



PL.01.01 RISK ASSESSMENT

Revision No. 1
Issued Date 12-09-16

PL.01.01-F-04 FPC RISK REGISTER

No. 1 of 1

Name Of Department: **EHSS** Date of Release: 22-Jul-20

PROBABILITY	
Probability	Score
Extreme (Likely to occur one or more times per year)	8
High (Likely to occur 10 or less in 25 years)	6
Moderate (Likely to occur 2 or less in 25 years)	4
Low (May occur once in 25 years)	2
Remote (Not likely to occur in 25 years)	1

RISK CRITERIA					
RISK CLASSIFICATION		Criticality/Risk Rating			
Consequence	A	B	C	D	E
A	B (12)	B (24)	A (48)	A (72)	A (96)
B	C (6)	B (12)	B (24)	A (36)	A (48)
C	D (4)	C (8)	B (16)	B (24)	A (32)
D	D (2)	D (4)	C (6)	B (12)	B (16)
E	D (1)	D (2)	D (4)	C (6)	C (8)
Probability	Remote	Low	Moderate	High	Extreme

Risk Class Description	Risk Rating
High Risk	A
Moderate Risk	B
Low Risk	C
Acceptable Risk	D

Risk Rating (RR) = P x C

DIVISION	Name of Department	Name of Section	ACTIVITY	SUB ACTIVITY	CONDITION OF ACTIVITY	ASPECT - Identified Risk/Issue/Concerns (Output of process or activity)	FOCUS CATEGORY	IMPACT	LEGAL - Place "X" if Yes	OTHER - Place "X" if Yes	Probability of Occurrence	Consequences	RISK Score	Risk Category	SIGNIFICANT BASED ON LEGAL	Protections Available (Measure Control)	Probability of Occurrence	Consequences	RISK Score	RISK RESPONSE	Further Action	Target Date
EHSS	EHSS	Environment	Source Monitoring	Annual Stack Testing	Non-routine	Fail to conduct the testing	Environment	Air Emission	X		4	4	16	Medium	Yes	1. Pre-planned scheduling for Annual Stack Testing. 2. OP.10.01 process is in place. 3. KPI is defined to conduct the testing 4. Monthly Management Committees' review 5. Annual Risk Management Plan (PL.01.01-F-01) in place.	2	2	4	Acceptable		
EHSS	EHSS	Environment	Source Monitoring	Annual Stack Testing	Non-routine	Fail to notify RC 14 days in advance of test	Environment	Non-compliance	X		4	4	16	Medium	Yes	1. Pre-planned scheduling for Annual Stack Testing. 2. OP.10.01 process is in place. 3. KPI is defined to notify RC in advance of testing. 4. Monthly Management Committees' review. 5. RC approved certified Vendor for testing	2	2	4	Acceptable		
EHSS	EHSS	Environment	Source Monitoring	Annual Stack Testing	Non-routine	In-experienced Vendors/Inadequate Tools & Equipment	Environment	Air Emission	X		4	4	16	Medium	Yes	1. Experiences & qualified Vendor Selection based on RC criteria and qualification 2. Calibrated tools and Equipment is used 3. OP.10.01 process is in place to control the activities and associated aspects 4. Annual Contractor Performance Evaluation is in place.	2	2	4	Acceptable		
EHSS	EHSS	Environment	Source Monitoring	Annual Stack Testing	Non-routine	Off Spec Results	Environment	Non-compliance	X		4	4	16	Medium	Yes	1. Calibrated tools and Equipment is used. 2. OP.10.01 process is in place to control the activities and associated aspects 3. DCS monitoring and control 4. Online analyzers for CEMs parameters 5. Risk assessment for off spec. results as per PL.01.01. 6. Non-compliance reporting to RC as per OP.10.04.	2	2	4	Acceptable		
EHSS	EHSS	Environment	Source Monitoring	Annual Stack Testing	Non-routine	Slip/Trip/Fall	Safety	Fatality			4	12	48	High		1. Work Permit system is in place. 2. JSA / TBT is conducted prior to start the activities 3. Safe Work Practice Processes (Function OP.12) is in place. 4. Appropriate PPEs is used 5. Area barrication is applied 6. Adequate supervision from FPC. 7. PL.06 (ERP) systems are in place for emergency	2	2	4	Acceptable	Activities shall be continuously supervised by Vendor and on top of that Farabi concerned person shall available all the time while executing the job.	
