regularly.

Provision of office, messing and showering facilities shall be the responsibility of the Contractor.

### **5 SITE HSSE MANAGEMENT STANDARDS**

#### **5.1 Housekeeping**

The Contractor shall be responsible for maintaining the workplace is a clean, safe, and sanitary condition by performing housekeeping on a continual basis before / during / after work. Material and equipment also shall be arranged and stored in a safe and organized manner.

#### **5.2 Toolbox Meeting (TBM)**

The Contractor shall ensure that daily TBM shall be conducted before start of work which is to identify the risk associated with daily work activity with team member and share the established control plan to eliminate and mitigate the identified risk.

When new scope of work is commenced and/or there is a change on people, equipment, work process, etc. which may create new hazard, TBM shall be conducted again to ensure everyone who impacted by changes is understood on new hazard and its control measures.

#### **5.3 Permit To Work (PTW)**

The Contractor shall ensure suitable level of PTW management system is in place to cover high-risk work. The Contractor shall ensure that PTW process/procedure complies with applicable legislation requirements. Workers who involved in the PTW system shall be trained in the PTW process and follow the requirements.

The types of activities which to be covered by PTW are as following but not limited to:

- Hot work
- Painting work
- Scaffolding work
- Confined space entry
- Maintenance work
- Underwater work
- Control of hazardous energy
- Etc.

#### **5.4 Hot Work**

The Contractor shall ensure proper control is in place for managing hot work activities:

- Avoid hot work as far as reasonably practicable through safe design of the workplace, application of hierarchy of control, planning of work activities and selection of equipment
- Identify the need for any hot work related to the scope of their contract and provide evidence to the Employer of a safe system of work before mobilization to site
- Ensure all hot work within the scope of the CONTRACT is controlled by a Permit to Work
- Ensure that the Contractor's personnel are competent to conduct hot work and have appropriate training
- Ensure hot work is properly planned and supervised by a competent person
- Ensure hot work is suspended during refuelling and bunkering operation
- Ensure sparks and molten materials from hot work are adequately controlled by using a welding screen, fire blanket, firefighting equipment, and fire watch to prevent fire incident
- Ensure the hot work is conducted away from any ignition sources/flammable materials

#### **5.5 Confined Space Entry (CSE)**

The Contractor shall ensure confined space entry procedures are in place and its workers fully comply with the procedure. The Contractor shall take adequate precautions and mitigation measures which include, but not limited to gas/oxygen test by authorized gas tester (AGT), PPE standards, respiratory protection equipment (RPE), isolation of connections to confined space, provision of ventilation equipment and preparation of confined space for safe entry, stand-by person, availability of rescue equipment and emergency response team (ERT).

#### **5.6 Working at Height (WAH)**

The Contractor shall ensure all workers working at height more than 2m and/or at place where there is a risk of falling are wearing full body harness with twin lanyards and 100% tie off condition should be maintained while working at height.

Prior to commencing work, appropriate safety measures shall be taken by the Contractor based on the risk assessment so that working at height can be performed safely. The fall protection equipment shall be inspected prior to each use and tagged out of service if any faults detected. Risk assessment shall be taking into account for adverse weather condition. In adverse weather condition working at height might not be performed.

All persons working at height shall be trained and competent to do so including training in the use of fall protection and prevention equipment.

The Basic Safety Training (BST) training provided by the Global Wind Organization (GWO) shall be considered as minimum standards for all workers who will have access to foundation and WTG (Nacelle, Tower, etc.) at onshore and offshore windfarms.

## **5.7 Lifting**

All cranes supplied by the Contractor shall be certified and tested before going into service and witness by competent person. All associated lifting equipment shall be certified and inspected.

The Contractor shall inform the Employer and provide the lifting plan about upcoming non-routine heavy lifting operations. The definition of non-routine lifting is based on the Contractor's lifting procedure, but it generally conforms to the following factors:

- Use of two or more lifting appliances
- Li from one offshore vessel to another
- Non-standard rigging arrangement
- Lifting of man basket, etc.

A system shall be used to identify inspected lifting appliances. The Contractor is responsible for ensuring that a competent, authorized personnel operate any lifting device with designated signaller to provide signal to the operator as necessary to control the loads.

The Contractor shall ensure no worker enters under suspended load while lifting and tag lines shall be used to guide and control the loads. The Contractor shall also ensure that competent person and/or licensed third party inspects all associated lifting equipment and accessories on periodic basis as per regulatory requirement and keep the record.

## **5.8 Fire safety**

The Contractor shall provide smoke and fire detection at strategic locations, and in accordance with local area legislation/governance (such as project office, warehouses, and electrical room). to detect

fire. The detection system shall be always maintained in functional condition and trigger alarm to alert workers for immediate evacuation.

For fire prevention, the Contractor shall ensure:

- Smoking only at designated smoking area where clear warning signage is displayed
- Smoking shall be prohibited in areas where flammable liquids or materials are stored or in use.
- No open fire shall be allowed within the site without permit to work
- Place sufficient firefighting equipment at strategic location at office and site
- Personnel are trained in use of fire extinguisher
- Fire evacuation plan is displayed at strategic location and communicated to all personnel
- Take appropriate precaution to prevent any fire incident

## **5.9 Traffic Management**

The Contractor shall ensure traffic management plans related to the scope of the CONTRACT are developed and implemented prior to work commencing and continually updated to accommodate varying operations. The traffic management plan shall be reviewed by the Employer prior to the commencement of work.

