HAZARD IDENTIFICATION & RISK ASSESSMENT AND ENVIRONMENTAL ASPECTS & IMPACTS PROCEDURE

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CONTROLLED

1.0 PURPOSE

To explain the procedure used for the identification of HSE hazards and assessment of associated risks Related to SAIFCO operations and projects. In the context of QHSE, HSE hazards and risks will also mean and include environmental aspects and impacts.

2.0 SCOPE

This procedure covers all HSE risks at the various departments, levels and sites, contractors and stakeholders including those that are under the control as well as influence of SAIFCO.

3.0 DEFINITIONS

Hazard:

Source or situation with a potential for harm in terms of injury or ill health, damage to property, damage to the workplace environment, or a combination of these.

Hazard identification:

Process of recognizing that a hazard exists and defining its characteristics.

Risk:

Combination of the likelihood and consequences of a specific hazardous event occurring.

Risk Assessment:

Overall process of estimating the magnitude of risk and deciding whether or not the risk is tolerable.

Aspect:

An element of an organization's activities, products or services, which interact with occupational health, safety and environmental performance i.e. shall have a potential effect on environment and have a significant occupational health and safety risk.

4.0 RESPONSIBILITY

Respective department head, project manager have the responsibility to implement this procedure. The management representative ensures that this procedure is implemented and maintained effectively.

5.0 PROCEDURE

5.1 General

5.1.1 All department heads are responsible to ensure the implementation of this procedure, while the Management Representative is responsible to ensure that this procedure is maintained and updated whenever required.

5.1.2 The same shall apply to projects, where the project manager will be the focal point of controlling all changes for ensuring that the projects are assessed from technical and safety / risk management perspective.

5.2 Procedure

5.2.1 Controlling of potential hazards can only be achieved by structured risk management. This requires;

a) identification of all activities, their potential hazardous events and consequences under normal and abnormal operating conditions

b) Assessing and prioritizing risks in cost effective manner.

c) Ensuring risk assessment precedes implementation of operational / facility

d) Ensuring any corrective and preventive actions are routed through a risk assessment before implementation

e) Ensuring the design of new facilities incorporates HSE reviews.

f) Ensuring that acquisitions and asset disposal are evaluated for HSE risks.

g) Ensuring that HSE hazards from equipment and facility decommissioning are risk managed.

- Steps a, b, c, d, and e must be captured by adding those requirements in the consultant and contractor scope of work during different phases of the project.

Note: Potential HSE emergency situations are addressed within the system separately and they are not subject to risk assessment as defined in this procedure.

5.2.2 Hazard Identification and Qualitative Risk Assessment involves a series of steps such as:

5.2.2.1 Identification of activities / products / services under the control of the organization and also those where the organization can influence.

5.2.2.2 Identification of environmental aspects and OHS hazards for each of these.

5.2.2.3 Identification of environmental impact and OHS risk for each of these.

5.2.2.4 Assessment of risk using the Risk Matrix

5.2.3 The identification of the hazards and risks considers the following:

5.2.3.1 Routine and non-routine activities / products / services

5.2.3.2 Activities of the persons having access to workplace

5.2.3.3 Human behavior, capabilities and other human factors [for OHS only]

5.2.3.4 Hazards originating outside the workplace capable of adversely affecting the health & safety of persons under the control of the organization within the workplace [for OHS only]

5.2.3.5 Hazards created within the vicinity of the workplace by work related activities

5.2.3.6 Infrastructure, equipment and materials at the workplace

5.2.3.7 Changes or proposed changes in the system, organization, its activities or materials

5.2.3.8 Any applicable legal obligations relating to risk assessment

5.2.3.9 Design of work areas, processes, installations, machinery / equipment, operating procedures and work organization

For each of the hazards identified, SAIFCO Risk Matrix allows the user to determine the possible consequences (consequence analysis) and the likelihood (frequency analysis). Combining the consequence and probability gives us an estimation of risk (Risk = frequency x consequence). The risk evaluation step leads to one of four conclusions which are stated at the bottom of the Risk Matrix.

Material Safety Data Sheets (MSDS) are effective tools in identifying health hazards and appropriate precautionary measures to be used when using or handling hazardous substances or undertaking routine operations with inherent risk.

RISK MATRIX

Rating	Probability/Likelihood	Severity of OHS Risk	Severity of Environmental impact
1	Less than Once / year	Minor injury / ill health, only first aid case	Minor impact like spillage
2	Once / year	Minor injury beyond first aid but without lost time	Generation of non-hazardous recyclable waste / emissions
3	Once / month	Lost time incident	Generation of non-hazardous non-recyclable waste / emissions
4	Once / week	Permanent disability	Generation of hazardous waste / emissions
5	Once / day or Continuous	Fatal incident	1. Depletion of natural resource 2. Global scale – e.g. Global warming, Ozone depletion, irreversible change to ecosystem 3. Potential legal non-compliance

INTOLERABLE / SIGNIFICANT RISK

The risk with a severity rating of 5 or a total risk rating of 10 or more is considered as intolerable / significant.

