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Reference Standards

ISO14001:2015 & ISO45001:2018

Clause 8.1: Operational Planning and Control.
Clause 8.3: Outsourcing.
Clause 8.4: Procurement.
Clause 8.5: Contractors.
Clause 8.2/8.6: Emergency Preparedness and Response.

OHSAS18001:2007

Clause 4.4.6: Operational Control.
Clause 4.4.7: Emergency Preparedness and Response.

This Section's Objectives

- Establish & enable HSE MS processes related to pollution and accident prevention and control how they operate
- Establish & enable Emergency Preparedness and Response processes

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Associated Documents

- Cold Work Permit
- Sour/Hot Work Permit
- Electrical Work Permit
- Confined Space/Vessel Entry Work Permit
- Radiography Work Permit
- Excavation & Civil Work Permit
- Working at Height Permit
- Vehicle Entry Permit
- Lock-out Tag-out (LOTO) Sheet
- Power Isolation Slip
- Permit Log
- Onsite Waste Management Plan
- Section Waste Register
- Waste Consignment Note
- Waste Disposal Log
- Operational Controls – Plans; Procedures
- Operational Controls – Work Instructions
- Operational Controls – Inspection and Maintenance Programs
- Operational Controls – Calibration Plans

Applicable Documents

- PPE Matrix (Unit Level)
- OGDCL Safety Handbook For Oil & Gas Exploration Leases (Seismic Surveys)
- OGDCL Safety Handbook For Oil & Gas Well Drilling and Servicing Operations
- OGDCL Safety Handbook For Oil & Gas Development and Production Leases
- HSE Pledge Handbook For Contractors & Service Companies





7.1 Operational Planning and Control
OGM/P-HSE-7.1(06) Revision Number 6

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Change/ Revision Log

#	Description of Change
1	Added: Life cycle perspective of has been considered in the establishment of operational controls in line with impact control hierarchy and communication (information) to mitigate impacts.
2	Added: Factors have been considered while determining the type and extent of operational controls related to external providers, including contractors and service companies.

Associated Documents Approval & Issue

Related Document/ Record	Initiated by	Reviewed by	Approved by
Operational Control Procedures	Concerned Section IC	Location IC	Area Manager/ Concerned GM
Operational Control Work Instructions	Concerned Section Rep.	Concerned Section IC	Location IC
Operational Control Maintenance Plans	Concerned Section IC	Location IC	Area Manager/ Concerned GM
Operational Control Calibration Plans	Concerned Section Rep.	Concerned Section IC	Location IC

- Consistent with a life cycle perspective, the management shall:
 - apply impact control hierarchy with the aid of any tool like Layers Of Protection Analysis (LOPA) for assessing the “adequacy of protection layers”. The methodology helps to identify safeguards that meet the Independent Protection Layer (IPL) criteria,
 - establish controls as appropriate to ensure that its HSE requirement(s) are addressed in the design, processes, production, and dispatch of the products, considering each stage of its life cycle;
 - determine its HSE requirement(s) for the procurement of material, equipment and services as appropriate;
 - communicate its relevant HSE requirement(s) to external providers, including contractors and service companies;
 - consider the need to provide information about potential significant HSE impacts associated with the transportation or dispatch, use, end-of-life treatment and final disposal of materials, equipment, and products.

When a process is outsourced, or when services are supplied by (an) external provider(s), the management's ability to exert control or influence may vary from direct control to limited or no influence. When determining the type and extent of operational controls related to external providers, including contractors and service companies, the management shall consider one or more factors such as vulnerabilities, threats & opportunities and associated impacts related to the outsourced process or services and the compliance obligations. Subsequently the operational controls can be agreed upon during the signing of contract / agreement.

The documented information to the extent necessary to have confidence that the processes have been carried out as planned shall be maintained as follows:-

Coverage & Scope →	Handling, Segregation and Disposal of Waste	Permit to Work System	Emergency Preparedness & Response	Specific SOPs (Pre-Startup, Shutdown, etc.)	*Specific Work Instructions	Specific Maintenance Programs (In-house)	Specific Calibration Plans (External)
↓ Job/ Activity							

Main Functions

Specific Seismic Job, Drilling Activity, Production Activity, Process/ Sub-Process	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Corollary Functions/ Activities

Chemical (Material) Handling	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--	--
Excavation Work	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--	--
Working in Confined Space	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--	--
Work At Height	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--	--
Explosives Handling	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--	--
Controls for Mechanical Integrity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Noise/ Vibration Controls	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Lifting and Hoisting Controls	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Electrical & Instrumentation Controls	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Power Management	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Water Management	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--
Energy (Emissions/Flare/Vent) Mgt.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Effluents Management	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--
Journey Management	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--	--

- SOPs** shall be established by all Sections/ Departments where their absence could lead to deviation from HSE policy, objectives, or targets; or could cause significant HSE impact.
- Work Instructions** shall be established by all Sections/ Departments to stipulate the operational criteria for carrying out operations having significant HSE aspects and impacts.
- Maintenance Programs** shall be developed by concerned Sections/ Departments and implemented for equipment, machines and systems to ensure smooth, safe, energy-efficient and reliable operations.



- ▢ **Calibration Plans** shall be developed by concerned Sections/ Departments and implemented for equipment, machines and systems associated with significant HSE aspects and impacts (& emergencies).
- ▢ It is noteworthy to mention that every person engaged in the operations and every other person who may be exposed to the risk of injury, poisoning or disease arising from the operations should be provided with appropriate **Personal Protective Equipment (PPE)**; No person should be allowed to work in a field boundary unless he is wearing a suitable coverall, safety helmet, and safety shoes which should be provided by the Location Management.



7.2 Permit to Work (PTW) System
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Change/ Revision Log

#	Description of Change
1	Nil

Associated Documents Approval & Issue

Related Document/ Record	Initiated by	Reviewed by	Checked/ Verified / Approved by
OGF – HSE – 019 Cold Work Permit	Issuing Authority	Receiving Authority, Job Performer	Receiving Authority
OGF – HSE – 020 Hot / Sour Jobs Work Permit	Issuing Authority	Receiving Authority, HSE, Job Performer	Receiving Authority
OGF – HSE – 021 Electrical Work Permit	Issuing Authority	Receiving Authority, Job Performer	Receiving Authority
OGF – HSE – 022 Confined Space / Vessel Entry Work Permit	Issuing Authority	Receiving Authority, HSE, Job Performer	Receiving Authority
OGF – HSE – 023 Radiography Work Permit	Issuing Authority	Receiving Authority, Job Performer	Receiving Authority
OGF – HSE – 024 Excavation & Civil works Work Permit	Issuing Authority	Receiving Authority, Job Performer	Receiving Authority
OGF – HSE – 025 Work at Height Work Permit	Issuing Authority	Receiving Authority, HSE, Job Performer	Receiving Authority
OGF – HSE – 026 Vehicle Entry Permit	Section / Department Rep.	IC Shift	Location IC
OGF – HSE – 027 Lock-out Tag-out (LOTO) Record	Electrical	Electrical	Electrical
OGF – HSE – 028 Power Isolation Slip	IC Shift	IC Shift	IC Shift
OGF – HSE – 029 Work Permit Log	Issuing Authority	Issuing Authority	Issuing Authority

7.2.1 General

- PTW System shall provide a system for the control of potentially hazardous jobs in order to ensure that various types of maintenance and inspection work are carried out in a safe manner and without impacts to the personnel and equipment.
- PTW System shall ensure proper understanding of the details of the job to be performed, vulnerabilities involved and various precautionary measures to be taken, before commencing the job, during the execution of the job and on the completion of the job.
- PTW System shall be applicable to all types of maintenance, repairs, modifications, construction, dismantling or radiography work carried out by the employees of the company as well as by any contractors and service companies.

7.2.2 Types of Work Permits

- Following types of work permits shall generally be in use;

Permit	Background Colour
Cold Work Permit	Blue Colour
Sour/Hot Work permit	Red Colour
Electrical Work Permit	Green Colour
Confined Space/Vessel Entry Work Permit	Grey Colour
Radiography Work Permit	Yellow Colour
Excavation & Civil Work Permit	Brown Colour
Working at Height Permit	Pink Colour
Vehicle Entry Permit	Purple Colour

7.2.3 Role of Permit Issuing Authority & Receiving Authority

- Concerned Dept. Head / Location IC in consultation with Location HSE Representative will decide the nominees suitable for issuing and receiving work permits on the basis of training, skills, roles/ responsibilities and a comprehensive evaluation of individuals' competency and understanding of workplace. The authorization of various types of permits to be decided after evaluation by the concerned Dept. Head / Location IC and Location HSE Representative.
- A consolidated "List of Authorized Permit Issuing Authorities and Receiving Authorities" for various types of permits (duly signed by Location IC) shall be maintained by Location HSE Section.
- Before issuing the work permit, Issuing Authority will:
 - Ensures that the scope of work is clearly defined.
 - Determine the type(s) of permit(s) to be issued relevant to task.
 - Ensure fulfillment of mandatory requirement of job hazard analysis.
 - Physically inspect or delegate any competent person (in situation where his present responsibility does not allow leaving office) for inspection of site along with permit receiver to evaluate the physical conditions and control measures.
 - Discuss mutually with the Receiving Authority on vulnerabilities involved in carrying out proposed activity and other activities in parallel in the area / close vicinity.
 - Ensure that the necessary tags, lockouts, isolation procedure are fully implemented as required.
- The Receiving Authority will:
 - Carryout impact assessment for the identification of impacts associated in proposed activity and that control measures are adequately implemented and recorded.
 - Ensure that the trained and experienced personnel perform the task.
 - Communicate the existing vulnerabilities involved in proposed activity to all concerned staff in safe accomplishment of activity.
 - Ensure that all workers for this particular job understand the safe procedure for carrying out the job.