This shall include as a minimum:

- Safe segregation of pedestrians
- Speed limitation
- Loading and unloading of materials and equipment
- Location of laydown areas
- Safe transport to and from the site
- Planned safe zones
- Safe management of traffic on site and at quaysides, yards and factories
- Communication on site including provision of radios
- Signing in and out procedure
- Supervision and provision of banksmen
- Permits required for travelling on major highways and roads, etc.
- Ensure delivery drivers receive a driver's induction prior to arrival on site with clear instruction on site rules, site access and the correct route to take on site
- Ensure delivery drivers can understand instruction given in English and local languages
- Ensure suitable and clear demarcation between traffic routes and equipment, trenches, drop offs and other obstacles.
- Ensure every driver secure seat belt while driving
- Maintain positive communication

- Prohibition of using mobile phones while driving

### **5.10 Transportation of Loads, Cargo, Equipment and Material**

The Contractor shall ensure equipment, materials, cargo, or loads are firmly immobilized and secured by structures of adequate strength.

The Contractor shall ensure only experienced and qualified workers are assigned to operate transportation equipment e.g., Self-propelled modular transporter (SPMT), to transport heavy and critical equipment and material e.g., WTG, tower, blade, nutshell, etc.

The Contractor shall ensure banksmen are assigned for the transportation and to control the people and vehicle on the route to ensure no one is on the line of fire.

### **5.11 Equipment Operation**

The equipment and vehicles driven or operated by the Contractor shall be trained, certified, and qualified operators in accordance with the manufacturer's specification, local legal requirements, etc. Documentation of operator certifications and qualifications shall be maintained and provided to the Employer prior to mobilization or use of equipment. The equipment and vehicles include as following, but not limited to:

- Forklift
- Cranes and other lifting equipment
- Trucks and trailer used to transport equipment
- Barges, boats, other marine equipment, etc.

### **5.12 Heat Illness Prevention**

The Contractor shall ensure to have heat illness prevention procedure on hot work and exposure to environment elements in summer. The Contractor shall keep monitor the temperature at site and take appropriate measures to eliminate and mitigate the risks. The measures may consider work stoppage, extension of break time, work rescheduling, etc.

The work stoppage threshold shall also be determined by the Employer and The Employer reserves the right to implement any work stoppages.

The Contractor shall keep readily available emergency and first aid equipment to treat heat related conditions and ailments immediately related symptoms.

### **5.13 Heat Loss Prevention**

The Contractor shall ensure that all workers are made aware of risk of frostbite and hypothermia. Procedure shall be in place for working in the cold including the provision of regular training, warm-up breaks, shelters, and suitable PPE.

### **5.14 Working On / Near / Over Water**

The Contractor shall ensure that its workers wear life jacket when working on, near and over water. The Contractor shall also provide sufficient number of life buoys permanently located at the areas where there is a risk of man-overboard. The life buoys shall be permanently attached to a retrieval rope.

Where the rescue of a person falling into the water may be difficult, the Contractor may provide the stand-by rescue boat with sufficient marine crew members to enable the rescue of a person from the water. The Contractor shall ensure that at least one (1) worker is trained and available at site during each shift to conduct first aid.

The Contractor shall also develop risk assessment and JSA for working on / near / over water where the potential for man-overboard incident exists.

### **5.15 Scaffolding**

When scaffolding is required, the Contractor shall appoint a competent scaffolding construction responsible person who shall be responsible for the erection, modification, dismantling and inspection of scaffolds and movable/tower scaffolds according to international standard and local regulations.

The Contractor shall ensure all scaffolding structures are inspected at a minimum, every seven days, or under exceptional circumstances (i.e., typhoon, damage to scaffolding structure) likely to jeopardize the safety of the structure, by a competent person. Inspection shall be documented, including photographs, and records kept.

Scaffolding erection, modification, or dismantling performed outdoors shall be immediately suspended if weather conditions compromise the control measures employed or increase the risk of a fall beyond that predicted at the risk assessment stage.

### **5.16 Excavation and Trenching**

The Contractor shall ensure access to those areas shall be limited, as far as is practicable, to only those persons required to remain in the vicinity. The Contractor shall ensure JSA is completed for the task and PTW is obtained.

The Contractor shall ensure:

- Risk assessment is undertaken to identify all potential risks and establish appropriate precaution to eliminate and reduce the risks
- Control to prevent collapse of a trench is in place and all sides of the trench are adequately supported by one or more of the controls including shoring by shielding, benching, and battering
- Safe means of access and egress is provided when persons are working in a trench or excavation.

- Proper lighting is in place
- Proper barricade or guardrail are provided to the location where there is a likelihood of a person falling
- Competent person examines the part of the site and determine it is safe
- Identify and take appropriate precaution on underground and overhead services such as supply of gas, water, sewerage, telecommunication, electricity, chemical, fuel, etc.
- Only competent and trained personnel shall undertake excavation and trenching activities
- Emergency rescue plan must be in place and have emergency recovery procedures that mitigate the hazards associated with entrapment, engulfment or loose material or water inrush.

### **5.17 Barricade**

The Contractor shall ensure that all opening, and other areas of danger arising because of work activities, have suitable and robust barricades erected with clear warning signages.

The Contractor is responsible for the erecting, maintenance, and enforcement of all necessary barriers in relation to the scope of the CONTRACT.

Any Contractor shall not create, move, or alter any barricades, screens, or notices unless authorized by the Contractor. The purpose of the barricade and the name of the relevant supervisor as may be designated by the Contractor from time to time shall be highlighted on prominent notices.

No one shall be allowed to pass the barricade without authorization from the relevant supervisor.