EHSS	EHSS	Environment	Source Monitoring	Continuous Air Emission Monitoring (CEM)	Routine	Compliance Failure for CEM report	Environment	Non-compliance	X		4	4	16	Medium	Yes	1. OP.10.02 (CEM) process is in place 2. DCS Continuous Monitoring of CEMs parameters 3. Online Analyzers are available 4. Control Device (LNB) is installed in CEMs applicable furnaces. 5. Non-Compliance Reporting is followed for any deviations or off spec. readings 6. Management review (e.g. SOC) is conducted	2	2	4	Acceptable		
EHSS	EHSS	Environment	Source Monitoring	Continuous Air Emission Monitoring (CEM)	Routine	In-continuous Operation of CEMs system	Environment	Non-compliance	X		4	4	16	Medium	Yes	1. OP.10.02 (CEM) process is in place 2. DCS Continuous Monitoring of CEMs parameters 3. Online Analyzers are available. 4. Non-Compliance Reporting is followed for any deviations and /or process upset 5. Dedicated template is designed as part of process 6. Management review (e.g. SOC) is conducted	2	2	4	Acceptable		
EHSS	EHSS	Environment	Source Monitoring	Continuous Air Emission Monitoring (CEM)	Routine	Non-functioning of CEMs online analyzers	Environment	Air Emission	X		4	4	16	Medium	Yes	1. OP.10.02 (CEM) process is in place 2. DCS Continuous Monitoring of CEMs parameters 3. Online Analyzers are available. 4. PM & Calibration is conducted in planned interval. 5. Non-Compliance Reporting is followed for any analyzer deviations and /or process upset 6. Management review (e.g. SOC) is conducted	2	2	4	Acceptable		
EHSS	EHSS	Environment	Source Monitoring	Flare Monitoring	Routine	Smoky Flare	Environment	Air Emission	X		8	4	32	High	Yes	1. OP.10.04 (Flare Monitoring) Process is in place 2. Notify to RC emergency channel (if required) 3. Flare Non-Compliance Report (OP.10.04-F-01) to RC 4. Flare HAZOP has been completed 5. Incident is captured under IM.01.01 6. Flare system SOP is in place (SOP-880-PRO-01)	4	1	4	Acceptable		
EHSS	EHSS	Environment	Source Monitoring	Fugitive Emission Monitoring (FEM)	Non-Routine	Fugitive Emissions (VOC's & HAP)	Environment	Air Emission	X		8	4	32	High	Yes	1. OP.10.03 (FEM) Process is in place 2. LDAR program is in place as per US EPA method - 21 3. FEM Report Submission to RC 4. Control Device is installed for FEM components 5. Management Review (e.g. SOC) is conducted	2	2	4	Acceptable		
EHSS	EHSS	Environment	Source Monitoring	Fugitive Emission Monitoring (FEM)	Non-Routine	Fugitive Emissions (VOC's & HAP)	Health	Chronic disease / Illness			8	4	32	High	No	1. OP.10.03 (FEM) Process is in place 2. LDAR program is in place as per US EPA method - 21 3. OP.11.05 Carcinogen Monitoring & Control in place 4. OP.11.09 Health Monitoring program is in place 5. Appropriate PPE as part of OP.12 function 6. PL.06 (ERP) function is in place 7. Incident Report & Investigation as per IM.01.01	2	2	4	Acceptable		
EHSS	EHSS	Environment	Source Monitoring	Fugitive Emission Monitoring (FEM)	Non-Routine	Fail to repair/replace and /or declare DOR within 15 Calendar Days	Environment	Non-compliance	X		4	4	16	Medium	Yes	1. OP.10.03 (FEM) Process is in place 2. LDAR program is in place as per US EPA method - 21 3. FEM report to RC is submitted Semi Annually & Annually based on leaking components percentage. 4. Annual Risk Management Plan (PL.01.01-F-01) in place. 5. Repair program scheduled as per finding date 6. Identified the DOR components in SD Identification form	2	2	4	Acceptable		