- Ensure that the work site is left in safe condition upon completion of work. Carryout all housekeeping prior to handing over the site / permit closure.
- ☞ In case the activity is performed by the Contractor or Service Company, then he will:
 - Ensure that his representative at Location understands the PTW requirements.
 - Ensure that formal job hazard analysis has been completed with assistance from OGDCL representative.
 - Provide appropriate training to his staff on safe execution of work and that mandatory PPE are fully enforced at worksite.
 - Act as Issuing Authority where long-term construction/ project activities are planned.
- ☞ No maintenance, repairs, modifications, excavation, construction, radiography or confined space entry shall be carried out without a valid work permit by the employees of the company or by any contractors and service companies.
- ☞ If during the course of its work, a confined space is encountered that has not been previously identified, the space must be immediately brought to the attention of the HSE representative, and entry to be delayed until HSE representative has examined the space.
- ☞ Where applicable, locks and tags (standardized) shall be used to control the start-up of equipment that is being serviced or maintained. At no time any locks or tags to be overridden that are encountered during the performance of work.

7.2.4 Hierarchy Of Controls & Types Of Lock Out / Tag Out Devices

- ☞ The hierarchy of controls & types of lock out/ tag out devices is given below:

Type of control	Device type	Comments
Engineering	Physical Restraint Devices	-Used in conjunction with clasps, locks and tags. -Used to protect personnel and machinery in conjunction with tags.
Engineering	Isolation Clasp	-Used in conjunction with multiple locks and tags. -Each lock on a clasp represents an individual associated with the task.
Engineering	Isolation Padlocks	-Used to protect personnel and machinery in conjunction with tags. -May only be removed by the personnel or function that placed and signed the tag.
Administrative	Danger Tag (Red White and Black Tag)	-Used to protect personnel from machinery which is not in service. -May only be removed by the personnel who placed and signed the tag. -May be removed once equipment is deemed safe or the individual has completed his task. -Multiple tags must be used, one for each individual isolation. -Tagged equipment must not be used.
Administrative	Caution Tag (Yellow and Black Tag)	-Used for out of service machinery. -May be removed by appropriate service people, personnel, or supervisor after consultation and once equipment is deemed safe for repair and testing purposes. -May be used by any person to indicate a fault in machinery. -If out of service equipment is to be worked on, Lock Out / Tag Out shall be used in place of caution tag.

- Location management in conjunction with the Sectional ICs shall be responsible for implementing and maintaining Lock-out/ Tag-out (LOTO) system. Whereas, Location HSE Section shall train the personnel on the use of LOTO.

7.2.5 Rules for Permit To Work (PTW) System:

- a) **Site Inspection:** The Issuing Authority shall ensure that site is visited by him or suitable delegate along with the Receiving Authority to determine the conditions and identifying vulnerabilities involved in proposed activity. The physical condition of equipment e.g., welding machine, tools etc. shall also be checked by the permit issuer or his delegate for appropriateness. If condition of surrounding work area are satisfactory and vulnerabilities are evaluated and controlled then the permit issuer shall issue the permit and if surrounding conditions of work area are not satisfactory for the work to proceed the work permit will not be issued until certain mitigation measures are taken.
- b) **Gas Test (LEL, O₂, CO & H₂S):** Gas test, if required as per the condition of the applicable work permit shall be conducted by the Issuing Authority / his delegate in presence of Receiving Authority prior to issuing the Work Permit, for likely presence of flammable / toxic gases / oxygen level at work site. **Permit will be issued only if the results of gas test are satisfactory.** Periodic testing during job execution is mandatory on frequency of 2 hours by Issuing Authority/ his delegate. However the duration may be reduced to a suitable frequency say 1 hr. by the Issuing Authority keeping in view the criticality of job. The frequency of gas testing for such activities must be specified while issuing permit and recorded on permit document. Calibration of gas testing equipment to be ensured prior to use by trained staff.
- c) **Pre Job Safety Meeting For Hazard Awareness / Communication:** It is the responsibility of Issuing Authority to brief the Receiving Authority the specific conditions existing in the work area, related vulnerabilities, special precaution required for the job, PPE requirement etc. The Receiving Authority will communicate the same to all workers involved in the job by conducting a separate briefing / toolbox talk prior to job execution.
- d) **Permit Distribution and Display:** The Receiving Authority is responsible for ensuring that the display of permit at prominent location at the worksite (and in the Motor Control Center (MCC) in case of electrical isolation), and will remain there until completion of job. In case of extension / closure the receiver brings the copy of permit to issuer for extension / closure as per prevailing condition mentioned in this procedure.
- e) **Work Supervision:** Receiving Authority is responsible for ensuring that the workers comply with work permit system requirements during the entire activity. The Receiving Authority or his representative must remain at worksite till completion of job in all activities performed by company staff. In contractor executed activities, contractor's or service company's supervisor must remain at site to ensure full compliance of permit system.
- f) **Work Monitoring:** Concerned Dept. Head / Location IC, Issuing Authority, Location HSE Representative or any delegate (defined in the permit) may frequently visit the work area to monitor the conditions. For critical jobs visit frequency may be fixed to monitor the conditions or any suitable person may be deputed to remain at site all time till completion of job.
- g) **Simultaneous Activities:** Simultaneous activities are required to be identified at the time of issuing work permit, recorded in permit checklist and the same to be communicated to Receiving Authority for his information and necessary precautions during work execution. The Issuing Authority may designate a competent person to ensure that the interfaces between working parties are properly managed as per authorization on work permits.
- h) **Work Permit Validity:** Work permit is valid only for the time specified on the permit for which it is issued. Incomplete jobs within specified time period the

permit requires revalidation / reissuance by the Issuing Authority. **The maximum validity of a permit is One Shift, after which the permit is revalidated upon detailed inspection / checks.** A permit is revalidated only once for another shift, after which the permit requires reissuance through reassessment / check for work area conditions.

- i) **Blanket Work Permit:** **For any Cold Work and Line Break Job which is likely to continue more than 2 work shifts where project activities of similar nature are planned during ATA jobs and instances allowing work on a grouping of closely interrelated or similar pieces of equipment (e.g., groups of exchangers, pumps, vessels and connecting piping, etc.), blanket safe work permitting of crafts can be done with prior agreement and a Blanket Permit may be issued by concerned Dept. Head / Location IC after carrying out assessment / checks and other requirements of PTW system.** The validity of permit is up to a maximum of 7 days and a new permit is to be issued afterwards. Concerned Dept. Head / Location IC may delegate responsibilities for the monitoring during execution of job to any suitable nominee in order validate the work permit requirements. The responsibility for conducting safety briefing, impact assessments lies with the Receiving Authority and that is timely informed to Issuing Authority/ his delegate for his information and record. Concerned Dept. Head/ Location IC may be approached for advice on critical jobs requiring decision making and approvals.
- j) **Work Delay / Stoppage:** If the work is delayed or stopped for over 2 hours for any reason other than safety consideration, the permit receiver must return the permit to Issuing Authority. Before restarting the job the Issuing Authority shall recheck the condition contained in initial permit and validate the initial permit.
- k) **Work Suspension:** The work in progress under the PTW System may be stopped / suspended by the Issuing Authority / Concerned Dept. Head / Location IC/ Location HSE Representative under following circumstances but not limited to:
 - ⊕ Upon observance of any major HSE Non-conformance
 - ⊕ In event of Emergency
 - ⊕ For operational reasons to prevent interaction with another activity
 - ⊕ Awaiting receipt of materials etc.
- l) **Handing Back:** Once the job is completed and the area is cleared, the work permit requires handing back. The Receiving Authority will return the hard copy of permit to Issuing Authority after signing it and providing status of job i.e. Complete / Incomplete. The Issuing Authority will then initiate the removal of isolation (if any), verify the work site condition returned to normal and close the permit. The Issuing Authority may carry out the test run of equipment prior to closing the work permit.
The work permit copies will then be exchanged i.e. the card copy will go to Issuing Authority and top page copy to be handed over to Receiving Authority receiver for record. The Issuing Authority will ensure on day to day basis that the relevant record of permits is maintained.
- m) **Permit to Work Documentation:** Permit to work documentation shall be subjected to a documentation control process including:
 - ⊕ Unique reference numbers with traceability within each Dept. / Location
 - ⊕ Version control
 - ⊕ Work Permit Log
 - ⊕ Controlled storage of closed out permits and associated documentation
 The open & closed permits to be properly segregated in Control Room with record maintained in Work Permit Log on daily basis. The closed permits and supporting certificates / documentation are then maintained in proper file folders. Each Dept. / Location will define the retention period for permit records based on the frequency of issuance.
Note: Maintenance Work Order (MWO) is raised by operations department for corrective/ breakdown maintenance. The MWO unique reference number may be reflected in permit for traceability.