### **5.18 Rope Access Activity**

The Contractor shall ensure only trained and certified personnel conduct rope access activity. The workers shall have certificate accredited by internationally recognized rope access authorities.

For any rope access activity, the Contractor shall ensure to assign a minimum of two rope access technicians to a task. Additionally, there shall be a level 3 certified supervisor, as per internationally recognized rope access certification (such as IRATA – Industrial Rope Access Trade Association), who holds certifications in rope access, rigging, rescue, and first aid. This supervisor shall be capable of conducting rescue operations in the event of an incident occurring while personnel are suspended at height.

The tools and equipment for rope access shall be inspected before start of work and verified it is safe to use without any defect and substandard condition which includes rope access harness, back-up lanyard, wraps, carabiners, pulley, ascending and descending devices, tool lanyard, etc.

All required documents should be prepared, assessed, and reviewed which is minimum as following:

- Tool and equipment inspection sheet

- Rescue plan
- Risk assessment
- Job method statement

### **5.19 Drones**

Where the Contractor intends to use drones or unmanned aerial vehicles from the works, shall ensure that it is undertaken in accordance with relevant local regulations. Only competent persons shall operate the equipment which is well maintained and in a safe condition.

### **5.20 Electrical Work**

The Contractor shall ensure that all electrical work is carried out in accordance with applicable legislation and regulations. Only qualified workers shall undertake the work.

### **5.21 Work on High Voltage Systems**

It shall be a mandatory condition that all and any work carried out or proposed to be carried out on HV electrical systems or equipment shall be in accordance with the requirements of the Project HV Electrical Safety Rules and its subordinate procedures and safety documents.

Only individuals authorized under the relevant procedure shall work on HV systems or equipment.

All work on HV systems or equipment shall only be carried out under the specific conditions of an relevant HSSE document (e.g., Permit to Work, access limitation, Work Method Statement, JSA, etc.) as defined under the HV Electrical Safety Rules and relevant HV safe system of work by the Employer

The Contractor shall as a minimum comply with the following:

- Appoint personnel responsible for the execution of work on electrical installations/maintenance in writing after competency assessment
- Ensure and maintain different competence level and certification of each person working on HV installations
- Establish and maintain a program for periodic assessment and training of personnel working on HV installation/maintenance and establish and maintain safety rules and procedure for working at HV installations/maintenance in line with the training matrix
- Maintain training matrix including training need analysis, results shall be provided to the Employer upon request
- Regulate access to their designated work areas where ordinary persons are exposed to electrical hazards and take such measures so that only authorized persons can enter the work areas
- Develop a program for regular inspections and tracking/reporting

### **5.22 Manual Handling**

The Contractor shall take suitable steps to control the risks to the health and safety of their employees from manual handling activities such as lifting, lowering, pushing, pulling, or carrying. This can be done by either using handling aids or carry out the task in another way that does not require manual handling. For workers who conduct regular manual handling as part of their work scope a manual handling training is mandatory.

### **5.23 Illumination**

The Contractor shall ensure sufficient level of illumination is maintained at SITE to enable work to be done safely. When adequate illumination is not provided, the Work shall not be commenced. It shall be a part of Environmental Management Plan (EMP).

### **5.24 Ladder**

The Contractor shall avoid the use of ladder wherever possible. If ladders are to be used, they shall only be used for low risk and short duration work less than 30 minutes depending on the task.

When using a ladder, the Contractor shall follow detail precaution stipulated in relevant regulatory standards.

The Contractor shall ensure that workers shall not perform work from either of the top two rungs of a ladder, and buddy work always be maintained. The Contractor shall maintain three (3) point contacts at all times while ascending and descending ladder.

### **5.25 Radiography**

The Contractor shall obtain a PTW with radiation certificate for radiography work. The area shall be isolated by visible barricades, signages, warning lights etc. The notification for radiography activity with restricted area shall be shared with all relevant parties.

The Contractor shall employ only qualified Radiography Operators for the job. Properly calibrated radiation survey meters shall be made available.

### **5.26 Compressed Gas Cylinder & Vessel Under Pressure**

The Contractor shall ensure that compressed gas cylinders stored, or transported or used shall be in an upright position and properly secured by suitable means capable of supporting the weight of the cylinders.

The Contractor shall ensure that compressed gas cylinders are to always be transported with valve caps or other protection and to be regularly inspected for any leak and damage. It shall be stored at proper storage area with prominent signage and regular inspection to be done to identify any deficiencies. All deficiencies shall be corrected as soon as possible.

### **5.27 Dust and Fumes**

The Contractor shall take all precautions to control the emission of dust and fumes which could affect workers at site and public adjacent to site. Appropriate PPE such as dust mask shall be provided to workers at site.

The Contractor shall comply with all relevant local HSSE regulatory requirements regarding the protection of workers from construction dust. (e.g., respirable crystalline silica included in concrete/cement, etc.)

### **5.28 Lone Working**

The Contractor shall conduct a risk assessment for each case where a lone working situation occurs. Appropriate precaution shall be developed and provide close monitoring to ensure the safety of the workers.

Lone working is not permitted at any location at offshore. For working at offshore, minimum 2 technicians shall work together at any offshore location and during crew transfer as well.

### **5.29 Noise**

The Contractor shall ensure a procedure is in place to comply with the requirements of the applicable law regarding to noise control to prevent the risk to health and safety from exposure to noise at work and environment. The Contractor shall ensure individual ear protection is available at all times and provide adequate PPE in sufficient quantity in case of noise exposure.

It shall be a part of the Environmental Management Plan (EMP).