RISK SCORING CRITERIA for OCCUPATIONAL HEALTH & SAFETY

Risk Score	Category
5 or less	Low
More than 6 & up to 10	Medium
More than 10	High

RISK REGISTER

The identified hazards and risks shall be documented in the Risk Register.

A unified Risk / Environmental Impact Register shall be used by all Department heads. This will allow standardization of approach, reporting and populating the central Risk / Environmental Impact Register. Each project will use the central Risk / Environmental Impact Register to develop project specific risk assessment.

RISK REDUCTION PROGRAMS

OHS high residual risk shall be typically managed by the following means:

1. Close supervision of the operations by the OHS coordinator
2. Periodic safety inspections
3. Periodic tool box talks

A risk reduction program shall developed for intolerable / significant risk where the program will only be relevant to long-term actions that are required to identify the risk or reduce it to acceptable level.

6.0 ATTACHMENTS

Type	Name	Number / Code
Register	Risk Register	IMS/QHSE/HIRAEAI/08/01
Register	Environmental Aspect Register	IMS/QHSE/HIRAEAI/08/02

QHSE MANAGEMENT SYSTEM	SAIFCO Electromechanical Works (LLC)	
Document Name :	QHSE Ref:	IMS/QHSE/HIRAEAI/08/01 Rev.00
Risk Register	Date:	06-Jun-19

Location: Workshop/Stores,Fabrication,Office, Project Sites

SR	ACTIVITIES													Activity Element	Potential Hazards	Potential Risk	Base Risk Assessment			Risk Level	Current Controls	Residual Risk Asssessment			Residual Risk Level	Residual Risks
	Cable tray & Trunking	Duct Work	Exterior Lighing System	Install. of pipe line (Chilled water,fire fighting, drainage water supply)	Install. of LV conductors and cables	Install. of Main Busbar	Install. of Panel boards (DBs,SMDBs)	Cable Termination	Plumbing	Transport	Maintain.	Fabrication	Workshop/ Stores	Office				Likelihood (L)	Severity (S)	Risk Rating (R)			Likelihood (L)	Severity (S)	Risk Rating (R)		Preventive Action
1	N	N	N	N	N	N	N	N	N	Y		NA	Y	NA	Delivery Vehicle and Material Transport in public movement areas	Accident leading to collision	Injury	2	3	6	Low	Registered Vehicle Licensed driver Induction training to driver	1	3	3	Low	
2	N	N	N	N	N	N	N	N	N	Y		NA	NA	NA	Delivery Vehicle and Material Transport in public movement areas	Accident leading to crush	Death	2	5	10	High	Registered Vehicle Locensed driver Induction training to driver, speed limit maintained.	1	4	4	Low	Periodic tool box talks Regular OHS inspections Close supervision by OHS coordinator
3	Y	Y	Y	N	Y	NA	NA	Y	NA	NA	y	y	y	NA	Handling sharp objects	Cutting body parts	Injury	3	3	9	Medium	Trained / skilled labour Work permit Use of PPE	1	3	3	Low	
4	Y	Y	Y	Y	NA	y	NA	NA	NA	NA	y	y	y	NA	Lifting & Manual Handling Operation	Falling objects Breakage of lifting device	Death	2	5	10	High	Work permit Close supervision Protect / barricade the area Use certified lifting tools Valid certificates Authorised banksman Comply with DCA rules Use checklists PPE	1	4	4	Low	Periodic tool box talks Regular OHS inspections Close supervision by OHS coordinator
5	NA	y	Y	y	y	NA	NA	NA	NA	NA	y	NA	NA	NA	Lifting & Manual Handling Operation	Falling objects Breakage of lifting device	Injury	2	4	8	Low	Work permit Close supervision Protect / barricade the area Use certified lifting tools Valid certificates Authorised banksman Comply with DCA rules Use checklists PPE	1	4	4	Low	NA
6	Y	Y	Y	y	Y	Y	NA	NA	Y	NA	n	y	y	NA	Material handling	Mechanical aid failure Falling object	Death	1	5	5	High	Certified crane Valid certificate Installation as per manufacturer's instructions Licensed operator Authorised baksman Barricade the area of the work Comply with DCA rules DCA cheklist No person to stand below the swing radious of the load Use of PPE	1	5	5	High	Periodic tool box talks Regular OHS inspections Close supervision by OHS coordinator
7	NA	NA	NA	y	NA	NA	NA	NA	Y	NA	y	Y	Y	NA	Pressure testing	Bursting of pipeline	Injury	1	4	4	Low	Barricade work area Follow mthod statement, permit to work system.	1	4	4	Low	
8	NA	Y	NA	y	NA	NA	NA	NA	Y	NA	y	Y	Y	NA	Use of sealants	chemical	Skin irritation	5	2	10	Medium	Trained / skilled labour Use of PPE Use of MSDS	2	2	4	Low	
9	Y	Y	Y	y	Y	NA	NA	NA	Y	NA	y	Y	Y	NA	Working at height	Falling from height Collapse of scaffolding	Injury	1	4	4	Low	Work permit Authorised scaffolder Inspection & approval of scaffolding No work without SCAF tag Periodi tool box talks Safety Harness PPE	1	4	4	Low	
10	Y	Y	Y	Y	Y	Y	Y	NA	Y	Y	y	NA	NA	NA	Working in hot weather	Exposure to heat	Death	3	5	15	High	Availability of water Sufficient rest breaks	3	1	3	Low	
11	Y	NA	NA	NA	Y	NA	Y	NA	NA	NA	y	Y	Y	NA	Working with cutting machine	Cutting body parts	Injury	5	4	20	High	Trained / skilled labour Work permit Use of PPE	1	3	3	Low	
12	Y	y	NA	NA	Y	NA	NA	NA	NA	NA	y	Y	Y	NA	Working with cutting machine	Moving / rotating parts	Injury	5	3	15	High	Trained / skilled labour Work permit Protected tool head Use of PPE/ ELCB	1	3	3	Low	
13	Y	NA	NA	NA	Y	NA	NA	NA	NA	NA	n	Y	Y	NA	Working with cutting machine	Noise	Hearing loss	5	4	20	High	Regular breaks in work Use of PPE	4	1	4	Low	