n) Change of Circumstances/ Scope:

When circumstances/ scope is changed, work is stopped. Following are some of the conditions:

- ⊕ *Change of Work Scope/ Circumstances:* Where the work scope or circumstances change e.g. boundaries of intended job exceeding agreed scope etc., work shall immediately cease and the situation referred back to the Issuing Authority for review and advice. A revised JHA may be carried out to evaluate the change and its impacts.
- ⊕ *Emergency Situation:* In emergency situation, permit shall be suspended until the facility has returned to its normal status. The permit shall be revalidated or reissued prior to work commencement.

o) Training and Competence:

Personnel involved in issuing & receiving work permit are formally trained and competent on work permit system. The issuer and receiver should be aware of the following, but not limited to:

- ⊕ Work permit conditions e.g. validity, requirement specific to type of permit, precautions measures etc.
- ⊕ Responsibilities of issuing and receiving authority
- ⊕ Documentation requirement
- ⊕ Emergency procedures



7.3 Handling, Segregation and Disposal of Waste

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Change/ Revision Log

#	Description of Change
1	Nil

Associated Documents Approval & Issue

Related Document/ Record	Initiated by	Reviewed by	Checked/ Verified / Approved by
OGF – HSE – 030 Onsite Waste Management Plan	Location HSE IC	Location HSE MRC	Location IC
OGF – HSE – 031 Section Waste Register	Concerned Section Rep.	Concerned Section IC	Concerned Section IC
OGF – HSE – 032 Waste Consignment Note	Concerned Section IC	Material Store IC	Concerned Section IC Material Store IC
OGF – HSE – 033 Waste Disposal Log	Material Store Rep.	Material Store IC	Material Store IC

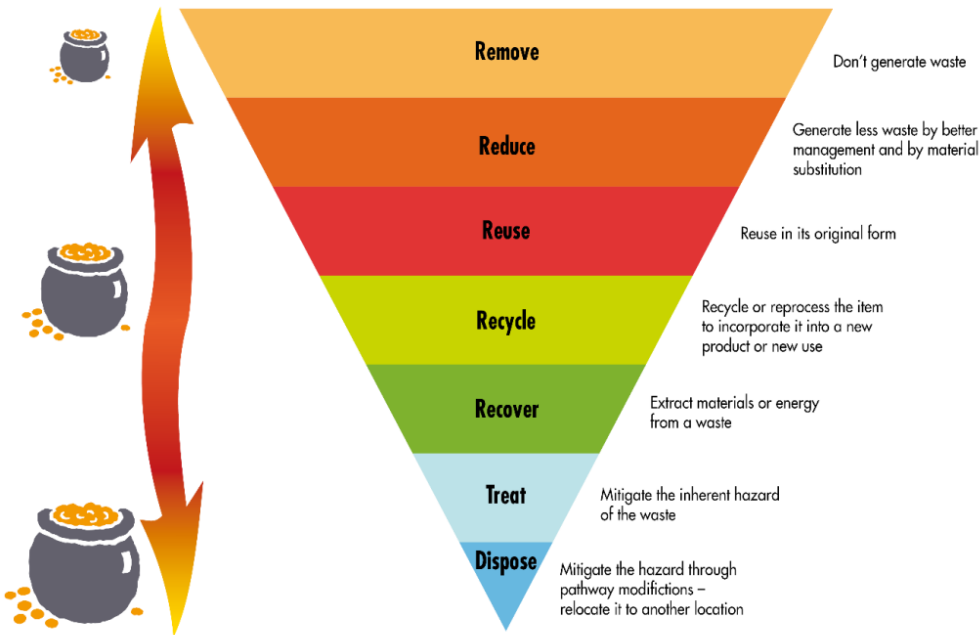
7.3.1 Waste Management Planning

- Waste is classified as Hazardous and Nonhazardous by identifying the physical, chemical and toxicological properties. This information may be found via Material Safety Data Sheets (MSDS), manufacturer's information, process knowledge, historic information or lab analysis. A system to categorize wastes streams according to their health and environmental vulnerabilities is then be developed.
- Location HSE Section shall develop an **On-Site Waste Management Plan** based on this procedure.
- To properly address each segregated wastes, the most suitable Disposal Method; Frequency of Disposal; and Disposal Responsibility shall be determined by documenting where the acceptability of each disposal option for the different ecological domains shall be determined by virtue of evaluation which shall include: environmental considerations; location; engineering limitations; regulatory restrictions; operating feasibility; economics; potential long-term liability; etc.
- Designated drums, containers, bins, etc. with specific labels shall be placed as Collection Method for the Waste Generating Areas. Color coding of drums, containers, bins, etc. for various types of wastes is to be as follows:

Waste Type	Bin Color
Hazardous Waste	Red Color
Food/Paper/Wood Waste (Organic Waste)	Green Color
Plastic Waste	Yellow Color

7.3.2 Waste Management Methods

- OGDCL understands the capabilities and limitations of different Waste Management Options for the various types of wastes generated in order to make cost-effective Waste Management Decisions that are protective of human health and the environment. As a general matter, OGDCL has a Waste Management Hierarchy (as recommended by EPA), with a preference for reuse and recycling options.



- Source Reduction Methods:** Source reduction means eliminating or decreasing, to the extent practical, the volume or relative toxicity of wastes generated by using alternate materials, processes or procedures. Since the opportunities to achieve significant wastes volume reductions for some wastes are limited as their volumes are primarily a function of activity level and age or state of reservoir depletion. For example, the proportion of discharged produced water typically increases as the reservoir is depleted. Also, the volume of drilling mud generated is generally a function of the number of wells

drilled and their depth. Nevertheless, OGDCL makes use of opportunities for source reduction and efforts are made to exploit them. For example, use of proper solids control equipment reduces the volume of mud discharged.

- ⊕ OGDCL also believes in process modification which is possible through more effective use of mechanical components, such as more effective drill bits, rather than chemical additions. Gravel packs and screens significantly reduce the volume of formation solids/ sludge produced. Improved controls aid OGDCL to minimize mud changes, engine oil changes and solvent usage.
- ⊕ Substitution of products that result in the generation of less toxic wastes is preferred. For example, biocides, corrosion inhibitors, coagulants, cleaners, solvents, dispersants, emulsion breakers, scale inhibitors, viscosifiers and weighting agents are selected with potential environmental impacts and disposal needs in mind. Some examples are the selection of mud and additives that do not contain significant levels of biologically available heavy metals or toxic compounds, and the use of mineral oils in place of diesel oil for stuck drill pipe.
- ⊕ Other efforts include efficient planning so that all commercial chemical products are used on the site or returned unused to the vendors; consideration of bulk chemical purchases to eliminate drums; and use of drains and sumps to collect and segregate spills.

Typical examples of cost-effective waste management options are tabulated below:

WASTE	WASTE CLASSIFICATION	WASTE MANAGEMENT OPTIONS							REMARKS
		REUSE	RECYCLE	DEEP WELL/ LINED PIT	SURFACE TREATMENT/ LANDFILL	INCINERATION	RETURN TO VENDOR	OTHER (MENTION)	
Adsorbent & Desiccants (Like MG-3, MG-5, Activated Carbon, Ceramic Balls, Silica gel etc.)	Hazardous					Yes			
Batteries (Dry and wet batteries; one time use or rechargeable)	Hazardous		Yes						1. Battery acid to be neutralized before offsite departure 2. To be returned to vendor
Batteries Cell	Hazardous					Yes			
Catalysts	Hazardous					Yes			
Chemical Waste (expired chemicals, laboratory	Hazardous					Yes			To be returned to vendor where possible

IMPORTANT:- IT IS EVERYBODY'S RESPONSIBILITY TO ENSURE THAT THE OGDCL'S HSE MANAGEMENT SYSTEM IS IN PLACE.



chemicals, cleaning chemicals etc.)									
Clinical Waste	Hazardous					Yes			Legal requirements to be complied with
Construction & Demolish waste	Non-Hazardous				Yes				
Contaminated Debris & Soil	Hazardous					Yes			
Dip Slides	Hazardous					Yes			
Drilling Pit Waste	Hazardous		Yes	Yes					In Case OBM bioremediation shall be considered.
Empty Chemical Drums (Plastic + Metal)	Hazardous		Yes						-Drums to be punctured before handing over to waste contractor
Electronic Waste	Hazardous						Yes		
Filter Backwash Liquids	Hazardous			Yes					
Filters (lube oil, air, fuel & raw gas, chemical treatment and water filter etc.)	Hazardous					Yes			
Food Waste	Non-Hazardous				Yes				
Garbage - Domestic Waste	Non-Hazardous				Yes				
Gas Cylinders	Non-Hazardous							Yes	Cylinders to be punctured before handing over to scrap recycler