### **5.30 Diving**

It shall be a mandatory condition that all diving works are considered as a last resort option only. The Contractor is required to inform the Employer in writing if diving works become necessary. All proposed diving works shall be checked by the Employer prior to any diving work being planned.

Diving will only accept if no other option is suitably and sufficiently viable (for example an alternative method of working and/or a technical/mechanical solution). All diving works shall comply with relevant local regulation, recognized codes of practice such as ACOPs (e.g., ACOP L103) and IMCA D series documents (e.g., IMCA D 014). The following shall be available as a minimum for all diving operations:

- Suitable and sufficient documentation (diving plan, RAMS)
- Competent diving team (relevant qualification and experience)
- Appointed and competent diving supervisor
- Demonstration of compliance to diving regulations and standards
- Evidence of completed external audit (IMCA D 023)

### **5.31 Public Safety**

The Contractor shall take all necessary HSSE precautions to protect the public and minimize the disturbance and inconvenience to the public resulting from work. The Contractor shall also ensure that access to the Contractor's site and adjacent areas is controlled to ensure the public is not exposed to hazard present at site.

## **6 OFFSHORE HSSE STANDARDS (TO BE DEFINED FURTHER)**

When the Contractor needs to perform their scope of activities at the offshore Project location, the Contractor shall ensure to comply with the following requirement as minimum.

### **6.1 Vessel Requirement**

#### **6.1.1 Vessel Legislative Standards**

All Vessels chartered by the Contractor to carry out the works shall ensure that they comply with the legislation relevant to their size or class and shall include but not be limited to:

- International Convention For the Safety of Life at Sea (SOLAS);
- International Convention for the Prevention of Pollution from Ships (MARPOL);
- the Standards of Training Certification & Watch Keepers (STCW 95); AND
- the Merchant Shipping (Small Workboats and Pilot Boats) Regulation 1998

The Maritime Labour Convention must be adopted as appropriate and carried out as applicable. Additional or new updated standards introduced during the Project shall be implemented by the Contractor following consultation with the Employer.

Vessels shall comply with their flag state requirements and with all applicable merchant shipping legislation and marine law.

For all Vessels engaged by / on behalf of the Employer, the Contractor shall, as a minimum, meet the requirements of the Vessel code / class, for the operations on which they are deployed.

The owners of Vessels chartered by the Contractor shall inform the Employer of any renewals of key statutory requirements and class certificates that may impact on the contract or cause any downtime.

Copies of appropriate licenses shall be retained on Vessels and a copy deposited with the Employer.

#### **6.1.2 Vessel Inspection**

Vessels utilized for the work shall be fit for purpose and a minimum equipped with sufficient safety and life-saving equipment to meet applicable Vessel flag and national standards.

All Vessels carrying out work on behalf of the Employer shall undergo a Vessel inspection prior to Vessel being deployed to sea.

The inspection shall be based, as a minimum, on the following IMCA standards using the Common Marine Inspection Document for Small Workboats (IMCA M 189, IMCA S 004) and Common Marine Inspection Document (IMCA M 149).

Copies of all such Vessel inspections shall be submitted to the Employer for review prior to mobilization to the Project.

The Employer and/or appointed third party auditors shall undertake a Vessel HSSE audit as part of necessary process to evaluate and select HSSE capable contractor. The auditor shall issue a report to the Contractor, copied to the Employer to confirm the suitability of the Vessel for the task to be performed.

### **6.1.3 Vessel Employer's Standards**

The Contractor shall ensure that the Vessel master / captain used for the work shall maintain all safety certificates and ships documents. The Vessel shall be in a seaworthy condition and shall be in every way fit for the work purpose. All relevant certificates and ship documents shall be available on the Vessel.

### **6.1.4 Vessel Coordination and Communication**

The Vessel master / captain of each Vessel shall ensure that any accidents / incidents are reported to the Employer immediately and reported to the appropriate authorities within the legal timeline.

Each Vessel shall have a suitable and sufficient emergency plan in place to ensure the safety at all times of all persons onboard.

All communication shall be in English, including verbal communication. In case there is personnel who is not able to speak English proficiently there shall be proper arrangement for proper communication.

The Contractor shall ensure that all personnel engaged in the works who do not have adequate comprehension of the English language shall be supervised by a person who is able to communicate with them in a language they understand to work safely at all times and take instruction in the event of an emergency.

The Vessel master / captain shall ensure that effective communication and handovers take place during crew transfer, etc.

Each Vessel shall have the ability to maintain reliable communication with onshore, offshore and ship to shore, and if applicable have communications with other site users and any other applicable third parties.

### **6.1.5 Offshore Navigational Signals**

The Contractor shall be responsible for proper navigation signals for working sites inside the offshore construction site, wherever such beaconing is required. The signalling shall be in accordance with the directions from the maritime authorities and the requirements applicable and shall be advised to the Employer in advance.

Working vessels restricted in their ability to manoeuvre shall exhibit the correct navigation lights and shapes as prescribed in the Convention on the International Regulations for Preventing Collision at Sea (COLREGS).

#### **6.1.6 Sea Fastening and Storage of Materials**

Where storage is agreed, it shall be the responsibility of the Contractor to ensure that any such storage is equipped with proper navigational system in compliance with all regulatory requirements, and that the items stored are properly anchored and able to resist adverse hydrographical and meteorological conditions.

Project materials and equipment shall be stowed and secured onboard vessels and barges in accordance with recommendations from the Marine Warranty Surveyor (MWS), the vessel's stability book and cargo securing manual.