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Location: Workshop/Stores,Fabrication,Office, Project Sites

14	Y	NA	NA	NA	Y	NA	NA	NA	NA	NA		Y	Y	NA	Working with cutting machine	Trailing electrical leads	Electrical Shock	5	2	10	Medium	Earthed equipment Propwer electrical connections Skilled labour Use of PPE	1	2	2	Low	
15	Y	Y	Y	Y	Y	Y	Y	NA	Y	NA		Y	Y	NA	Working with power tools	Moving / rotating parts	Injury	5	3	15	High	Trained / skilled labour Work permit Protected tool head Use of PPE	1	3	3	Low	
16	Y	Y	Y	Y	Y	Y	Y	NA	Y	NA		Y	Y	NA	Working with power tools	Noise	Hearing loss	5	4	20	High	Regular breaks in work Use of PPE	4	1	4	Low	
17	Y	Y	Y	Y	Y	Y	Y	NA	Y	NA	y	Y	Y	NA	Working with power tools	Trailing electrical leads	Electrical Shock	5	2	10	Medium	Earthed equipment Proper electrical connections Skilled labour Use of PPE	1	2	2	Low	
18	NA	NA	y	NA	y	y	y	NA	NA	NA		Y	Y	y	Electrical Testing	Trailing electrical lea	Electrical Shock	2	5	10	High	Earthed equipment Proper electrical connections Skilled labour Use of PPE	1	2	2	Low	
19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		Y	Y	y	External cables on flo	Trip & fall	Back pain/injury to bone	3	2	6	Low	Proper training to aviod trip & fall	2	1	2	Low	
20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	y	Y	Y	y	Wet floor	Trip & fall	Back pain/injury to bone	3	2	6	Low	Put warning signs	2	1	2	Low	
21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		Y	Y	y	Improper Seating	Strain on back	Back pain	5	2	10	Medium	Using of proper chairs & training for people not to sit in same place more than 2 hours	4	1	4	Low	
22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	y	NA	Y	NA	Working with Roller Hand Machine	Hand cruch	Hand Injury	5	2	10	Medium	Skilled labour Use of PPE	3	1	3	Low	NA
23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	Y	NA	Working with Roller Hand Machine	Sharp edges	Hand Injury	5	2	10	Medium	Skilled labour Use of PPE	3	1	3	Low	NA
24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	Y	NA	Working with • Hand Flange Machine	Hand cruch	Hand Injury	5	2	10	Medium	Skilled labour Use of PPE	3	1	3	Low	NA
25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	Y	NA	Working with • Hand Flange Machine	Sharp edges	Hand Injury	5	2	10	Medium	Skilled labour Use of PPE	3	1	3	Low	NA
26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	Y	NA	Working with • Hand Bending Machine	Hand cruch	Hand Injury	5	2	10	Medium	Skilled labour Use of PPE	3	1	3	Low	NA
27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA	Y	NA	Working with • Hand Bending Machine	Sharp edges	Hand Injury	5	2	10	Medium	Skilled labour Use of PPE	3	1	3	Low	NA

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Document Name :	QHSE Ref:	IMS/QHSE/HIRAEAI/08/02 Rev.00
Environmental Aspect Register	Date:	06-Jun-19