EHSS	EHSS	Environment	Waste Management	Waste Handling, Labeling and Securing	Routine	Spillage/Leakage	Environment	Land Pollution	X		8	4	32	High	Yes	1. OP.10.07 (Waste Management) process is in place 2. Waste Declaration Form (OP.10.07-F-03) is available 3. Securing it through SAP system followed by labelling 4. Stored in dedicated and paved (1.5 mm HDPE liner) area 5. Waste Audit is being conducted on periodic interval 6. OP.10.06 process for Ground water monitoring 7. Management review is conducted for these aspects.	2	2	4	Acceptable		
EHSS	EHSS	Environment	Waste Management	Temporary Waste Storage Area (STSA)	Routine	Spillage/Leakage	Environment	Land Pollution	X		8	4	32	High	Yes	1. OP.10.07 (Waste Management) process is in place 2. Waste Declaration Form (OP.10.07-F-03) is available 3. Stored in dedicated and paved (1.5 mm HDPE liner) area (STSA) 4. Secondary containment for STSA. 5. Collection sump is connected to OWS system. 6. STSA is under custody of EHS department (lock & Key) 7. Bi-monthly check for STSA area is conducted	2	2	4	Acceptable		
EHSS	EHSS	Environment	Waste Management	Temporary Waste Storage Area (STSA)	Routine	Spillage/Leakage	Health	Chronic disease / illness			8	4	32	High	No	1. OP.10.07 (Waste Management) process is in place 2. Waste Declaration Form (OP.10.07-F-03) is available 3. Regular Health Assessment as per OP.11.09 4. Appropriate PPEs (OP.12 function) 5. Secondary containment for STSA. 6. Collection sump is connected to OWS system. 7. STSA is under custody of EHS department (lock & Key) 8. Bi-monthly check for STSA area is conducted 9. PL.06 (ERP) function is in place	2	2	4	Acceptable		
EHSS	EHSS	Environment	Waste Management	Waste Disposal	Routine	Improper Disposal	Environment	Land Pollution	X		8	4	32	High	Yes	1. OP.10.07 (Waste Management) process is in place 2. Waste Declaration Form (OP.10.07-F-03) is available 3. Waste Manifest System Compliance 4. Waste analysis and assessment prior for disposal 5. Appropriate PPEs 6. Approved and certified waste management/recycling facility & transporters.	2	2	4	Acceptable		
EHSS	EHSS	Environment	Waste Management	Waste Disposal	Routine	Spillage / Leakage	Environment	Land Pollution	X		8	4	32	High	Yes	1. OP.10.07 (Waste Management) process is in place 2. Waste Declaration Form (OP.10.07-F-03) is available 3. Waste Manifest System Compliance 4. Appropriate PPEs as per OP.12 function 5. Approved and certified waste management and recycling facility 6. Approved Transporter are used for waste shifting 7. Secondary containment requirement is checked while handling	2	2	4	Acceptable		
EHSS	EHSS	Environment	Waste Management	Waste Inventory/Audit Report	Routine	Inadequate Manifest System Inventory/Improper Records	Environment	Non-compliance	X		8	6	48	High	Yes	1. OP.10.07 in place 2. Manifest System Tracking in place. 3. Manifest is linked with invoice evaluation 4. Self and Internal Audit is in place 5. Waste Inventory/Audit Report 6. Quarterly Waste Inventory Report to RC	2	2	4	Acceptable		
EHSS	EHSS	Environment	Waste Management	Medical Waste	Routine	Improper Disposal	Environment	Land Pollution	X		8	4	32	High	Yes	1. OP.10.07-WI-01 (Medical Waste) 2. Waste Manifest System Compliance in place. 3. Approved and certified waste management facility (KIMS - Third Party) 4. Self/Internal audit is conducted	2	2	4	Acceptable	Ensure with Third party to dispose off properly by incineration	Ongoing...
EHSS	EHSS	Environment	Waste Management	General Waste	Routine	Improper Disposal	Environment	Land Pollution	X		8	4	32	High	Yes	1. OP.10.07-WI-02 (General Waste) 2. Waste Manifest System Compliance in place. 3. RC Landfill site for dumping by RISAL 4. Self/Internal audit is conducted 5. Waste Audit Report submitted to RC on semi-annually	2	2	4	Acceptable		