Operation: OGDCL's Integrated HSE System Manual

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Glass waste- Window panes, Bottles, Jars	Non- Hazardous		Yes					To be incinerated in case of contamination with hazardous substance
Glass waste- Tube Rods, Lamps , Bulbs and Energy Savers	Hazardous		Yes					
Hydrotest Fluids	Hazardous				Yes			
Insulation	Hazardous					Yes		
Paint	Hazardous					Yes		
Associated Waste								
Paper and Cardboard Waste	Non- Hazardous		Yes					
Pressurized Containers	Hazardous		Yes					To be punctured before disposal
Printer Cartridges	Hazardous						Yes	Return to Vendor
Produced Sand	Non- Hazardous				Yes			
Produced Water	Hazardous			Yes				
Radioactive Waste	Hazardous						Yes	To be disposed through Pakistan Atomic Energy Commission according to legal requirements
Rags - Oily	Hazardous					Yes		
Rainwater	Non- Hazardous				Yes			
Drainage								
Refractory Materials	Hazardous					Yes		
Rubber & Plastic Waste	Non- Hazardous		Yes					
Scrap Metal	Non- Hazardous		Yes					Contaminated metal to be decontaminat ed before disposal
Sludge - Tank & Vessel Bottoms	Hazardous					Yes		
Sludge - Water Treatment	Hazardous				Yes			
Tetra packs	Non- Hazardous		Yes					
Waste Oil - Diesel and condensate	Hazardous		Yes					
Waste Oil - Lubricating oils	Hazardous		Yes					
Well Workover Fluids	Hazardous			Yes				

7.3.3 Modus Operandi

#	Activities	Responsible Person	Related Document
1	Proper placement of generated wastes in a designated place / (wastes drum / bin).	Actual Waste Generating Section	Recording of wastes into the Section's Waste Register
2	Inform to Camp Maintenance Section / Housekeeping Supervisor in case of Common Scrap Item	Actual Waste Generating Section	Recording of wastes into the Section's Waste Register
3	Inform to Material Management Section in case of Valued / Hazardous Salvage Waste. Segregation and shifting of Valued / Hazardous Salvage Waste into the Designated Salvage Waste Yard.	Actual Waste Generating Section	Waste Consignment Note
4	Weighing of wastes / note down its quantity and other necessary information.	Housekeeping Supervisor (for Common Scrap Waste)	Common Scrap Waste Disposal Log (by Housekeeping Supervisor)
		Material Management Section (for Valued / Hazardous Salvage Waste)	Waste Consignment Note
5	Placement of Valued / Hazardous Waste into the designated section of Salvage Waste Yard.	Material Management Section	Approved Waste Segregation / Placement Plan (developed by Material Management Section)
6	Disposal of Common Scrap Waste as per the Onsite Waste Management Plan.	Local Waste Picker through Field Level Committee	Common Scrap Waste Disposal Log (by Housekeeping Supervisor)
7	Disposal of Valued / Hazardous Salvage Waste as per the Onsite Waste Management Plan.	Auction → Material Management Approved 3 rd party contractor → HSE	Salvage Waste Disposal Log (by Material Management Section / HSE)
8	Checking compliance.	HSE Audit Team	HSE Inspection Report / Audit Report/ Disposal Certificates

7.3.4 Safe Disposal of Waste

- Transfer waste from Designated Scrap Yard to Contractor's Waste Yard should be using preferably Contractor's own vehicle (or approved subcontracted vehicles), licensed for this purpose. Modes of transport and routes from the waste generation site to the Contractor Waste Yard should be selected to reduce risks of release.
- All waste consignments leaving the Contractor Waste Yard to licensed and approved Waste Treatment & Disposal Facility shall be tracked using Waste Treatment Certificates. The treatment certificates should contain the following information:

- Waste type(s) and sources
- Consignment reference number
- Form (e.g. solid, liquid, sludge)
- Treatment / disposal method
- Quantities and units collected
- Date and time of collection and disposal
- Flue gas / ash analysis where applicable
- The Waste Management Contractors shall provide treatment and disposal certificates to respective sites.

☞ Waste disposal record (evidence like Lab. Reports and Waste Treatment Certificates) shall be maintained by Location Material Management (original) and HSE Department / Section (copy).



7.4 Journey Management

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Change/ Revision Log

#	Description of Change
1	Added: Journey Management Procedure

Associated Documents Approval & Issue

Related Document/ Record	Initiated by	Reviewed by	Checked/ Verified / Approved by

7.4.1 Drivers Training and Qualification

- ✎ Only Approved Drivers shall drive company vehicles. Location IC is responsible for maintaining and communicating a current list of such drivers.
- ✎ The approved driver must have the following qualification at the minimum:
 - ▣ Valid Pakistan / International Driving License and relevant to the class of vehicle
 - ▣ Minimum 5 years of driving experience (at least 2 of which should have been in major cities.
 - ▣ Driven similar type of vehicle before (otherwise the driver shall be assessed, as per item 7 below).
 - ▣ Attended a Defensive driving Course. (Location IC shall ask Location HSE Representative to conduct the course which at the minimum should include the following topics):
 - Review of company policies and standards related to driving
 - Defensive driving techniques
 - Journey management techniques
 - Alertness and fatigue management
 - Effects of medication and substance abuse
 - Vehicle restraint systems and safety equipment
 - Pre-trip checks and proper seating position
 - Local driving vulnerabilities
 - Skill assessment and/or commentary drive

7.4.2 Driving Monitoring Program

- ✎ Based on driving impact assessment and local regulations, Location ICs may consider the installation of an In-Vehicle-Monitoring-System (IVMS) or Vehicle Data Recorder (VDR) that acquires journey data which can be analyzed and give feedback on driver performance.
- ✎ Whenever installed, the journey data, as a minimum, shall record against a driver identification number or key: speed, harsh acceleration, harsh deceleration, kilometers or miles driven and driver hours.
- ✎ With the installation of an IVMS, a data management system shall also be implemented to ensure data from driver improvement monitors is properly analyzed and feedback to drivers and supervisors is provided. This data management system shall enable implementation of the following:
 - ▣ Recent data from the monitors is downloaded, analyzed, and published at least once every month;
 - ▣ Data from the monitors is used to establish performance goals and recognition is given for good driving performance.
 - ▣ Personal coaching sessions are conducted with employees whose monitor data shows poor driving performance.

7.4.3 Special Care / Instructions

7.4.3.1 Seatbelts

- ✎ All occupants (whether contractor's / service company's employees or visitors) of any vehicle used for OGDCL business activities shall wear seat belts at all times.
- ✎ All company vehicles must be fitted with seat belts for each individual riding in the vehicle. Where possible, belts for drivers and outboard passengers shall be of the 3-point configuration. Where there are more than two seats in a row, lap belts are acceptable for center seat passengers.
- ✎ Trucks, mini-buses and buses shall be fitted with seat belts for each individual. In trucks equipped with sleeper berths, if the berth is to be used while the vehicle is in motion, some form of approved restraint shall be provided.
- ✎ Forklifts and other plant type vehicles that can be driven above 16 kph should be fitted with seat belts. The operator, at any time the vehicle is operating, must wear the seat belt. No additional riders/passengers are allowed on

these vehicles unless it is specifically designed to carry additional people and that their seating area is also fitted with proper seat belts.

- ☞ All belts are to be functioning, inspected regularly and correctly worn by passengers. The vehicle driver is responsible for ensuring that passengers are properly wearing their seat belt prior to moving the vehicle.
- ☞ Use of spot hire taxis and bus vehicles not fitted with seat belts for all passengers should be avoided when alternatives are available.

7.4.3.2 Cellular Telephones / Two-way Communication

- ☞ Drivers shall neither initiate nor answer a telephone phone call (or radios used for communication with base stations where wireless radios are installed in the vehicle) while driving a vehicle (this includes text messaging).

☞ The use of a hands free device is allowed; however the driver should leave the road and bring the vehicle to a complete and safe stop before initiating or answering a call.

- ☞ The exception to this is for the use of two-way radios or CB radios as part of convoy management or for use during emergency situations. Radio use in these exceptional circumstances should be kept to the minimum necessary to communicate and control the vulnerabilities and impacts of the journey being undertaken.

7.4.3.3 Substance Abuse

- ☞ Drivers shall not operate a vehicle while under the influence of alcohol, drugs, narcotics or medication that could impair their ability to safely operate the vehicle. Sites are encouraged to institute a random drug and alcohol test for all workers specially drivers.

7.4.3.4 Unauthorized Passengers

- ☞ Unauthorized passengers shall not be carried in vehicles while on business trips, except in case of emergency or requisition by local authorities. At no time shall drivers stop for a hitchhiker, unless it is obviously evident that it is a genuine emergency. Furthermore, no passengers must be ever carried in cargo loading area of the vehicle.

7.4.3.5 Speed Limits

The following requirements for safe vehicle operation shall be strictly adhered to by all drivers of crew.