Department	Activity	Environmental Aspect	Environmental Impact	Severity	Likelihood	Impact Score	Significant	Operational control	Severity	Likelihood	Impact Score	Significant	Objective
Operations	Housekeeping in the entire plant	Electricity consumption	Global Warming	5	5	25	Yes	Systematic Maintenance & Optimum Usage of Energy	5	2	10	Yes	Reduce electricity consumption
Operations	Housekeeping in the entire plant	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	3	3	No	
Operations	Housekeeping in the entire plant	General waste	Land Pollution	1	5	5	No	Proper disposal as per DM guidelines	1	3	3	No	
Operations	Dosing of Chemical	Electricity consumption	Global Warming	5	5	25	Yes	Optimum Use of Energy	5	2	10	No	Reduce electricity consumption
Operations	Dosing of Chemical	Spillage of chemicals	Land & Water Pollution	1	3	3	No	Proper disposal as per DM guidelines	1	2	2	No	
Operations	Dosing of Chemical	Waste cotton jutes	Land Pollution	3	5	15	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Operations	Inspection & Cleaning of AHU / FCU	Electricity consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	2	10	Yes	Reduce electricity consumption
Operations	Inspection & Cleaning of AHU / FCU	Waste cotton jutes	Land Pollution	2	3	6	No	Proper disposal as per DM guidelines	2	3	6	No	
Operations	Inspection & Cleaning of AHU / FCU	General waste	Land Pollution	3	3	9	No	Proper disposal as per DM guidelines	3	3	9	No	
Operations	Greasing of Pump, Motors, Blower Assembly	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Operations	Greasing of Pump, Motors, Blower Assembly	Waste grease	Hazardous waste	4	1	4	No	Proper disposal as per DM guidelines	4	1	4	No	
Operations	Greasing of Pump, Motors, Blower Assembly	Grease Consumption	Depletion of natural resources	5	3	15	Yes	Optimum use of Grease	5	3	15	Yes	
Operations	Inspection of Condenser	Spillage of Oils	Land & Water Pollution, generation of hazardous waste	5	3	15	Yes	Proper work practices and following DM guideline	5	3	15	Yes	
Operations	Inspection of Diesel Generator	Used oil	Hazardous waste	4	2	8	No	Disposal as per DM guidelines or selling to vendor	4	2	8	No	
Operations	Inspection of Diesel Generator	Waste cotton jutes	Land Pollution	2	4	8	No	Proper disposal as per DM guidelines	2	4	8	No	
Operations	Inspection of Diesel Generator	Spillage of Oils	Land & Water Pollution, generation of hazardous waste	5	2	10	Yes	Proper work practices and following DM guideline	5	2	10	Yes	
Operations	Vibration Testing	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Operations	Inspection of Diesel Reservoir	Waste cotton jutes	Land Pollution	2	3	6	No	Proper disposal as per DM guidelines	2	3	6	No	
Operations	Inspection of Diesel Reservoir	Spillage of Oils	Land & Water Pollution, generation of hazardous waste	5	1	5	Yes	Proper work practices and following DM guideline	5	1	5	Yes	
Operations	Inspection of Oxy Reduction System	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Operations	Operation of Chillers	Electricity Consumption	Global Warming	5	5	25	Yes	Optimum Usage of Energy	5	5	25	Yes	Reduce electricity consumption
Operations	Operation of Chillers	Water consumption	Depletion of natural resources	5	5	25	Yes	Optimum usage	5	5	25	Yes	
Operations	Operation of Plants	Use of refrigerant	Ozone Layer Depletion	5	1	5	Yes	Preventive Maintenance	5	1	5	Yes	Reduce contribution to Ozone layer depletion
Projects	Operation of Plants	Electricity consumption	Global Warming	5	5	25	Yes	Systematic Maintenance & Optimum Usage of Energy	5	5	25	Yes	Reduce electricity consumption
Projects	Operation of Plants	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Projects	Disconnection of electrical cables	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Projects	Disconnection of electrical cables	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Projects	Lifting & Transportation of Chiller	Fuel consumtion for crane & vechicles	Depletion of natural resources	5	2	10	Yes	Optimum use of plant & machinery	5	2	10	Yes	
Projects	Fixing Pipes	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Projects	Fixing Pipes	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Projects	Fixing Pipes	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Projects	Fixing Pipes	Welding electrodes - stubs / waste	Hazardous waste	4	3	12	Yes	Proper disposal as per DM guidelines	4	3	12	Yes	
Projects	Fixing Electrical cables	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Projects	Fixing Electrical cables	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Projects	Fixing Electrical cables	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Projects	Pressurizing the pipe line	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Projects	Pressurizing the pipe line	Water consumption	Depletion of natural resources	5	2	10	Yes	Optimum usage	5	2	10	Yes	
Projects	Chemical Treatment	Chemical entry into the storm water drainage / water bodies	Water pollution	5	5	25	Yes	Proper handling/disposal of used chemical water and preveting from discharging into Strom water sewarage.Doing the in-house test of disposed chemical water and take approriate decision to minimise pollution.	5	5	25	Yes	
Projects	Chemical Treatment	Used chemical containers / drums	Hazardous waste	4	2	8	No	Proper disposal as per DM guidelines	4	2	8	No	
Maintenance	Leak testing & reparing	Electricity consumption	Global Warming	5	5	25	Yes	Systematic Maintenance & Optimum Usage of Energy	5	5	25	Yes	Reduce electricity consumption
Maintenance	Leak testing & reparing	Chemical Consumption	Depletion of natural resources	5	1	5	Yes	Optimum usage of chemicals	5	1	5	Yes	
Maintenance	Leak testing & reparing	Spillage of chemicals	Land & Water Pollution	1	3	3	No	Proper maintenance planning.	1	3	3	No	
Maintenance	Leak testing & reparing	Chemical entry into the storm water drainage / water bodies	Water pollution	5	2	10	Yes	Proper handling/disposal of used chemical water and preveting from discharging into Strom water sewarage.Doing the in-house test of disposed chemical water and take approriate decision to minimise pollution.	5	2	10	Yes	
Maintenance	Leak testing & reparing	Used chemical containers / drums	Hazardous waste	4	2	8	No	Proper disposal as per DM guidelines	4	2	8	No	