EHSS	EHSS	Environment	Waste Management	Medical Waste	Routine	Occupational Exposure	Health	Chronic disease / illness			8	4	32	High	No	1. OP.10.07-WI-01 (Medical Waste) 2. Waste Manifest System Compliance 3. Approved and certified waste management facility (KIMS - Third Party) 4. Appropriate PPEs is used. 5. Health assessment for the Clinic Staff who handle the waste is in place 6. PL.06 (ERP) system is in place 7. OP.11.09 Health Monitoring program is in place	2	2	4	Acceptable		
EHSS	EHSS	Environment	Effluent Management/ Monitoring	IWW KPI Analysis	Routine	Inadequate Analysis	Environment	Non-compliance	X		8	4	32	High	Yes	1. OP.10.05 (WW) process is in place 2. LIMS Database based on sample analysis 3. Alarm for Off Spec. reading showing in red font 4. OP.10.05-F-01 (IWW Self-Monitoring Report) 5. Management review (e.g. SOC) is conducted	2	2	4	Acceptable		
EHSS	EHSS	Environment	Effluent Management/ Monitoring	IWW Discharge	Routine	Off Spec Discharge	Environment	Water Pollution	X		8	6	48	High	Yes	1. OP.10.05 (WW) process is in place 2. LIMS Database based on sample analysis 3. Alarm for Off Spec. reading showing in red font 4. OP.10.05-F-01 (IWW Self-Monitoring Report) 5. Re-process for the off Spec contaminated water by keeping in holding tank 6. BTEX skid is implemented as proactive measures	2	2	4	Acceptable		
EHSS	EHSS	Environment	Effluent Management/ Monitoring	Storm water Discharge	Non-Routine	Off Spec Discharge	Environment	Water Pollution	X		8	6	48	High	Yes	1. OP.10.05 (WW) process is in place 2. LIMS Database based on sample analysis 3. Alarm for Off Spec. reading showing in red font 4. OP.10.05-F-01 (IWW Self-Monitoring Report) 5. Re-process for the off Spec contaminated water by considering IWW and routed to wastewater w/w.	2	2	4	Acceptable		
EHSS	EHSS	Environment	Effluent Management/ Monitoring	Sewage Discharge	Non-Routine	Sewage Pump fail	Safety & Health	Acute Injury / illness			4	4	16	Medium		1. PM plan for Sewage discharge pump. 2. Alternate arrangements such as super sucker will be used in case of failure.	2	2	4	Acceptable		
EHSS	EHSS	Environment	Effluent Management/ Monitoring	Ground Water Monitoring	Non-Routine	Off Spec KPIs	Environment	Water Contamination (GW)	X		4	2	8	Low	Yes	1. OP.10.06 (GW) Process is in place 2. Prior schedule for GW Sampling 3. Spillage/Leakage Control part of OP.10.07 process 4. Materials/Chemicals Area is designed as per requirement (Secondary containment) 5. Annual GW Reports (OP.10.06-F-01 and 02) is applied for RC reports	2	2	4	Acceptable		
EHSS	EHSS	Environment	Noise Monitoring	None	Non-Routine	High Noise	Health	Hearing Loss			8	4	32	High		1. OP.10.08 Noise Monitoring Process 2. Acoustic Enclosure provided in High Noise Equipment 3. Appropriate PPEs is used 4. Alarm Sign Board is in place 5. OP.11.09 Health Monitoring process in place	2	2	4	Acceptable		
EHSS	EHSS	Environment	Noise Monitoring	None	Non-Routine	In accurate Dosimeter Reading	Health	Acute Injury / illness			4	4	16	Medium		1. OP.10.08 Noise Monitoring Process 2. Calibrated Dosimeter is used. 3. Experience & Competent Personnel are involved	2	2	4	Acceptable		
EHSS	EHSS	Environment	Permit Program	Permit Package Preparation	Non-Routine	Inappropriate Information	Environment	Non-compliance	X		2	6	12	Medium	Yes	1. OP.10.09 Permit Program process is in place 2. Qualified Personnel/Consultant 3. Internal Review process prior submission	2	2	4	Acceptable		
EHSS	EHSS	Environment	Permit Program	Maintaining & Control of Environmental Permits (ECC & EPO)	Non-Routine	Permit Renewal failure prior to expiry	Environment	Non-compliance	X		6	12	72	High	Yes	1. OP.10.09 Permit Program process is in place 2. Team formation with experienced personnel for different interface (Operation, TSD & Environment) 3. Package submitted to RC 6 months in advance (as per regulations) 4. Regular/close follow-up to get it done on time 5. Monthly SHEMC / SOC review (Management Review) 6. Internal Audit program in place	2	2	4	Acceptable		