- ☠ Keep yourself physically fit and mentally alert.
- ☠ Be familiar with local regulations.
- ☠ Check steering gear, tires, brakes, lights, wind shield wipers and horn.
- ☠ Drive at a speed consistent with the condition of the road surface, the traffic density, the degree of visibility.
 - ▣ The maximum speed limit for pick-ups on open surface roads in dry conditions shall not exceed 80 KPH and shall not exceed 60 KPH in wet conditions. The maximum speed permitted in town area is 50 KPH. Speeds shall be reduced considerably for populated and urban area and bad surfaced roads.
 - ▣ The speed limit for heavy vehicles on open surface roads will not exceed 55 KPH in dry conditions and 45 KPH in wet conditions. The maximum speed permitted in town areas is 30 KPH. Speeds are to be reduced considerably for populated, urban areas and un-surfaced roads.

7.4.4 Journey Management

- ☞ Managers at every level shall challenge the need for journeys and always search for a way to eliminate the journey or find an alternative means of achieving the trip objective.

- Where driving is unavoidable, alternatives such as combining trips and using approved transportation contractors, especially for "hotshot" trips (unplanned/non-routine transportation of equipment or personnel) shall always be explored. Furthermore, Location ICs shall ensure that the selection of vehicle for journey shall not only be a function of technical specifications for the requested service, but shall also take into account any special considerations for the journey (e.g. terrain, weather, etc.).
- A formal Vulnerabilities (Threats & Opportunities) Identification & Impact Assessment shall be carried out in advance especially for travelling through areas where:

 - Paved Roads are not available
 - Routes with Security Impacts
 - Hazardous or Precious Cargo is being transported
 - Night Travel
- Subsequently Journey Management Plan should be developed considering the following points:

 - A formal pre-trip briefing is held. This shall include a discussion of routes, stops, vulnerabilities (hazards) etc.
 - The route is clearly defined and mapped
 - Appropriate vehicles are assigned to the journey taking into account the vulnerabilities identified
 - Only qualified drivers are assigned with current certification for the type of vehicles to be used.
 - Potential driving vulnerabilities (hazards), especially dangerous intersections, are identified in advance, taking into consideration the terrain, weather, known dangerous routes, speed limits, holidays (especially those which involve fasting and/or alcohol), etc.;
 - Drivers are physically and mentally fit, giving particular attention to past hours worked, past amounts of sleep, time of the day, position in the natural alertness cycle, food intake, etc.;
 - An estimate of the expected arrival time at the destination is made. Persons at the destination must take necessary action to initiate a contingency plan, which may be enacted in the event that the traveler does not arrive at the set time
 - For high impact journeys, intermediate radio contact feedback stations should be implemented to monitor the ongoing safety of the convoy
 - A journey coordinator is appointed.
- Drivers shall always carry out a basic physical check of their vehicles before any journey using the mnemonic POWER (see table below):

P	Petrol: Is there enough fuel for the planned journey?
O	Oil: oil level ok? And no obvious leaks?
W	Water: If water-cooled, is the radiator level correct? Is there enough water in the washer reservoir and do the wiper blades effectively clean the windscreen?
E	Electrics: Are all the lights working and does the battery start the engine with ease?
R	Rubber: Are the tyres in good condition with sufficient depth of tread and correctly inflated?
- It is the responsibility of the driver to report completion of the trip to the direct Supervisor or to the journey coordinator. Vehicles will drive with their low-beam (dipped) lights illuminated at all times, unless identified otherwise in an impact assessment, based on local conditions (e.g. security). Vehicles should be parked in a manner that allows the first move to be forward when leaving the parking space (i.e. cars shall be parked in reverse). The following rules relating to driving and duty hours apply:

Requiring	Standard
Max. driving time b/w breaks and min. break time	2-hours with 10 minutes breaks
Max. duty hours within a rolling 24-hour period	16-hours (i.e. employees cannot drive after 16 duty hours) This shall include driving, loading, unloading, waiting, rest breaks, and any other work)
Max. driving hours within a rolling 24-hour period	10-hours total excluding commuting time. 11-hours including commuting
Max. duty hours in a rolling 7-day and 14-day period	For 7 day = 80 hours For 14 days = 120 hours
Off duty period in a rolling 7-day period	Min. of a continuous 24-hour break prior to driving again

7.4.5 Fitness of Vehicles

- Vehicles shall be fit for purpose and maintained. All new (OGDCL or rented) light duty vehicles and where reasonably practicable, all existing vehicles, shall have the following equipment installed:

Head restraint (front seats)

Air bags (at least driver)

Anti-lock brakes

Seatbelts as specified earlier

Fire extinguisher suitable for electrical fire

First aid kit

Driver and passenger side mirror

Spare tyre and associated tools

Flashlight/torch

Disabled vehicle marker (e.g. warning triangle)

Air conditioning (where high seasonal temperatures can diminish a drivers performance)

Additionally, the following equipment should be installed on heavy-duty vehicles:

Under-run protection

Reversing alarm system for heavy vehicles
- Where an impact assessment demonstrates that the impact of rollover is higher than normal due to terrain, vehicle type or work conditions, a properly engineered Rollover Protection Device must be installed (internally or externally).
- Loose items shall be avoided in the passenger compartment. Any van or Sport Utility Vehicle (SUV) must be equipped with a cargo net or equivalent to separate the storage area from the passenger area. Any heavy article carried inside the passenger cabin, for instance in a pick- up truck cab, such as jacks, fire extinguishers, etc., must be firmly secured in such a way that they will not become a hazard in a crash (e.g. clamped behind the seat).

All loads transported in a pick-up truck or other cargo vehicle shall be securely fastened, and must not exceed the manufacturer's specifications and legal limits for the vehicle.

Note:

Driving at Night should be avoided as much as possible. All routine and non-routine trips that must be conducted after 2200 HRS should have a Journey Management Plan prepared.

Furthermore, it is recommended that all trips during the hours of darkness or during times of reduced visibility shall be systematically reviewed for impact and be subject to formal management approval before they begin.

IMPORTANT:- IT IS EVERYBODY'S RESPONSIBILITY TO ENSURE THAT THE OGDCL'S HSE MANAGEMENT SYSTEM IS IN PLACE.

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7.5 Emergency Preparedness and Response

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Change/ Revision Log

#	Description of Change
1	Added: Interactive emergency drills shall be conducted involving a particular location with Head Office on biannual basis.
2	Added: Template to be used for the Emergency Drill Report.

Associated Documents Approval & Issue

Related Document/ Record	Initiated by	Reviewed by	Checked/ Verified / Approved by
Locations' Emergency Response Plan	Location HSE IC	Location HSE MRC	Location IC

7.5.1 Emergency Preparedness

- ☞ Emergency situations may include (but not limited to):
 - a) Fire (& Explosion)
 - b) Oil / Chemical Spillage
 - c) Well Blowout
 - d) Boiling Liquid Expanding Vapor Explosion (BLEVE)
 - e) Electrical Shock
 - f) Toxic Gas Leakage (like H₂S)
 - g) Burst Gas Pipe Line
 - h) Natural Calamity / Disaster (like Floods)
- ☞ Each potential impact and hazardous situation shall be evaluated to determine whether emergency response plans are required and where relevant, appropriate emergency plans and procedures are developed.
- ☞ Emergency equipment needs shall be identified and equipment provided in adequate quantity.
- ☞ Emergency equipment (controls) shall be tested at specified intervals for continuing operability and mentioned in the Vulnerabilities Identification and Impact Assessment (VIA) Register.
- ☞ Emergency equipment shall include:
 - a) Fire/Smoke/Heat Detection & Alarm systems
 - b) Emergency lighting and power
 - c) Means of escape
 - d) Safe refuges/ Muster points
 - e) Critical isolation valves, switches, and cut-outs
 - f) Firefighting equipment
 - g) First aid equipment (including emergency showers, eyes wash stations, etc.)
 - h) Communication facilities
- ☞ An appropriate T-Card & Mustering System (or other modern/ reliable system) shall be established to facilitate easy identification of workforce's location during emergency situations.

- ☞ When performance of emergency equipment falls below desirable level, corrective or preventive actions shall be initiated, and appropriate objectives / targets be established to ensure continuing operability of emergency equipment.
- ☞ Interactive emergency drills shall be conducted involving a particular location with Head Office on biannual basis.

7.5.2 Emergency Levels

- ☞ Following emergency levels shall be followed to deal with the emergency conditions / situations based on the severity and requirement of resource to handle an emergency situation; however, an emergency level can be incremented if an appropriate control measure or response could not be applied:

Emergency Level	Evacuation	Emergency Declaration
Basic Level	No evacuation required	No emergency declaration
Level-1	Gather at respective muster point(s)	Emergency declaration through siren and lights
Level-2	Rush outside the from emergency exit gate(s)	Emergency declaration through siren, lights and public announcement

7.5.3 Siren Codes

- | | |
|---|--|
| Calling for Emergency & Evacuation → | Intermittent tones of 15 seconds each with 5 seconds pause, repeated thrice |
| All Clear Alarm → | Continuous tone for 2 minutes |
- Siren should be muted for PA Announcements in between.*



Note 1: In the event of the emergency siren sounding, all permits become invalid and all work being carried out under them will cease. Personnel within permanently occupied buildings should seek direction from their building wardens. Vehicles must be parked away from access ways, ignition switched off with keys left in the ignition. The vehicle must remain stationary for the period of the emergency. Driver and passengers must exit the vehicle and proceed to the nearest safe muster point. Personnel within vessels and tanks will move outside the vessel or tank, climb to ground level and then proceed to the designated muster point and stay there until directed otherwise by Location HSE.