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Environmental Aspect Register	Date:	06-Jun-19

Department	Activity	Environmental Aspect	Environmental Impact	Severity	Likelihood	Impact Score	Significant	Operational control	Severity	Likelihood	Impact Score	Significant	Objective
Maintenance	Leak testing & reparing	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Maintenance	Leak testing & reparing	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Maintenance	Changing filters	Used filter	Hazardous waste	4	2	8	No	Proper disposal as per DM guidelines	4	2	8	No	
Maintenance	Filters changing & oil test	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Maintenance	Changing filters	Used filter	Hazardous waste	4	2	8	No	Proper disposal as per DM guidelines	4	2	8	No	
Maintenance	Inspection & Maintenance of Condenser	Electricity consumption	Global Warming	5	5	25	Yes	Systematic Maintenance & Optimum Usage of Energy	5	5	25	Yes	Reduce electricity consumption
Maintenance	Inspection & Maintenance of Condenser	Chemical Consumption	Depletion of natural resources	5	1	5	Yes	Optimum usage of chemicals	5	1	5	Yes	
Maintenance	Inspection & Maintenance of Condenser	Spillage of chemicals	Land & Water Pollution	1	3	3	No	Proper maintenance plan	1	3	3	No	
Maintenance	Inspection & Maintenance of Condenser	Chemical entry into the storm water drainage / water bodies	Water pollution	5	2	10	Yes	Proper handling/disposal of used chemical water and preveting from discharging into Strom water sewarage.Doing the in-house test of disposed chemical water and take approriate decision to minimise pollution.	5	2	10	Yes	
Maintenance	Inspection & Maintenance of Condenser	Used chemical containers / drums	Hazardous waste	4	2	8	No	Proper disposal as per DM guidelines	4	2	8	No	
Maintenance	Inspection & Maintenance of Condenser	Waste cotton jutes	Land Pollution	2	4	8	No	Proper disposal as per DM guidelines	2	4	8	No	
Maintenance	Inspection & Maintenance of Condenser	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Maintenance	Inspection & Maintenance of Condenser Fan Motor	Electricity consumption	Global Warming	5	5	25	Yes	Systematic Maintenance & Optimum Usage of Energy	5	5	25	Yes	Reduce electricity consumption
Maintenance	Inspection & Maintenance of Condenser Fan Motor	Waste cotton jutes	Land Pollution	2	4	8	No	Proper disposal as per DM guidelines	2	4	8	No	
Maintenance	Inspection & Maintenance of Condenser Fan Motor	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Maintenance	Inspection & Maintenance of Chilled Water Pump & Motor	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Maintenance	Inspection & Maintenance of Chilled Water Pump & Motor	Chemical Consumption	Depletion of natural resources	5	3	15	Yes	Optimum usage of chemicals	5	3	15	Yes	
Maintenance	Inspection & Maintenance of Chilled Water Pump & Motor	Spillage of chemicals	Land & Water Pollution	1	2	2	No	Proper maintenance & work practices and following DM guideline	1	2	2	No	
Maintenance	Inspection & Maintenance of Chilled Water Pump & Motor	Chemical entry into the storm water drainage / water bodies	Water pollution	5	2	10	Yes	Proper handling/disposal of used chemical water and preveting from discharging into Strom water sewarage.Doing the in-house test of disposed chemical water and take approriate decision to minimise pollution.	5	2	10	Yes	
Maintenance	Inspection & Maintenance of Chilled Water Pump & Motor	Waste cotton jutes	Land Pollution	2	4	8	No	Proper disposal as per DM guidelines	2	4	8	No	
Maintenance	Compressor Motor Winding Meggering	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Maintenance	Compressor Motor Winding Meggering	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Maintenance	Inspection & Maintenance of Power Control Panel	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Maintenance	Inspection & Maintenance of Power Control Panel	Waste cotton jutes	Land Pollution	2	4	8	No	Proper disposal as per DM guidelines	2	4	8	No	
Maintenance	Inspection & Maintenance of Power Control Panel	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Maintenance	Cleaning & Maintenance of Chilled Water Strainer	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Maintenance	Cleaning & Maintenance of Chilled Water Strainer	Waste cotton jutes	Land Pollution	2	3	6	No	Proper disposal as per DM guidelines	2	3	6	No	
Maintenance	Cleaning & Maintenance of Chilled Water Strainer	Chemical entry into the storm water drainage / water bodies	Water pollution	5	2	10	Yes	Proper handling/disposal of used chemical water and preveting from discharging into Strom water sewarage.Doing the in-house test of disposed chemical water and take approriate decision to minimise pollution.	5	2	10	Yes	
Maintenance	Cleaning & Maintenance of Chilled Water Strainer	Waste from strainer	Land & Water Pollution	3	3	9	No	Proper disposal as per DM guidelines	3	3	9	No	
Maintenance	Evaporator Cleaning	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Maintenance	Cleaning of evaporator	Water consumption	Depletion of natural resources	5	2	10	Yes	Optimum usage	5	2	10	Yes	
Maintenance	Evaporator Cleaning	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Maintenance	Evaporator Cleaning	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Maintenance	Gas Charging of Chiller	Gas consumption	Depletion of natural resources	5	1	5	Yes	Systematic Maintenance	5	1	5	Yes	
Maintenance	Compressor Replacement	Used oil	Hazardous waste	4	2	8	No	Disposal as per DM guidelines or selling to vendor	4	2	8	No	
Maintenance	Compressor Replacement	Spillage of Oils	Land & Water Pollution, generation of hazardous waste	5	1	5	Yes	Proper maintenance & work practices.	5	1	5	Yes	
Maintenance	Compressor Replacement	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Maintenance	Compressor Replacement	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Maintenance	Compressor Oil Change	Used oil	Hazardous waste	4	2	8	No	Disposal as per DM guidelines or selling to vendor	4	2	8	No	
Maintenance	Compressor Oil Change	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Maintenance	Compressor Oil Change	Spillage of Oils	Land & Water Pollution, generation of hazardous waste	5	2	10	Yes	Proper maintenance & work practices.	5	2	10	Yes	
Maintenance	Compressor Oil Change	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	