EHSS	EHSS	Environment	Identification of legal & Other Requirements	Requirements Identification	Non-Routine	Non-Compliance of Requirements	Environment	Non-compliance	X		8	12	96	High	Yes	1. EV.04.02 Identification and Evaluation of Compliance obligation process is in place 2. Compliance Evaluation is being conducted annually as per PL.01.01-F-01 3. Triggered actions are being tracked and captured under Aspect/Impact Register for mitigations. 4. Monthly SHEMC / SOC review 5. FIMS management review in place for EV.04 Function.	2	2	4	Acceptable		
EHSS	EHSS	Safety	Vehicle / Equipment inspection	None	Routine	Hit / slip / Trip	Safety	Acute Injury / Illness			8	4	32	High		1. Trained and Qualified Engineers / Officers 2. OP.12 Function in place 3. Carried out in staging area taking all precautions and only visual inspection is done. 4. Vehicle third party inspection reports	2	2	4	Acceptable		
EHSS	EHSS	Safety	Vehicle / Equipment inspection	None	Routine	Improper inspection	Safety	Fatal			8	12	96	High		1. Trained and Qualified Engineers / Officers 2. OP.12 Function in place 3. Carried out in staging area taking all precautions and certificates of validity of the equipment / vehicle is ensured. 4. Valid driver license is ensured. 5. Availability of flagman is ensured (as may be applicable).	2	2	4	Acceptable		
EHSS	EHSS	Safety	Vehicle / Equipment inspection	None	Routine	Improper inspection	Environment	Pollution			8	4	32	High		1. Trained and Qualified Engineers / Officers 2. Carried out in staging area taking all precautions and certificates of validity of the equipment / vehicle is ensured. 4. Valid driver license is ensured. 5. Availability of flagman is ensured (as may be applicable). 6. Proper containment for oil / diesel spillage is ensured	2	2	4	Acceptable	Approved checklist to be prepared under appropriate FIMS process	
EHSS	EHSS	Safety	Plant inspections	None	Routine	Hit / slip / Trip	Safety	Acute Injury / Illness			8	4	32	High		1. Trained and Qualified Engineers / Officers 2. Appropriate PPEs 3. Carried out taking all precautions and only visual inspection is done. 4. Whenever needed, accompanied by process /operation personnel 5. Plant entry log sheet maintained.	2	2	4	Acceptable		
EHSS	EHSS	Safety	Special Training (Work permit/Standby/Fire watch etc.)	None	Routine	Inadequate training / Improper assessment	Safety	Serious Injury			8	6	48	High		1. OP.12 Function in place 2. OP.12.09 WP process in place 3. EHSS Orientation in place. 4. Trained and Qualified Engineers / Officers 5. Issue ID from EHSS with validity period.	2	2	4	Acceptable		
EHSS	EHSS	Safety	Incident report management	reporting	Routine	In appropriate reporting	Safety	Serious Injury			8	6	48	High		1. M.01.01 Process for Incident reporting in place. 2. IR Software to report in place. 3. Approval and escalation for reported incidents in place. 4. Awareness programs in place through SHEAC 5. Common theme analysis is presented in SOC/MSHEC 6. Daily report of IR generated is circulated to the Farabi Family for follow-up action 7. IRs categorization w.r.t their consequences/ "potential to be" is also being done to prioritize the actions for close out of the IRs	2	2	4	Acceptable		
EHSS	EHSS	Fire Prevention	Mock Drill	Internal Drill	Routine	Drill not done as per plan	Safety	Acute Injury / Illness			8	6	48	High		1. PL.06 Function in place. 2. Annual drill plan / Regular Drill Reports 3. PL.06.01 FIMS process is in place 4. Monthly EHSS Review Reports 5. Internal audits in place 6. Reviewed in SOC & SHEMC meetings on monthly basis.	4	2	8	Low	Monthly department review to cover the areas planned for conducting the drills	Ongoing
EHSS	EHSS	Fire Prevention	Mock Drill	Internal Drill	Routine	Ineffective drill / Missing of planned scenarios	Safety	Acute Injury / Illness			8	6	48	High		1. Evaluation after every drill is done and finding are shared with concerned Dept. as per PL.06.01. 2. Correction and corrective action followed up and discussed in SOC 3. Refreshing program for ERT members. 4. Regular Drill Reports 5. PL.06.01 & PL.06.02 FIMS processes in place	2	2	4	Acceptable		
EHSS	EHSS	Fire Prevention	Mock Drill	External Drill (JAMA.A)	Routine	Drill not done as per plan	Safety	Acute Injury / Illness			8	6	48	High		1. Scheduled for JAMA.A in liaisons with authorities in place 2. Evaluation after every drill is done and finding are shared with concerned Dept. as per PL.06.01. 3. Correction and corrective action followed up and discussed in SOC 4. Refreshing program for ERT members. 5. PL.06.01 & PL.06.02 FIMS processes in place 6. Reviewed in SHEMC and SOC for not conducting JAMA.A (Because of non-availability of JAMA.A and HCIS Clearance)	2	2	4	Acceptable		
EHSS	EHSS	Environment	RCPLC / UC Inspection	Reporting to RC / Risk Assessments	Non-Routine	Non-Compliance of Requirements	Safety	Non-compliance	X		6	4	24	Medium	Yes	1. PL.01.01 - F - 01 included "Yearly" Risk Assessment and Management for compliance. 2. PL.01.01 - W1 - 01 or 02 addressed the guidelines and frequency	2	2	4	Acceptable		
EHSS	EHSS	Fire Prevention	Fire Equipments (FE)	Interruption of Fire Equipments	Non-Routine	Non availability of equipment	Safety	Fatality / Plant Safety			8	12	96	High	No	1. PL.06.04 (Interruption of Fire Equipment) is available 2. Back-up plan is available in coordination with JAMA.A for resource availability 3. Long Term contract with Certified Third Party 4. Mobile Portable monitors are available for non-availability 5. Foam Trolley is available at the time of Fire Truck inspection	2	2	4	Acceptable		