Note 2: When an emergency occurs, the affected work must cease and not re-start until such time as the work areas affected have been risk reassessed and the Area Manager / Location IC has verified that effective controls, to prevent recurrence, are in place.

7.5.4 Emergency Response Control Center / Post

- ✎ A designated Emergency Response Control Center or Post shall be established at every "key" (major / vital) location and equipped with the following:
 - a) Facility's layout and community maps, including roads, evacuation routes and the locations of community facilities nearby.
 - b) Utility drawings, including fire, water, & electric systems. Storage and use locations of explosives, hydrocarbons, other flammable and toxic materials.
 - c) Emergency communication equipment and lists of contact numbers for key emergency and management personnel, local emergency response officials, and government agencies to be notified.
 - d) A list of emergency response equipment, with locations on- and off-site.
 - e) Appropriate reference materials, including specific emergency plans.
 - f) A current list of employees in the event counting is necessary.

7.5.5 Location's Emergency Response Plan (ERP)

- ✎ Roles and responsibilities of Location Emergency Response Teams are mentioned in Section 6 (Leadership).
- ✎ Emergency preparedness and response procedures shall be documented by each Location.
- ✎ All personnel shall be made aware of the procedures through onsite awareness sessions.
- ✎ Practical drills shall be carried out according to a predetermined schedule for all the probable emergency situations. Following template shall be used for the Emergency Drill Report:

Emergency Drill Report

Time Alarm Sounded:	Time Drill Concluded:	Time to Evacuate:
Type of Drill:	Notification / Alert Method:	Weather Conditions:
Emergency Level:	Exact Location of Drill:	Distance From ER Post:
No. of Participants:	Situation at Start of Drill:	Situation after Drill:
Name of Participant/ Team	Emergency Role Assigned	Response Time
Positive Points:		
Problems Encountered:		
Extenuating Circumstances/ Identified Factors / Special Conditions Simulate:		
Lessons Learned for Improvement:		

Attach to this form a list of all staff who participated in the drill, and any visitors participating.

- ✎ HSEQ Department / Section shall be responsible for reviewing and, as necessary, revising emergency procedures, particularly after each occurrence of incidents and emergencies.
- ✎ Pattern of Location's Emergency Response Plan is given below:



Location's Emergency Response Plan (ERP)

Emergency Response Plan (ERP) in the given pattern (below) shall be developed (by Location IC HSE, reviewed by Location HSE MRC and endorsed by Location IC) and made available at every location/ work site to direct/ manage initial efforts to contain and respond to emergencies:-

1	Disclaimer
2	Scope of Location's Emergency Response
3	Event Discovery and Fundamental Response
3.1	Event Discovery (Emergency Situations)
3.2	Emergency Criteria
3.3	Summary Table of Evacuation and Emergency Declaration
3.4	Raising the Alarm
3.5	Emergency Response Activation
3.6	Action on Hearing the Emergency Siren
3.7	Emergency Exit
3.8	Muster Points
3.9	Actions To Be Taken By Personnel On Hearing The Emergency Siren
3.10	Emergency Event/Incident Information Checklist Reporting Log
4	Emergency Response Organization
4.1	Location's Emergency Management Team (EMT)
4.2	Location's Emergency Management Teams (EMT) for Operations Other Than Production:
4.3	Primary Role of the EMT
4.4	Specific Role & Responsibilities of EMT
4.5	Location's Emergency Response Teams
5	Emergency Scenarios and Response Plan
	Emergency Scenarios within Plant Boundary
	Case 1: Fire
	Situation 1: Minor Fire
	Situation 2: Moderate Fire
	Situation 3: Major Fire
	Case 2: Gas Leakage
	Situation 1: Minor Leakage
	Situation 2: Moderate Leakage
	Situation 3: Major Leakage
5.1	Case 3: Chemical/ Oil Spill.
	Situation 1: Minor Chemical /Oil Spill
	Situation 2: Moderate Chemical/Oil Spill
	Situation 3: Major Chemical/Oil Spill
	Situation 4: Crude Oil Bowzer Fire.
	Case 4: Caught in Confined Space
	Situation 1: Emergency in Confined Space.
	Case 5: Emergency at Store Area.
	Situation 1: Fire incident at Store Area.
	Emergency Scenarios at Well Sites
	Case 6: Fire/Gas Leakage.
	Situation 1: Moderate Fire/Gas Leakage.
5.2	Situation 2: Major Fire/Gas Leakage
	Situation 3: X-Mass Tree/ Surface Fittings Damage/Fire
	Case 7: Security Threat.
	Situation 4: Security Threat/Sabotage.
	Natural Disaster
5.3	Case 8: Earthquake
	Case 9: Flood
	Case 10: Heat wave
	Case 11: Heavy rains



Operation: OGDCL's Integrated HSE System Manual
Controlled Copy Do Not Duplicate For Internal Use Only

Appendix – A	Event Log in Emergency Situation
Appendix – B	Incident Notification Form
Appendix – C	Incident Information Checklist
Appendix – D	Form for Noting Causes & Consequences of the Incident
Appendix – E	Contact List of First Aiders at Nashpa
Appendix – F	List of Emergency Equipment at Nashpa
Appendix – G	Nashpa Emergency Drill Planner
Appendix – H	Nashpa Facility's Layout
Appendix – I	Emergency Contact Numbers
Appendix – J	Medical Emergencies First Aid Handbook



7.6 HSE Protocol for Management of Project Contractors and Service Companies

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Change/ Revision Log

#	Description of Change
1	Added: HSE Cognizant Procurement Cycle and HSE Protocol For Project (Contractor) Management.

Associated Documents Approval & Issue

Related Document/ Record	Initiated by	Reviewed by	Checked/ Verified / Approved by

HSE Cognizant Procurement Cycle

Step No.	Phase	Target	OGDCL	Contractor
Step 1	Indent Preparation	Specifications to manage hazards related to the work shall be identified as scope & depth that OGDCL management needs to involve in next phases.	User's/ Indenting Department shall work with IRC and initiate the risk assessment and takes into account Technical, HSE and other domain's input if needed to finalize the specifications.	N/A
Step 2	Advertisement	TOR/ SOW shall be finalized and advertized. Confirmation of major hazards with outline targets criteria and methods for control.	Supply Chain Management (SCM) shall prepare bid documents and finalize advertisement for tendering.	Respond to advertisement: Discuss HSE responsibilities and staffing internally.
Step 3	Tender Period	Preparation of Technical, Commercial, Quality Control and HSE Plans.	User's/ Indenting Department shall work with SCM, HSE and Technical domain, respond to clarification requests. The typical activities shall be to meet with contractor reps, site visits, communicate OGDCL's HSE System to contractors, etc.	Prepare HSE Plan along with the bid: Clarification requests, Meetings, Site Visits.
	Evaluation and Contract Award	Confirmation that contractor HSE Plan meets OGDCL criteria. Agreement with contractor on methods to be used, performance measurement criteria and audit/review strategy.	User's/ Indenting Department shall ensure that HSE requirements be included in the contract. Typical activities shall be to evaluate bids, raise clarifications on contractor's HSE Plan and finalize Contract.	Respond to clarifications / meetings.
Step 4	Mobilization	Confirmation that contractor's HSE Plan has achieved pre-execution targets.	User's/ Indenting Department shall be responsible for this phase. The typical activities may include pre-mobilization meeting, confirmation of contractor's HSE Plan, activities supervision, pre-execution audit.	Kick-off meeting, Confirm HSE Plan activities, Supervision, Induction, Training, Meetings, Inspections, Pre-execution status achievement.
	Kick-off	Assurance and verification that contractor systems are performing in line with contractor's HSE Plan.	User's/ Indenting Department shall be responsible. The typical activities may include kick-off meetings, communicate HSE requirements with fields supervisors, confirm the preparation of people and equipment are line to contract requirements, etc.	Supervision, Inspection, Induction, Training/Drills, Toolbox-Talks, performance review systems.
Step 5	Work in progress	Management of work activities, Milestone Review.	Location management shall be responsible. The typical activities may include routine walk through, site inspection/ observation, investigation of incidents, auditing etc.	Supervision, routine HSE management, such as HSE meeting, inspections, c&p actions tracking, investigation of incidents, auditing, etc.
Step 6	Evaluation/ Close-out	Analysis and feedback of OGDCL and Contractor HSE Performance.	User's/ Indenting Department and Unit Management shall be responsible. The typical activities shall include Close-out meeting, communicate to contractor, feedback for future contract HSE Plans/Contract clauses.	Close-out report and feedback (to own management).