QHSE MANAGEMENT SYSTEM	SAIFCO Electromechanical Works (LLC)	
Document Name :	QHSE Ref:	IMS/QHSE/HIRAEAI/08/02 Rev.00
Environmental Aspect Register	Date:	06-Jun-19

Department	Activity	Environmental Aspect	Environmental Impact	Severity	Likelihood	Impact Score	Significant	Operational control	Severity	Likelihood	Impact Score	Significant	Objective
Maintenance	Maintenance of Cooling Tower	General waste	Land Pollution	3	2	6	No	Proper disposal as per DM guidelines	3	2	6	No	
Maintenance	General Maintenance of Cooling Tower	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	5	3	15	Yes	Reduce electricity consumption
Maintenance	General Maintenance of Cooling Tower	Waste grease	Hazardous waste	4	1	4	No	Proper disposal as per DM guidelines	4	1	4	No	
Maintenance	General Maintenance of Cooling Tower		Depletion of natural resources	5	4	20	Yes	Proper disposal as per DM guidelines	5	4	20	Yes	
Maintenance	General Maintenance of Cooling Tower	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Maintenance	General Maintenance of Cooling Tower	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Maintenance	Servicing of Fan Cooling Unit (FCU) & Air Handling Unit	General waste	Land Pollution	3	3	9	No	Proper disposal as per DM guidelines	3	3	9	No	
Maintenance	Servicing of Fan Cooling Unit (FCU) & Air Handling Unit	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	4	2	8	No	Reduce electricity consumption
Maintenance	Servicing of Fan Cooling Unit (FCU) & Air Handling Unit	Waste grease	Hazardous waste	4	3	12	Yes	Proper disposal as per DM guidelines	4	2	8	No	
Maintenance	Servicing of Fan Cooling Unit (FCU) & Air Handling Unit	Waste cotton jutes	Land Pollution	2	3	6	No	Proper disposal as per DM guidelines	2	3	6	No	
Maintenance	Servicing of Fan Cooling Unit (FCU) & Air Handling Unit	Used / damaged parts	Land Pollution	3	3	9	No	Proper disposal as per DM guidelines	3	3	9	No	
Maintenance	Pressurization Unit Pump & Motor Checking	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	4	2	8	No	Reduce electricity consumption
Maintenance	Pressurization Unit Pump & Motor Checking	Waste grease	Hazardous waste	4	1	4	No	Proper disposal as per DM guidelines	4	1	4	No	
Maintenance	Pressurization Unit Pump & Motor Checking		Depletion of natural resources	5	4	20	Yes	Proper disposal as per DM guidelines	4	2	8	No	
Maintenance	Pressurization Unit Pump & Motor Checking	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Maintenance	Pressurization Unit Pump & Motor Checking	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Maintenance	Inspection of Chilled water System & Pumps	Chemical entry into the storm water drainage / water bodies	Water pollution	5	2	10	Yes	Proper handling/disposal of used chemical water and preveting from discharging into Strom water sewarage.Doing the in-house test of	5	2	10	Yes	
Maintenance	Inspection of Chilled water System & Pumps	Waste grease	Hazardous waste	4	1	4	No	Proper disposal as per DM guidelines	4	1	4	No	
Maintenance	Inspection of Chilled water System & Pumps		Depletion of natural resources	5	4	20	Yes	Proper disposal as per DM guidelines	5	4	20	Yes	
Maintenance	Inspection of Chilled water System & Pumps	Waste cotton jutes	Land Pollution	2	4	8	No	Proper disposal as per DM guidelines	2	4	8	No	