### **6.2 HSSE Training and Competency**

The Contractor shall ensure its personnel receive proper HSSE training in accordance with regulatory and industry requirement. Basically, the trainings provided by Global Wind Organization (GWO) shall be considered as minimum standards for all offshore windfarms. The minimum standard shall be applied to The Employer and the Contractor.

The Basic Safety Training (BST) provided by GWO is as below:

- GWO First Aid (Validity – 24 months)
- GWO Working at Heights (Validity – 24 months)
- GWO Fire Awareness (Validity – 24 months)
- GWO Manual Handling (Validity – 24 months)
- GWO Sea Survival (Validity – 24 months)

The training required for visitor is as below:

- GWO Wind Limited Access Training

Detail offshore HSSE training requirement will be defined and developed by Employer based on following elements:

- Types of activities
- Types of job position
- Level of access at offshore

### **6.2.1 Site HSSE Induction**

The Contractor shall develop Project site HSSE induction program and provided to all workers including the Employer, visitor who mobilized to offshore Project location. The objective of the induction is to provide all workers an understanding on:

- Employer, Contractor, and Project HSSE Policies
- Overview of work activities and general HSSE awareness at site
- Permit to Work and Risk Assessment/Job Safety Analysis
- Emergency response and evacuation process
- PPE standard
- Handling of hazardous materials and waste management
- Site prohibited items
- Housekeeping and hygiene management
- Smoking policy
- Medical and first aid facilities
- Any other relevant information

### **6.3 Fitness To Work (Offshore Only)**

The Contractor shall ensure that all employees working at offshore are medically, physically, and mentally fit to carry out the duties to which they are assigned. All employees are required to have STCW valid medical certificate (The required medical certificate to be define as per local regulation).

### **6.4 Travel and Crew Transfer at Sea**

The Contractor shall provide crew transfer vessel for inbound and outbound crews who transfers to/from the offshore Project location. Crew transfer vessel should be equipped with lifesaving equipment such as personal floating device (life jacket), life buoy, etc. which is managed in condition without any damage. All workers shall be trained in the correct use of floating devices and life jackets etc.

The operator of crew transfer vessel shall be qualified, experienced and competent and maintain proper communication protocol with onshore whenever it is necessary.

In case of crew transfer between crew transfer vessel and offshore Project location and/or accommodation vessel, all workers shall wear life vest and not bring personal luggage. The personal luggage shall be brought by lifting equipment such as a hoist, crane, etc.

The Contractor shall provide a safe means of personal transfer to offshore Project location and/or accommodation vessel and other vessel such as telescopic gangway, rigid transfer capsule, etc.

Crew transfer vessel shall be readily available and in position to crew transfer location at minimum 5 minutes earlier.

## **6.5 Helicopter Transport**

Use of helicopter by personnel shall be limited as much as possible. When the use of helicopter is required, the Contractor shall submit relevant plan with precaution for review.

## **6.6 Offshore Transfer**

The Contractor shall always ensure that personnel wear life jackets during any transfers occurred at offshore. Further detail precautions will be defined further.

## **6.7 Emergency Response**

The Contractor shall be responsible for organizing and managing any emergency response of their and their Subcontractor's workers onboard any of offshore vessel at offshore Project location. The Contractor shall provide Helicopter services for MEDEVAC up to medical care provider.

## **7 HSSE AUDIT AND INSPECTION**

Prior to commencement of works, the Contractor is required to inspect the worksite and equipment involved to ensure that works will be performed under safe conditions. In addition, the Contractor shall maintain and perform continuous HSSE inspection throughout the works and shall implement all recommendations made pursuant to the audit and inspection.

The Contractor shall conduct HSSE inspection in accordance with regulatory requirements as minimum.

The Employer shall have the right to conduct its own HSSE audit and inspection at worksite. The Contractor shall comply with all recommendations arising from the audit and inspection.

### **7.1.1 Pre-Qualification HSSE Audit**

When pre-qualifying new or unknown Contractors, the Contractor's existing sites shall be audited to verify that he is achieving the HSSE standards proposed for the contract before Contractor selection.

### **7.1.2 HSSE Inspection**

The Contractor and Subcontractor's supervisors shall conduct regular HSSE surveillance to ensure work area safety, PTW implementation compliance, and HSSE compliance by personnel at site. Any concerns identified shall be immediately brought to the attention of the Contractor and Subcontractor's workers for appropriate action.

### **7.1.3 HSSE Readiness Review Audit**

The Contractor shall ensure all HSSE preparedness is ready in accordance with the HSSE Plan prior to work commencement at worksite. The Employer may conduct HSSE readiness review to check the HSSE status of the preparedness by the Contractor. The Contractor shall cooperate and follow with the recommendations identified during the review for improvement.

#### **7.1.4 HSSE Audit during Work Execution**

The compliance with HSSE requirement will be periodically checked and audited. The range of audit program will be varied based on the Contractor's scope of work.

### **8 HSSE PERFORMANCE REPORT**

The Contractor shall submit a formal report to the Employer which summarizes its HSSE performance in the preceding reporting period. This report shall detail the overview of the activities of the relevant week and month. Reporting format and its content shall be developed in consultation with the Employer.

The Contractor shall identify and document a LTIR formula for the Project. This LTIR formula shall be based on accidents with lost time of one (1) day, or one (1) shift and is calculated on the man hours (200,000), i.e.,  $LTIR = \text{Number of LTI} \times 200,000 / \text{Total hours worked during period}$

The frequency of the HSSE performance reporting shall be on monthly basis.