Name Of Department: **FPC Operation** Date of Review: 28 April 2019

PROBABILITY	
Probability	Score
Extreme (Likely to occur one or more times per year)	8
High (Likely to occur 10 or less in 25 years)	6
Moderate (Likely to occur 2 or less in 25 years)	4
Low (May occur once in 25 years)	2
Remote (Not likely to occur in 25 years)	1

RISK CRITERIA					
RISK CLASSIFICATION		Criticality/Risk Rating			
Consequence	A	B	C	D	E
A	B (12)	B (24)	A (48)	A (72)	A (96)
B	C (6)	B (12)	B (24)	A (36)	A (48)
C	D (4)	C (8)	B (16)	B (24)	A (32)
D	D (2)	D (4)	C (8)	B (12)	B (16)
E	D (1)	D (2)	D (4)	C (6)	C (8)
Probability	Remote	Low	Moderate	High	Extreme

Risk Class Description	Risk Rating
High Risk	A
Moderate Risk	B
Low Risk	C
Acceptable Risk	D

Risk Rating (RR) = P x C

DIVISION	Name of Department	Name of Section	ACTIVITY	SUB ACTIVITY	CONDITION OF ACTIVITY	ASPECT - Identified Risk/Issue/Concerns (Output of process or activity)	FOCUS CATEGORY	IMPACT	LEGAL - Place "X" if Yes	OTHER - Place "X" if Yes	Probability of Occurrence	Consequences	RISK Score	Risk Category	SIGNIFICANT BASED ON LEGAL	Protections Available (Measure Control)	Probability of Occurrence	Consequences	RISK Score	RISK RESPONSE	Further Action	Target Date
Manufacturing	FPC Operations	Plant Operation	Normal Plant Operation	Hand-over activity (filters, pumps, compressors, heaters including Maintenance etc.)	Routine	leakage of HC or toxic chemicals	Environment	Ground Water	X		8	2	16	Medium	Yes	1. SOP is available. (See details at the end of row) 2. Containments connected with OWS 3. Handling & Safe Disposal as per OP.10.07 4. Work Permit and Isolation process is in place 5. Work Instruction is provided for critical activities	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Normal Plant Operation	Hand-over activity (filters, pumps, compressors, heaters including Maintenance etc.)	Routine	leakage of HC or toxic chemicals	Environment	Air Emission	X		8	2	16	Medium	Yes	1. SOP is available. 2. Work Permit and Isolation process is in place 3. Work Instruction is provided for critical activities 4. Fugitive Emission (LDAR) test is conducted 5. By design safe venting to flare or safe location in place 6. OP.12 Safe Work practice are in place 7. PL.06 ERP system is in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Normal Plant Operation	Hand-over activity (filters, pumps, compressors, heaters including Maintenance etc.)	Routine	leakage of HC or toxic chemicals	Safety	Fire / Explosion			8	12	96	High	No	1. SOP is available. 2. Work Permit and Isolation process is in place 3. Work Instruction is provided for critical activities 4. By design safe venting to flare or safe location in place 5. OP.12 Safe Work practice is in place 6. PL.06 ERP is in place 7. Work under supervision for critical activities 8. Risk assessment is being carried for critical activities	2	4	8	Low	Controlled Risk	
Manufacturing	FPC Operations	Plant Operation	Emergency Handling	Control of Process Parameters	Emergency	Over-pressurization leading to release of process materials	Safety	Serious Injury			6	6	36	High	No	1. Pressure Relief Devices (e.g., PRVs, TSVs, etc.) in place by design 2. Relief to the safe location 3. Process Alarm available 4. Emergency S/D system available. 5. Inspection program for Mechanical Integrity in place 6. SOP is available. And Safe Work Practices are in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Emergency Handling	Control of Process Parameters	Emergency	Over-pressurization leading to release of process materials	Environment	Air Emission	X		6	4	24	Medium	Yes	1. Pressure Relief Devices (e.g., PRVs, TSVs, etc.) in place by design 2. Relief to the safe location 3. Interlock available 4. Process Alarm available 5. Emergency S/D system available. 6. Inspection program for Mechanical Integrity in place 7. SOP is available. And Safe Work Practices are in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Emergency Handling	Control of Process Parameters	Emergency	Loss of Containment in Tank farm area	Environment	Soil Pollution	X		4	6	24	Medium	Yes	1. Level Alarms available 2. Dykes available. 3. Shut-off MOV's available for Benzene receipt line from SABTANK. 4. Mechanical Integrity Program (PMs, inspection) in place.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Emergency Handling	None	Routine	Loss of Containment in Process areas	Environment	Soil Pollution	X		8	6	48	High	Yes	1. Containment available for Barrels handling (DMDS, Anti-Oxidants, Tracers System, Lube Oil and Chemical Yard etc.) 2. Containment available for Slip Oil and Off Spec unloading from tankers 3. Oil Adsorbent is available 4. Hose Management Program is in place. 5. CPI separator is available for handling Surface water if gets contaminated from process area spills.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Emergency Handling	Control of Process Parameters	Routine	Loss of Containment	Safety	Serious Injury			8	6	48	High	No	1. OP.12 function "Safe Work Practice" is in place 4. ERP in place (PL.06 is in place) 5. SDS are available in Q-Pulse for reference 6. SHEAC awareness program in place. 7. SOP is available for material handling from tankers. 8. OP.12.03 MATERIAL HANDLING AND STORAGE	2	4	8	Low	To conduct refresher training program for chemical handling	On going
Manufacturing	FPC Operations	Plant Operation	Start-up & shutdown	Control of Process Parameters	Non-Routine	Over-pressurization / venting of process gas	Environment	Air Emission	X		4	4	16	Medium	Yes	1. Pressure Relief Devices (e.g., PRVs, TSVs, etc.) in place by design 2. Relief to the safe location 3. Interlock available 4. Process Alarm available 5. Emergency S/D system available. 6. Inspection program for Mechanical Integrity in place 7. SOP is available. And Safe Work Practices are in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Start-up & shutdown	Draining of vessels	Non-Routine	leakage of HC or toxic chemicals	Environment	Land Pollution	X		6	4	24	Medium	Yes	1. SOP is available. 2. Work Permit and Isolation process is in place 3. Work Instruction is provided for critical activities 4. Fugitive Emission (LDAR) test is conducted 5. By design safe venting to flare or safe location in place 6. Risk assessment being conducted as per PL.01.01 for each critical and S/D activities	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Start-up & shutdown	Draining of vessels	Non-Routine	leakage of HC or toxic chemicals	Environment	Air Emission	X		6	4	24	Medium	Yes	1. SOP is available. 2. Containments in place 3. Handling & Disposal Plan (OP.12.03) 4. Design safe venting as per SOP	4	1	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Start-up & shutdown	Draining of vessels	Non-Routine	leakage of HC or toxic chemicals	Health	Chronic disease / illness			6	4	24	Medium	No	SOP is available, Work Permit, PPEs, JSA (for special cases), ENV procedure, Planning Activities	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Process upsets	Control of Process Parameters	Routine	leakage of HC or toxic chemicals	Environment	Land Pollution	X		6	4	24	Medium	Yes	1. SOP is available. 2. Containments in place 3. Handling & Disposal Plan (OP.12.03) 4. OP.10.07 Waste Management process is in place 5. OP.10.06 Ground water Monitoring process is in place	4	1	4	Acceptable		