Maintenance	Inspection of Chilled water System & Pumps	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Maintenance	Changing of Dehydrator	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Maintenance	Changing of oil filter	Used oil filter	Hazardous waste	4	2	8	No	Proper disposal as per DM guidelines	4	2	8	No	
Maintenance	Changing of oil filter	Spillage of chemicals	Land & Water Pollution	1	1	1	No	Optimum usage of chemicals	1	1	1	No	
Maintenance	Changing of oil filter	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Maintenance	Changing of oil filter	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Maintenance	Electrical Room Chiller power & control panel maintenance	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	4	12	Yes	
Maintenance	Electrical Room Chiller power & control panel maintenance	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Maintenance	Servicing of Chiller Plant Variable Frequency Drive	Used / damaged parts	Land Pollution	3	3	9	No	Proper disposal as per DM guidelines	3	3	9	No	
Maintenance	Servicing of Chiller Plant Variable Frequency Drive	Waste cotton jutes	Land Pollution	2	3	6	No	Proper disposal as per DM guidelines	2	3	6	No	
Maintenance	Cleaining of Chiller Condenser	Used / damaged parts	Land Pollution	3	2	6	No	Proper disposal as per DM guidelines	3	2	6	No	
Maintenance	Cleaining of Chiller Condenser	Waste cotton jutes	Land Pollution	2	2	4	No	Proper disposal as per DM guidelines	2	2	4	No	
Maintenance	Cleaning of Chiller Condenser	General waste	Land Pollution	3	2	6	No	Proper disposal as per DM guidelines	3	2	6	No	
Maintenance	cleaning of Chiller Condenser	Chemical entry into the storm water drainage / water bodies	Water pollution	5	2	10	Yes	Proper handling/disposal of used chemical water and preveting from discharging into Strom water sewarage.Doing the in-house test of disposed chemical water and take approriate decision to minimise pollution	5	2	10	Yes	
Maintenance	Servicing of evaporator	Used / damaged parts	Land Pollution	3	3	9	No	Proper disposal as per DM guidelines	3	3	9	No	
Maintenance	Servicing of evaporator	Waste cotton jutes	Land Pollution	2	3	6	No	Proper disposal as per DM guidelines	2	3	6	No	
Maintenance	Servicing of evaporator	General waste	Land Pollution	3	3	9	No	Proper disposal as per DM guidelines	3	3	9	No	
Maintenance	Servicing of evaporator	Chemical entry into the storm water drainage / water bodies	Water pollution	5	3	15	Yes	Proper handling/disposal of used chemical water and preveting from discharging into Strom water sewarage.Doing the in-house test of disposed chemical water and take approriate decision to minimise pollution	5	3	15	Yes	
Maintenance	Changing oil	Used oil	Hazardous waste	4	2	8	No	Proper disposal as per DM guidelines	4	2	8	No	
Maintenance	Oil Change	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	4	4	No	
Maintenance	Oil Change	Used oil	Hazardous waste	4	2	8	No	Disposal as per DM guidelines	4	2	8	No	
Maintenance	Oil Change	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	2	4	8	No	
Maintenance	Repair of Chiller Leak and Gas charging	Use of refrigerant	Ozone Layer Depletion	5	1	5	Yes	Systematic Maintenance	4	1	4	No	
Maintenance	Leak repair and Gas charging in Chiller	Used oil	Hazardous waste	4	1	4	No	Disposal as per DM guidelines or selling to vendor	4	1	4	No	
Maintenance	Leak repair and Gas charging in Chiller	Spillage of Oils	Land & Water Pollution, generation of hazardous waste	5	1	5	Yes	Proper maintenance & work practices.	4	1	4	No	