HSE Protocol For Management of Project Contractors and Service Companies

Sr. No	Title	Specific Requirement
1.	HSE Policy	Contractors and Service Companies shall be held responsible, as a minimum, for compliance with the OGDCL's HSE Policy, in addition to all governmental regulations applicable to the scope of work being performed.
2.	HSE Field Team	Contractors and Service Companies shall be solely responsible for means and methods and for jobsite HSE by assigning appropriate strength of qualified Location HSE Coordinators, Supervisors and Medical Staff with specific duties at the project site, full time, from the first day.
3.	HSE Roles & Responsibilities	Contractors and Service Companies shall ensure that all personnel assigned on the project can safely perform the essential functions of their job assignment. Contractor shall ensure that personnel maintain the appropriate standards of HSE in connection with the work that is being performed.
4.	HSE Planning	Contractors and Service Companies shall submit, before the start of project, the detailed documents as follows: i. Project HSE Risk Assessment Plan ii. Project Health Monitoring Plan iii. Project Safety Monitoring Plan iv. Project Environmental Monitoring Plan v. Project Emergency Preparedness and Response Plan vi. Project Waste Management & Disposal Plan
5.	Toolbox Talk Program	Contractors and Service Companies shall develop and ensure project-wide Toolbox Talk Program as a series of numbered discussion topics on Safety, Health and Environmental matters as daily HSE briefings by its operational teams.
6.	Work Permit	Contracts and Service Companies shall strictly follow the Work-to-Permit System and shall provide plan of activities in advance, submit THAs/JHAs where required and engage only certified staff for the hot jobs.
7.	Safety Critical Equipment	Contractors and Service Companies shall ensure that the equipment (especially to be used on site for lifting and hoisting purposes) is certified from the third party and operators have proper permits / licenses.
8.	PPE	Contractor shall acquire and maintain adequate PPE and other/related safety gadgets of an approved type as required for the performance of the work to be safely performed.
9.	Hazard Communication	Contractors and Service Companies shall ensure proper labeling at all the pertinent safety risk areas with appropriate warning signs and instructions. It shall also be ensured that all original containers of hazardous chemicals or materials entering the project site to be properly labeled with the hazard warnings and related information.
10.	Incident Reporting	Contractors and Service Companies shall immediately report to OGDCL representative all significant and important incidents involving fatality, injury, illness, environmental impacts, near hits, and/or hazardous situations.
11.	Accident Investigation	Contractors and Service Companies shall investigate and report all accidents regardless of their nature so that the cause and means of prevention can be determined to prevent a reoccurrence.
12.	Environmental Procedures	Contractors and Service Companies shall immediately clean up the trash, spills, food waste, etc. and spills of chemicals, oils, whereas potentially hazardous wastes to be immediately reported to OGDCL representative.
13.	Waste Management	Contractors and Service Companies shall place designated drums, containers, bins, etc with specific labels as Collection Method for each waste-type and further ensure safe disposal of the hazardous waste.
14.	ERP	Contractors and Service Companies shall provide orientation on Emergency Preparedness and Response Procedure to its project team and ensure that its personnel are well aware of what procedures are in practice and who is to notify in the event of any emergency.
15.	HSE Performance Reports	Contractors and Service Companies shall submit to OGDCL representative an HSE Performance Review Report on fortnight basis.
16.	Workforce's Record	Contractors and Service Companies shall issue security pass for the staff engaged and provide a) copy of attested identity cards, b) employment cards, c) HSE training cards and c) health assessment cards of its project's approved staff to OGDCL.
17.	Surveillance Audits	OGDCL's representative shall visit the project site on sporadic basis to monitor the actual level of compliance on the HSE matters.



7.7 Use of Personal Protective Equipment
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Change/ Revision Log

#	Description of Change
1	Added: Complete detail of Personal Protective Equipment.

Associated Documents Approval & Issue

Related Document/ Record	Initiated by	Reviewed by	Checked/ Verified / Approved by

7.7.1 Purpose of PPE

- ✎ The purpose of PPE shall be to protect the OGDCL employees, contractors, service companies and visitors from exposure to workplace hazards.
- ✎ PPE shall not be a substitute for the effective engineering or administrative controls and must be worn for personal protection ensuring that safety arrangements are in place.

7.7.2 Types of PPE

- ✎ **Category A:** The **Basic PPE** shall include a) Coverall/ Dangri, b) Warm Jacket/ Leather Jacket, c) Safety Shoes, d) Safety Glasses, e) Hard Hat, f) Ear Muffs and g) Cotton Gloves.
- ✎ **Category B:** The **Specific PPE** shall include a) Gloves (Leather, Chemical Resistant, and Latex), b) Face Shields (Welding Shields and Goggles), c) Flame Resistant Clothes, d) Long Safety Shoes, e) Gas Mask, f) Chemical Apron and f) Safety Harness.
- ✎ **Category C:** The **Emergency PPE** shall include complete Turnout Gear / Fire Kit (Fire Suit), SCBA/30 min., Air-Purifying Respirator (APR), and Safety Vests / Clothing with Reflective Material designed for high nighttime visibility.

7.7.3 PPE Matrix

- ✎ Considering practical guidelines for assessing the hazardous situations that are likely to arise under foreseeable work activity conditions and to match employee PPE to the identified hazards, each Location shall develop PPE Matrix for its individual Sections, based upon following:
 - (1) Impact
 - (2) Penetration
 - (3) Compression (roll-over)
 - (4) Chemical
 - (5) Heat
 - (6) Harmful dust
 - (7) Light (optical) radiation
 - (8) Drowning
 - (9) Falling
- ✎ PPE Matrix shall be documented by each Section in the tabular format given below and reviewed on an annual basis.

Task or work functions that are performed by the Sectional workforce members	Safety glasses	Hard hat/Helmet	Safety vest/ harness	Coverall	Muff / plugs	Chemical goggle	Gum boot	Leather (gloves) / Insulating (gloves)	Chemical Resistance Gloves	Latex (gloves)	Face shield	Chemical apron	Welding goggles	Welding face cover	Welding gloves	Flame resistant cloth	Safety toed shoes	Dielectric safety shoes	Chainsaw chaps	Gas mask	Dust mask	SCBA	Air purifying (HEPA)	Others: (cotton gloves, etc.)
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2.																								
3.																								
4.																								
5.																								
6.																								

7.7.4 Constraints Due To Personal Factors

- ✎ Personal factors can impact the effectiveness of PPE or be a hazard in their own right and therefore be avoided / managed with care as much as possible. Typically, these are as follows:
 - ▣ Rings, arm bangles, jewelry or similar ornaments shall not be worn.
 - ▣ Low profile 'sleeper' ear studs (one per ear) are acceptable
 - ▣ Watches shall have breakable non-metallic bands.
 - ▣ Long hair shall be tied back or enclosed in a hair net
 - ▣ Persons who may have to use breathing apparatus or face-fitting respiratory protection devices (e.g. areas where there is a risk of hydrogen Sulphide gas) shall not have beards and be clean shaven at start of shift. Moustaches that are neatly trimmed and do not interfere with correct functioning of respiratory PPE are permitted.
- ✎ The above list is not exhaustive and there may be other personal factors that should be taken into account on an individual basis. Some disabilities or impairments may have to be treated sensitively and in confidence.

7.7.5 Protection Mechanism

7.7.5.1 Head Protection

- ✎ Hard hats, or safety helmets, which meet the requirements of EN397, shall be worn in all designated work areas as outlined in the Location (Sectional) PPE Matrix. Hard hats shall be made of plastic and designed to hold chin straps. Chin straps shall be worn when working at heights.
- ✎ The selection of the helmets shall be made with the intention a) to reduce the force of impact of falling objects, b) to reduce the force of impact resulting from a blow which may be received off center or to the top of the head and c) to reduce the danger of contact with exposed high-voltage electrical conductors.
- ✎ Metal hard hats do not meet the standards for electrical resistance and therefore shall not be permitted.
- ✎ Hard hats shall be checked monthly for signs of damage, and replaced immediately if the hard hat becomes brittle, cracked or is otherwise damaged. Suspensions and shells shall be replaced per the manufacturer's recommendation. It is recommended that suspensions be replaced at least annually and shells be replaced every 3 to 5 years.

7.7.5.2 Eye Protection

- ✎ Safety glasses, with side impact protection, or goggles shall be worn in all designated work areas as outlined in the Location (Sectional) PPE Matrix. Glasses shall be designed and constructed to meet EN166-1F (or equivalent standard). Where regular prescription glasses are required to be worn, over protection such as over glasses or goggles shall be used.
- ✎ Both clear and tinted lenses shall be made available, with tinted lenses provided for protection against UV light damage. Tinted lenses shall not be used during hours of darkness.
- ✎ It is the individual's personal responsibility to maintain eye protection in a safe condition. Antifogging compounds for safety glasses/ lenses shall be available and used to maintain clear vision when work conditions are impacted by fogging.
- ✎ Contact lenses are permitted, but their use shall not interfere with or be compromised by the work activity. Contact lenses do not provide eye protection and the wearer may have increased risk of eye injury from exposure to dusts and chemical vapors. Eye protection shall be worn in addition to the contact lenses.
- ✎ Special lenses are required when oxygen fuel cutting. Goggles are required when working with chemicals or in dusty conditions.