Manufacturing	FPC Operations	Plant Operation	Process upsets	Control of Process Parameters	Routine	leakage of HC or toxic chemicals	Environment	Air Emission	X		6	4	24	Medium	Yes	1. SOP is available. 2. Containments in place 3. Handling & Disposal Plan (OP.12.03) 4. Design safe venting as per SOP	4	1	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Process upsets	Control of Process Parameters	Routine	leakage of HC or toxic chemicals	Health	Chronic disease / illness			6	2	12	Medium	No	SOP is available, Work Permit, PPEs, JSA (for special cases)	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Materials handlings	Carcinogen Materials Handling	Routine	Exposure of Benzene and /or any Carcinogen Materials	Health	Chronic disease / illness			6	6	36	High	No	1. OP.10.03 (LDAR) - Fugitive Emission Monitoring program in place 2. SOP are in place 3. OP.12.03 Materials handling process is in place 4. SDS is available in Q-Pulse 5. OP.11.05 Carcinogen Monitoring & Control 6. Badges are being assigned to Potential groups followed by analysis 8. Analysis report is being shared and stewarded through SOC & SHEMC.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Unloading from tankers	Transfer from tankers to tanks	Routine	Tank and vessel over-flow	Environment	Soil Pollution	X		8	4	32	High	Yes	1. Level Alarms available 2. Dykes available, 3. Shut-off MOV's available for Benzene receipt line from SABTANK, 4. Mechanical Integrity Program (PMs, inspection) in place. 5. Containment available for Slop Oil and Off Spec unloading from tankers 6. Containment available for Anti-Oxidant vessel. 7. Hose Management Program is in place.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Unloading from tankers	Transfer from tankers to tanks	Routine	Over pressurization	Environment	Air Emission	X		8	4	32	High	Yes	1. Pressure Relief Devices (e.g., PRVs, TSVs, etc.) in place by design 2. Relief to the safe location 3. PM program is available for PCVs, PVRVs and ERVs. 4. Inspection program for Mechanical Integrity in place for tanks. 5. SOP is available. And Safe Work Practices are in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Unloading from tankers	Transfer from tankers to tanks	Routine	Tank over-flow / Pressurization	Safety	Injury			8	6	48	High	No	1. Level Alarms available. 2. Shut-off MOV's available for Benzene receipt line from SABTANK, 3. Mechanical Integrity Program (PMs, inspection) in place. 4. Hose Management Program is in place. 5. Pressure Relief Devices (e.g., PRVs, TSVs, etc.) in place by design 6. Relief to the safe location 7. Inspection program for Mechanical Integrity in place for tanks. 8. SOP is available. And Safe Work Practices are in place. 9. Appropriate PPEs are used	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Loading to tankers	Transfer from tank to tankers	Non-Routine	Spills / leakages	Environment	Air Emission	X		6	4	24	Medium	Yes	1. SOP is available. is available.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Loading to tankers	Transfer from tank to tankers	Routine	Spills / leakages	Environment	Soil Pollution	X		6	2	12	Medium	Yes	1. SOP is available. is available.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Loading to tankers	Transfer from tank to tankers	Routine	Spills / leakages	Safety & Health	Serious Injury			6	6	36	High	No	1. SOP is available. is available. 2. Appropriate PPEs are used.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Equipment Preparation / Handing Over	Preparation for confined space	None	Non-Routine	Asphyxiation	Safety & Health	Fatality			8	12	96	High	No	1. Work Permit (OP.12.09) 2. Safe Work Practices processes is available. (OP.12) 3. ERP is in place. (PL.06) 4. Risk assessment being conducted as per PL.01.01 for each critical and S/D activities	2	2	4	Acceptable		