QHSE MANAGEMENT SYSTEM	SAIFCO Electromechanical Works (LLC)	
Document Name :	QHSE Ref:	IMS/QHSE/HIRAEAI/08/02 Rev.00
Environmental Aspect Register	Date:	06-Jun-19

Department	Activity	Environmental Aspect	Environmental Impact	Severity	Likelihood	Impact Score	Significant	Operational control	Severity	Likelihood	Impact Score	Significant	Objective
Maintenance	Leak repair and Gas charging in Chiller	Used / damaged parts	Land Pollution	3	1	3	No	Proper disposal as per DM guidelines	3	1	3	No	
Maintenance	Leak repair and Gas charging in Chiller	Waste cotton jutes	Land Pollution	1	1	1	No	Proper disposal as per DM guidelines	1	1	1	No	
Maintenance	Leak repair and Gas charging in Chiller	Used oil	Hazardous waste	4	1	4	No	Disposal as per DM guidelines or selling to vendor	4	1	4	No	
Maintenance	Overhauling of Chiller Compressor	Electricity Consumption	Global Warming	5	2	10	Yes	Optimum use of energy	3	2	6	No	Reduce electricity consumption
Maintenance	Overhauling of Chiller Compressor	Water consumption	Depletion of natural resources	5	2	10	Yes	Optimum use of water	3	2	6	No	
Maintenance	Overhauling of Chiller Compressor	Waste cotton jutes	Land Pollution	2	2	4	No	Proper disposal as per DM guidelines	2	2	4	No	
Maintenance	Overhauling of Chiller Compressor	Chemical entry into the storm water drainage / water bodies	Water pollution	5	2	10	Yes	Proper handling/disposal of used chemical	4	2	8	No	
Maintenance	Overhauling of Chiller Compressor	Gas consumption	Depletion of natural resources	5	2	10	Yes	Systematic Maintenance with proper decanting of gas	4	1	4	No	
Maintenance	Overhauling of Chiller Compressor	Waste from strainer	Hazardous waste	4	2	8	No	Proper disposal as per DM guidelines	4	1	4	No	
Maintenance	Overhauling of Chiller Compressor	Use of refrigerant	Ozone Layer Depletion	5	2	10	Yes	Systematic Maintenance with proper decanting of gas	4	1	4	No	Reduce contribution to Ozone layer depletion
Maintenance	Electrical Room MV switchgear Maintenance	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	2	6	No	
Maintenance	Electrical Room MV switchgear Maintenance	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per DM guidelines	1	2	2	No	
Office	Lighting	Electricity consumption	Global Warming	5	5	25	Yes	Optimum Usage of Energy	3	1	3	No	Reduce electricity consumption
Office	Use of electronic equipment	Electricity consumption	Global Warming	5	5	25	Yes	Optimum Usage of Energy	3	2	6	No	Reduce electricity consumption
Office	Use of electronic equipment	Waste batteries	Hazardous waste	4	1	4	No	Proper disposal as per DM guidelines	4	1	4	No	
Office	Printing	Electricity consumption	Global Warming	5	4	20	Yes	Optimum Usage of Energy	4	2	8	No	Reduce electricity consumption
Office	Printing	Paper consumption	Depletion of natural resources	5	5	25	Yes	Recycling	3	3	9	No	
Office	Printing	Used toner cartridges	Hazardous waste	4	1	4	No	Proper disposal as per DM guidelines	4	1	4	No	
Office	Toilets	Water consumption	Depletion of natural resources	5	4	20	Yes	Optimum Usage	4	2	8	No	
Office	Toilets	Wastewater generation	Water pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	2	6	No	
Office	Pantry	Water consumption	Depletion of natural resources	5	5	25	Yes	Optimum usage	4	2	8	No	
Office	Pantry	Wastewater generation	Water pollution	3	4	12	Yes	Proper disposal as per DM guidelines	3	2	6	No	
Office	Use of office equipment	General waste	Depletion of natural resources	5	2	10	Yes	Optimum Usage	4	1	4	No	
Office	Heater	Electricity consumption	Global Warming	5	4	20	Yes	Optimum Usage of Energy	3	3	9	No	Reduce electricity consumption
Office	Air conditioning	Electricity consumption	Global Warming	5	5	25	Yes	Optimum Usage of Energy	3	3	9	No	Reduce electricity consumption
Office	Lighting	Used fluorescent lamp	Hazardous waste	4	1	4	No	Proper disposal as per DM guidelines	4	1	4	No	
Office	Disposal of recyclable waste (paper, plastic, aluminium cans)	General waste	Land Pollution	2	5	10	No	Proper disposal as per DM guidelines	2	4	8	No	
Office	Use and maintenance of Refrigerator	Leakage of refrigerant	Ozone Layer Depletion	5	1	5	Yes	Systematic Maintenance with proper decanting of gas	4	1	4	No	Reduce contribution to Ozone layer depletion
Office	Use of electronic equipment	Electronic Waste	Hazardous waste	4	2	8	No	Proper disposal as per DM guidelines	4	1	4	No	
Workshop	Fabrication Activities	Electricity Consumption	Global Warming	5	3	15	Yes	Systematic Maintenance & Optimum Usage of Energy	4	2	8	No	Reduce electricity consumption
Workshop	Fabrication Activities	Used / damaged parts	Land Pollution	3	4	12	Yes	Proper disposal as per DM guidelines	2	3	6	No	
Workshop	Fabrication Activities	Gas consumption	Depletion of natural resources	5	5	25	Yes	Systematic Maintenance	4	2	8	No	
Workshop	Fabrication Activities	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per Sharjah Municipality	1	4	4	No	
Workshop	Fabrication Activities	Welding electrodes - stubs / waste	Hazardous waste	4	4	16	Yes	Proper disposal as per Sharjah Municipality	3	3	9	No	
Workshop	Fabrication Activities	Noise during duct sheet cutting	Noise/ Pollution	3	3	9	No	Use of ear muffs	1	3	3	No	
Workshop	Fabrication Activities	Scrap	Land Pollution	4	3	12	Yes	Proper disposal as per Sharjah Municipality	2	2	4	No	
Warehouse/ Stores	Housekeeping	Electricity consumption	Global Warming	5	5	25	Yes	Systematic Maintenance & Optimum Usage of Energy	4	2	8	No	Reduce electricity consumption
Warehouse/ Stores	Housekeeping	Waste cotton jutes	Land Pollution	1	4	4	No	Proper disposal as per Sharjah Municipality	1	3	3	No	
Warehouse/ Stores	Housekeeping	General waste	Land Pollution	1	5	5	No	Proper disposal as per Sharjah Municipality	1	3	3	No	
Warehouse/ Stores	Using of chemicals	Disposal of chemicals	Land Pollution	4	3	12	Yes	Proper disposal as per Sharjah Municipality	2	3	6	No	
Warehouse/ Stores	Used items(paper, plastic, cans, old and used materials)	Disposal of used items(paper, plastic, cans, old and used materials)	Land Pollution	4	3	12	Yes	Proper disposal as per Sharjah Municipality, scrap or reuse.	4	2	8	No	