The report should also include incident description, root cause analysis and corrective actions taken for the following incidents:

#### **8.1.1 Monthly HSSE Report**

- HSSE incidents (HSSE lagging indicator)
- HSSE activities conducted (HSSE leading indicator)
- Manhour worked
- HSSE activities with photo
- Current month activities
- Next month activities

The Employer may request the Contractor to provide other HSSE records and report that show HSSE performance and reporting frequency, if necessary.

### **9 HSSE CONSEQUENCE MANAGEMENT**

The Contractor shall develop and implement Consequence Management Scheme for any HSSE non-compliance against HSSE policies, procedures, and other requirements.

In case of HSSE non-compliance committed by any personnel which has been verified by management of the Contractor, consequence management shall be applied to those personnel. The example is as below:

- i. 1<sup>st</sup> Offence – Verbal Warning
- ii. 2<sup>nd</sup> Offence – Written Warning
- iii. 3<sup>rd</sup> Offence – Removal of those personnel from PROJECT

Examples of minimum HSSE non-compliance is as following but not limited to:

- PTW non-compliance (working without PTW)
- Energy isolation non-compliance (working without lock out tag out)
- Working in confined space without PTW and safety precautions
- Working at height without fall protection
- Chemical handling without appropriate PPE
- Smoking at not designated smoking area
- Working without appropriate PPE
- Worker positioned under suspended load during crane operation
- Etc.

## 10 CONTRACTOR'S MINIMUM EXPECTED HSSE DELIVERABLES

The Contractor shall submit the HSSE documents according to the timing of delivery. The list of deliverables and timeline could be adjusted considering Contractor's scope of work.

Documentations	Timing of Delivery (Prior to Commencement of Work)
HSSE documentations requested in HSSE Questionnaire for HSSE evaluation process	During tendering
HSSE Plan	12 weeks and upon each revision
HSSE Objective and Target	
Emergency Response Plan (ERP)	
Emergency Response Cooperation Plan (ERCoP) – Offshore only	
Project HSSE Organization and coverage plan	
Environmental Management Plan (EMP)	
Traffic Management Plan	8 weeks and upon each revision
Lifting Schedule	
HSSE Training Matrix	
Project Risk Assessment	
Project HSSE Assurance Program	
Project HSSE Induction Program	
HSSE Close Out Report	

Other HSSE documentations stipulated in Contract	In accordance with Contract
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## **11 CONTRACT EXECUTION PHASE**

### **11.1 Kick Off Meeting**

A kick-off meeting shall be held with the Contractor immediately after contract award and before mobilization or execution of any work. The kick-off meeting should include the key personnel of both the Employer and the Contractor.

The meeting shall focus on the activities/deliverables in the HSSE Plan and address the following:

- Confirmation that the Contractor's supervisors and workforce are aware of the hazards and the major risk controls and mitigation of the facility
- Distribution and explanation of the Employer HSSE policy statement, HSSE requirement and expectations.
- Confirmation that Contractor's supervisor and workforce are familiar with HSSE procedures, rules, and regulation
- Confirmation of HSSE organization inclusive of Project HSSE manning
- Confirmation of HSSE performance objective, the key indicator, and targets
- Confirmation of the scope and schedule of activities and milestones
- Confirmation of emergency response plan
- Incident reporting and investigation procedure
- Briefing of Subcontractors on HSSE plans and standards
- Confirmation of HSSE induction and training plan

### **11.2 Mobilization & Execution**

The Contractor shall communicate the HSSE Plan and any other significant HSSE aspects of the Contract to all workers involved in the scope of work.

The Employer may begin HSSE monitoring, inspection and assurance on the Contractor's activities to ensure the Contractors HSSE Plan is being implemented.

The Contractor shall ensure the direct responsibility for site HSSE management, supervision, and compliance with HSSE requirement.

The Contractor shall ensure following as minimum:

- The Contractor shall ensure that the organization and resources met with the requirement mentioned in the HSSE Plan as agreed during Kick off Meeting
- The Contractor shall conduct worksite survey to assess worksite condition to identify hazards and to optimize the lay-out of equipment and premises

- The Contractor shall ensure that HSSE Policy is prominently displayed at the worksite
- The Contractor shall identify any potential HSSE impacts related to the activities and establish proper mitigation measures
- The Contractor shall ensure site emergency plans are update and available
- The Contractor shall ensure personnel employed on the worksite shall be medically fit to work. Medical fitness certificates issued by a recognized authority shall be made available to the Employer upon request
- The Contractor shall ensure that at least one certified first aider is on site at all times
- The Contractor shall ensure that site medical facilities is available at site to ensure effective first aid, medical assistance and response
- The Contractor shall ensure every personnel working and entering on Project location attend Project HSSE induction
- The Contractor shall ensure every personnel working on worksite wear mandatory PPEs and additional PPE based on the types of work
- The Contractor shall ensure that all relevant information regarding HSSE aspects of the worksite is properly communicated to all personnel
- The Contractor shall ensure that permit to work system has been established and operated for high risky activities and that these works are assigned to competent personnel only.
- The Contractor shall ensure that all waste generated from the worksite and the work shall be properly managed, stored and disposed. The disposal of the waste shall comply with applicable laws, regulation and HSSE Standards. The Contractor shall keep detailed record of waste generation and disposal.

## 12 SPECIAL PROVISION

Except as otherwise permitted in the contract or as otherwise approved by the Employer, the Contractor shall not, and shall not allow its subcontractor to, subcontract any of the works to a person or entity who engages in the construcion business ("*Kensetsu Gyo*") without hiring any workers (including cases where the total number of days workers employed by such person or entity is less than 100 days per year).