7.7.5.3 Face Protection

- ✎ During work activities that involve grinding, chipping, and buffing, or where material could separate and become a projectile, a face shield shall be worn in conjunction with safety glasses/ goggles as defined by the job hazard analysis.
- ✎ Personnel working with chemicals, degreasers, detergents, or equipment that contains a hazardous or pressurized liquid or gas (e.g. wet cell batteries) shall wear non-vented, splash proof goggles. For exposure to hot or corrosive materials, a face shield shall be worn over the goggles.
- ✎ A welding hood, with non-glass visor, shall be worn over standard safety glasses when welding. Personnel engaged in sandblasting, water blasting or spray painting shall wear eye protection under the face shield or air supplied hood to protect the eyes and face from known hazards.

7.7.5.4 Hearing Protection

- ✎ Hearing protection shall be worn in all designated high noise areas. Hearing protection shall meet the requirements EN352-1 for earmuffs and EN352-2 for or ear plugs. Types of hearing protection will depend on the job hazard analysis and must meet personalized fit testing requirements.
- ✎ A quantitative noise survey shall be completed around all machinery and equipment located at the site to document sound level readings and identify areas that require hearing protection. The assessment shall include both permanent and temporary equipment.
- ✎ Signs shall be posted at each work location where continuous noise levels are at 80 dB (A) or greater over an 8 hour time-weighted average. Various forms of hearing protections shall be made available, such as disposable/ reusable ear plugs or hard hat mounted ear protectors, and shall be worn in posted areas. Hearing protection shall also be worn during operations that generate noise in excess of 80 dB (A).

7.7.5.5 Protective Clothing

- ✎ The wearing of Flame Resistant Clothing is required for all employees, contractors and visitors when:
 - ✎ Located on a production facility with hydrocarbon-containing process equipment and working in PPE required areas.
 - ✎ Loading/ unloading or transferring hydrocarbons where vapors are present in the atmosphere that present a flash fire potential.
 - ✎ Repairing active hydrocarbon piping, tankage or equipment that is outside the production facility and the potential for a flash fire has not been completely eliminated.
 - ✎ Performing hot work activities on active hydrocarbon equipment and piping (hot tapping).
 - ✎ Working on hydrocarbon piping or other related equipment that is below grade or defined as a confined space, and the potential for a flash fire has not been completely eliminated.
 - ✎ Performing high voltage switching operations and maintenance.
 - ✎ An employee or supervisor identifies a site-specific job and/ or area with potential exposure to flash fire/ arc burn injuries, such as through an electrical circuit.
- ✎ Flame Resistant Clothing shall comply with the following requirements:
 - ▣ Thermal protection: if the protective material is worn over another layer of fabric, the protective fabric shall exhibit an average Thermal Protective Performance (TPP) value of 4, before and after washing.
 - ▣ Flame Resistant Clothing materials shall comply with EN531.
 - ▣ Reflective strips shall be visible across the arms, at a minimum, of each garment and conform to the ANSI/ ISEA 107-1999 Level 2 standards (or equivalent standard).

- ✎ Flame Resistant Clothing is not required when working in seismic operations, drilling operations (unless conducting live well servicing or well testing and working around process equipment), or project facilities that are not located at a production facility.
- ✎ All Flame Resistant Clothing and non-Flame Resistant Clothing shall be worn and maintained accordingly:
 - ❑ Personnel shall wear Flame Resistant Clothing as the outer-most garments except when other personal protective clothing is required (e.g. Chemical resistant suits, welder's leather, personal flotation devices, increased visibility vests).
 - ❑ Personnel should not wear synthetic blends such as nylon, polyester, rayon, polyethylene, etc. under the protective clothing. Natural fibers such as cottons or wools should be worn underneath.
 - ❑ Only long sleeved Flame Resistant Clothing shall be worn in designated Flame Resistant Clothing areas/ jobs.
 - ❑ Flame Resistant Clothing shall be worn in such a manner as to completely cover the torso, arms and legs (sleeves rolled down and body fully zipped or buttoned up).
 - ❑ Clothing should be laundered, repaired and taken out-of-service per the manufacturer's recommendations.
 - ❑ Rain / Winter gear worn over Flame Resistant Clothing can negate the effectiveness of the protective layer, especially if the material would melt in a flash fire. Flame Resistant rain/winter gear is recommended where available.

7.7.5.6 Hand Protection

- ✎ All personnel shall wear gloves on the work site. Exceptions to this requirement, such as performing tasks that require additional finger dexterity, shall be approved by a supervisor and captured on the job hazard assessment or through the PTW system. Personnel shall use hand protection when performing work, not limited to, exposing the hands to absorption of harmful substances, cuts or lacerations, abrasions, punctures, vibrations, chemical burns, thermal burns and other harmful extremes in temperature.
- ✎ The use of fit for purpose protective gloves is mandatory when welding, oxygen fuel cutting, grinding, blasting, working with chemicals and when performing specific electrical functions or using hand tools. Leather gloves are required when rigging or handling materials. Gloves shall be free of holes and defects.
- ✎ The selection of hand protection shall be based on the specific task being performed, conditions present, and duration of exposure, potential hazards identified and performance characteristics of the glove material.

7.7.5.7 Foot Protection

- ✎ Safety-toed boots are required in all designated work areas outside the site office. Footwear shall meet the requirements of Safety footwear to EN345-1 S1 (or equivalent standard). Protective footwear shall have leather or rubber uppers that extend above the ankle, an oil resistant sole, and a distinctive heel (raised 3/8 to 1/2 inch across the entire heel) for climbing stairs and ladders.
- ✎ Lace up or pull on styles are accepted, however lace up boots provide better ankle support and are therefore preferred. Chemical resistant foot protection is required when handling or working with hazardous or corrosive materials. Exceptions to this requirement, such as use of safety shoes by short-term visitors, shall be approved by the Location IC.

7.7.5.8 Personal Fall Protection

- ✎ Personal fall protection shall be worn in all designated areas and as required by the job risk assessment and Permit to Work. Fall protection shall be worn where there is a risk of falling from a height of 2 meters or more (including work

- areas within 2 meters of an open edge where there is the potential to fall 2 meters or more) or as detailed by the job risk assessment.
- The components of the personal fall protection system include:

 - An engineered and appropriately rated anchor point.
 - Automatic and/or self-locking connecting mechanisms.
 - A lanyard with deceleration capability.
 - A full body harness.
 - All fall protection equipment shall be inspected before each use and maintained according to the manufacturer's recommendations. A register of fall protection equipment shall be maintained, including records of inspections for new and replacement equipment.

7.7.5.9 Respiratory Protection

- Respiratory protection shall be worn in all designated areas and as outlined by Location HSE Matrix. Respiratory protection shall meet the requirements outlined in OSHA 29 CFR Part 1910.134 – Respiratory Protection (or equivalent standard). The PPE Matrix must address the following work environments:

 - Firefighting or confined spaces when there is a risk of insufficient oxygen.
 - Protection against H₂S or other hazardous atmospheres.
 - Protection against dusts, mists, vapours, gases or particulates.
- When dealing with chemicals, check the MSDS for specific guidance on respiratory protection requirements. Where there is a risk of inhaling low levels of non-toxic dusts, disposable dust masks shall be required.

7.7.6 Color Code for Coverall and Hard Hat (Safety Helmet):

- Standardization in colors shall be as follows:

Color of Coverall	Recommended Categories for Use
Grayish Blue	OGDCL Officers
Red	Firefighting Crew
Dark Blue	OGDCL staff members; laborers (other than Officers)
	Contractors shall comply as per their own company's policy

Note: All Coverall Uniforms shall be Fire Retardant.

Color of Safety Helmet	Recommended Categories for Use (for working in PPE required areas)
White	OGDCL Officers (Location ICs, Sectional ICs, Engineers, etc.)
Yellow	OGDCL staff members; laborers (other than Officers)
Green	HSE Reps. (Engineers/ Officers)
Red	Firefighting Crew
Blue	Employees of Contractors / Sub-contractors working at site
Brown	Welders or workers taking up high heat or high voltage jobs
Grey	All types of Guests/ Visitors

7.7.7 Issuance of PPE

- The **Basic PPE** (Category A) shall be provided to all OGDCL employees irrespective of their designation as per entitlement in the existing policy. OGDCL shall provide the **Basic PPE** to contractors, service companies and visitors at operational sites for their stay period only.
- Five units of each **Specific PPE** (Category B) shall be allotted for two-year-basis to Sectional Heads at all OGDCL operational sites and they shall be liable to maintain this inventory.
- Sectional heads shall issue the **Specific PPE** (Category B) to the employee(s) only against the PPE requirements mentioned in the Work Permit to safely execute the job.

- ✎ Five units of **Emergency PPE** (Category C) shall be allotted to each Fire Section at all OGDCL operational sites and they shall be liable to maintain this inventory.
- ✎ OGDCL shall not be liable to pay any PPE allowance or associated amount to the employees: However washing allowance shall be provided as per the existing policy.

7.7.8 Cleaning and Maintenance

- ✎ All PPE shall be maintained, cared and stored as required in the manufacturer, supplier or user instructions or as the training requires.
- ✎ For the purposes of compliance, PPE shall be inspected, cleaned, and maintained at regular intervals so that the PPE provides the requisite protection.

7.7.9 Disposal

- ✎ The contaminated PPE which cannot be decontaminated shall be disposed of in a manner that protects employees from exposure to hazards.