## APPENDIX 1: EMPLOYER HSSE KEY PERFORMANCE INDICATORS

Terms	Definition
<b>Manhours</b>	
<b>Hours Worked</b>	Total Manhours for DIRECT-HIRED Employees of the Employer including permanent and on temporary/probationary employment basis
<b>Hours Worked (Contractor)</b>	Total Manhours for Contractors including consultants, Subcontractors and other third-party worker
<b>Event / Incidents</b>	
<b>Near Miss</b>	Incident where no injury or illness or major property damage occurs but where, given a slight shift in time or position, damage and/or injury easily could have occurred
<b>Environment Incident</b>	Any incident resulting in environment damage such as oil spill into sea
<b>Property / Equipment Damage Incident</b>	Any major damage on properties or equipment on site that may affect or disrupt site activities or site operations
<b>First Aid Case (FAC)</b>	Any single treatment and subsequent observation of minor scratches, cuts, burns, splinters etc. that do not normally require medical care by a physician. Such treatment and observation are considered First Aid even if provided a physician or registered professional person
<b>Recordable Injuries</b>	Sum of FAT + LTI + MTC Recordable injury or cases are injuries resulting to any of the following: <ul style="list-style-type: none"> <li>Any work-related fatality</li> <li>Any work-related injury that results in loss of consciousness, days away from work, restricted work, or transfer to another job</li> <li>Any work-related injury requiring medical treatment beyond first aid</li> <li>Any work-related fractured or cracked bones or teeth, and punctured eardrums</li> </ul>
<b>Recordable Injury Rate</b>	No. of Recordable Injuries x 200,000 / Total Manhours
<b>Recordable Illness</b>	Recordable illnesses are those resulting to any of the following: <ul style="list-style-type: none"> <li>Any work-related fatality</li> <li>Any work-related injury that results in loss of consciousness, days away from work, restricted work, or transfer to another job</li> <li>Any work-related injury requiring medical treatment beyond first aid</li> <li>Any work-related diagnosed case of cancer or chronic irreversible diseases</li> </ul>
<b>Recordable Illness Rate</b>	No. of Recordable Illness x 200,000 / Total Manhours
<b>Lost Time Incident (LTI)</b>	Work related injury or illness that rendered the injured person unable to perform any of their duties or return to work on a scheduled work shift, on any day of following three days of the incident
<b>Lost Time Incident Rate (LTIR)</b>	No. of Lost Time Incident x 200,000 / Total Manhours

<b>Fatality</b>	A death resulting from a 'work related' injury or occupational illness, regardless of the time intervening between incident causing the injury or exposure or causing illness and death
<b>HSE Training</b> <i>(HSE Training Formula = Duration in Hours x No. of Attendees)</i>	
<b>Toolbox Meeting</b>	Safety talk done prior to execution of the work activities; primarily to provide HSSE reminders and communicating the major hazards. Use the formula provided above
<b>HSE Meeting</b>	HSE committee meeting, special/emergency meeting, etc.
<b>Internal Safety Induction</b>	Training provided to new staff / new job role or refresher course for existing employees/workers.
<b>Internal Mock Drills Conducted</b>	Safety, Emergency (Fire, Evacuation) and BCP drill
<b>External Safety Training</b>	External first-aid, firefighting, working at height & rescue, job specific safety training
<b>Internal Safety Training and Workshop</b>	Internal risk management, event management, job specific safety training and other IMS related training.
<b>HSE Regulatory Training Hours Completed</b>	Total number of actual hours of completed HSE training for all or specific employees required by law or regulation for the current period. Use the formula provided above
<b>Internal HSE Training Completed</b>	Total number of other training hours completed for all employees required by the asset for the current period
<b>HSE Site Audits / Inspection</b>	
<b>Safety Audits / Inspection / Reviews</b>	Performed either internally or by a third-party provider
<b>Regulatory Findings</b>	Number of audit findings or non-conformances identified during HSE audit conducted by either internally or a third-party consultant
<b>Findings closed on time</b>	Number of Regulatory Findings closed on time; asset defines what is on time
<b>Findings closed past due</b>	Number of Regulatory Findings past the defined deadline
<b>Open findings, past due date</b>	Number of Regulatory Findings remaining open, past the defined deadline
<b>Open Findings not yet due</b>	Number of Regulatory Findings remaining open but not yet past the defined deadline
<b>Government / Regulatory Inspections</b>	
<b>Government / Regulatory Inspections</b>	Number of visits from environmental, health or safety authorities from the local, state or federal government
<b>Air / Water Permit Exceedances</b>	Number of exceedances YTD of any air, water, wastewater, storm water permit condition or requirement as detailed in any permit or license issued by an environmental agency or authority
<b>Spills Reported to the Regulatory Authority</b>	Number of release or spills to the air, soil, or water required to be reported to any government authority or agency
<b>HSE Warnings</b>	Any notices received in writing from any regulatory authority
<b>Agency Notice of Non-Compliance</b>	Number of any notices of non-compliance received in writing from any regulatory
<b>Fines Assessed / Paid in Local Currency</b>	The amount in local currency of any fines or penalties assessed or paid
<b>HSE Awards</b>	

<b>External HSE Awards or Recognition</b>	If any, please provide the details on HSE Awards/Recognition given by external parties such as government and private organizations
<b>Internal HSE Awards or Recognition</b>	If any, please provide the details on HSE Awards/Recognition given to individual or team of employees/workers for outstanding HSE behavior and/or showing a continual commitment to and promoting the VE HSE culture
<b>Waste Generation</b>	
<b>Non-Hazardous Waste Generated</b>	Metric tonnes of non-hazardous waste generated as a result of operations
<b>Recovery/Reuse/Recycled (non-hazardous)</b>	Metric tonnes of recovered, reused, or recycled non-hazardous wastes
<b>Hazardous Waste Generated</b>	Metric tonnes of hazardous waste generated as a result of operations
<b>Recovery/Reuse/Recycled (hazardous)</b>	Metric tonnes of recovered, reused, or recycled hazardous wastes
<b>Fuel Consumption</b>	
<b>Gasoline in liters</b>	Liters of fuel used by any equipment and/or vehicles taken from the fuel bill(s)
<b>Diesel in liters</b>	
<b>Gasoline in Wh</b>	Gasoline in Wh = Gasoline in Liters x 9,100
<b>Diesel in Wh</b>	Diesel in Wh = Diesel in Liters x 10,000
<b>Gasoline in kg CO<sub>2</sub>eq</b>	Gasoline in kg CO <sub>2</sub> eq = Gasoline in Liters x 2.348
<b>Diesel in kg CO<sub>2</sub>eq</b>	Diesel in kg CO <sub>2</sub> eq = Diesel in Liters x 2.689
<b>Water and Energy Use</b>	
<b>Energy Usage (Electricity Use)</b>	Total electricity consumed in the office or site as supplied by a power company or utility. Data can be taken from electric meter or electricity bill. Note: If there is no electric meter or not billed separately and part of the space rental charges then no need to report.
<b>Water Use</b>	Total amount of water used for potable (drinking) and processes (cleaning/maintenance, mixing solutions, sanitation, etc.) Sources can be from a water company or on-site groundwater well. Data taken from water meter or water bill. Note: If there is no water meter or not billed separately and part of the space rental charges then no need to report.
<b>Workers' Feedback</b>	
<b>Suggestions Received</b>	Total number of suggestions, recommendations, or feedback from workers
<b>Initiative Implemented</b>	Total number of suggestions, recommendations, or feedback from workers that were implemented
<b>Security</b>	
<b>Theft/Robbery Incident</b>	Number of theft/robbery incident includes both company & personal properties
<b>Intrusion Incident</b>	Number of intrusion incident which may include trespassing or authorized entry, hacking
<b>Armed Attack</b>	Any form of attack to company properties and personnel using firearms This includes raids by insurgents, organized crime group, individual (lone wolf scenario)

<b>Indiscriminate firing or illegal use of firearms</b>	All incidents involving unauthorized use of firearms committed by security service providers.
<b>Physical or Verbal Abuse/Incident</b>	Number of actual physical or verbal abuse incident
<b>CCTV related Security Incident</b>	Unauthorized access, disclosure, manipulation and tampering of CCTV recording
<b>Kidnap for Ransom (KFR) Incident</b>	Any unauthorized act by third party Contractor (public or private security) in relation to Corporate Security Policy
<b>Violation of Security and Human Right</b>	Unlawful Acts includes harassment to community, torture, physical injuries, abuse of power, and most especially acts against or in violation of human rights
<b>Drills and Training</b>	Number of hours of security drills and training conducted
<b>Unsafe Act Observation</b>	
<b>Human Error</b>	Human Errors are unintentional behaviors, e.g., inappropriate procedure
<b>Acts of Violation</b>	Acts of Violation are a willful disregard of the rules and regulations, e.g., even after a reminder on PPE use was given, a worker still executed a work with no or inadequate PPE
<b>Unsafe Condition Observations</b>	
<b>Biological</b>	Biological Unsafe Conditions include potential contact(s) with viruses, bacteria, insects, animals, etc., that can cause adverse health impacts. For example, molds, blood and other bodily fluids, harmful plants, sewage, dust, COVID-19 virus, and vermin.
<b>Chemical</b>	Chemical Unsafe Conditions include potential contact with hazardous substances that can cause harm. These hazards can result in both health and physical impacts, such as skin irritation, respiratory system irritation, blindness, corrosion, and explosions.
<b>Physical</b>	Physical Unsafe Conditions include potential contact with environmental factors that can harm an employee or worker without necessarily touching them, including heights, noise, radiation, temperature, and pressure. Also, physical hazards that create unsafe working conditions. For example, exposed wires or a damaged carpet might result in a tripping hazard.
<b>Ergonomic</b>	Ergonomic Unsafe Conditions include potential hazards as a result of physical factors that can cause musculoskeletal injuries. For example, a poor workstation setup in an office, poor posture, and manual handling.
<b>Psychosocial</b>	Psychosocial Unsafe Conditions include potential hazards that can have an adverse effect on an employee's mental health or wellbeing. For example, sexual harassment, victimization, stress, and workplace violence.
<b>Safe Act</b>	
<b>Safe Act</b>	<p>Acts that include:</p> <ul style="list-style-type: none"> <li>• Issuance of Stop Work Authority</li> <li>• Implementation and/or Closure of Corrective/Preventive Action</li> <li>• Reporting a new hazard (not yet included in the risk register)</li> <li>• Issuing safety reminders to co-workers such as wearing of proper PPE, proper use of tools/equipment, etc.</li> <li>• Providing immediate emergency action such as applying first aid to an injured worker, notification of emergency</li> </ul>

	<p>services, etc.</p> <ul style="list-style-type: none"><li>• Prompt reporting of unsafe acts or unsafe conditions</li><li>• Providing HSSE suggestions especially for continuous improvement</li></ul>
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