Manufacturing	FPC Operations	Equipment Preparation / Handing Over	draining of process materials	None	Routine	Spills / leakages	Environment	Soil Pollution	X		8	2	16	Medium	Yes	1. SOP is available. is available 2. Closed drain system 3. OWS System 4. CPI separator is available for handling Surface water if gets contaminated from process area spills.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Catalyst Loading / change over	Loading / unloading of catalyst	None	Routine	Exposure of personnel to catalyst	Safety & Health	Chronic Injury / illness			8	4	32	High	No	1. Handled in open atmosphere with proper ventilation for PACOL & CLAY treater catalysts and appropriate PPEs (half masks) are used for unloading. 2. All other catalysts are handled in inert atmosphere with full breathing protection. 3. OPR-SOP-400-3 & 4, OPR-SOP-600-5&6 available. 4. Annual health monitoring program - OP.11.09 in place.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Catalyst Loading / change over	Loading / unloading of catalyst	None	Non-Routine	Exposure of personnel to inert and pyrophoric atmosphere	Safety & Health	Fatality			6	12	72	High	No	1. Certified contractors and manpower are engaged after EHS Verification. 2. FIMS PL.06 function in place. 3. Special CCTV for close monitoring of the activity. 4. Special PPE such as double line breathing apparatus and certified equipment with standby SCBA & Rescue team is engaged. 5. Risk Assessment is conducted prior to all such critical activity and recommendations are implemented. 6. OP.12 function is in place 7. PL.06 ERP system is in place	2	4	8	Low	Special tool box talk prior to start the job	On going...
Manufacturing	FPC Operations	Catalyst Loading / change over	Loading / unloading of PACOL catalyst	None	Routine	Exposure of personnel to radiation	Health	Chronic Injury / illness			8	4	32	High	Yes	1. OP.11.07 & MTCE-SMP-INST-65 in place 2. Annual health monitoring program badges and records available. 3. Week source of radiation (Cs-37) and sources are shielded. 4. Wipe test & Leak test are carried out (Maintenance) by certified outsource and results well below the limit.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Catalyst Loading / change over	Disposal of catalyst	None	Non-Routine	Improper disposal	Environment	Soil Pollution			8	2	16	Medium		1. Waste Management Process (OP.10.07) is in place 2. Safe Disposal thru RC certified disposal agencies only.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Catalyst Loading / change over	Loading / unloading of Pacol catalyst	None	Non-Routine	Exposure of personnel to inert and pyrophoric atmosphere	Safety & Health	Fatality			6	12	72	High	No	1. Certified contractors and manpower are engaged after EHS Verification. 2. FIMS PL.06 function in place. 3. Special CCTV for close monitoring of the activity. 4. Special PPE such as double line breathing apparatus and certified equipment with standby SCBA & Rescue team is engaged. 5. Risk Assessment is conducted prior to all such critical activity and recommendations are implemented. 6. SOP in place.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Catalyst Loading / change over	Loading / unloading of PACOL Catalyst	None	Routine	Exposure of personnel to inert and pyrophoric atmosphere	Safety & Health	Fatality			6	12	72	High	No	1. Competent manpower are engaged. 2. FIMS PL.06 function in place. 3. OP.12 function is in place 4. SOPs are in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	Handling of Chemicals	Sampling of process materials	Taking Sample	Routine	Exposure to HC	Health	Chronic disease / illness			8	6	48	High	No	1. Sampling SOP is available. is available. 2. Closed sampling system for Benzene. 3. Appropriate PPEs are used.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Handling of Chemicals	Sampling of process materials	Taking Sample	Routine	Exposure to Hot Materials	Safety & Health	Serious Injury			8	6	48	High	No	1. Sampling SOP is available. is available. 2. Closed sampling system for Benzene. 3. Appropriate PPEs are used.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Handling of Chemicals	Sampling of process materials	Taking Sample	Routine	Spillage / Leakage	Environment	Soil Pollution	X		8	2	16	Medium	Yes	1. Sampling SOP is available. is available. 2. Closed sampling system for Benzene. 3. OWS System is available.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Handling of Chemicals	Sampling of process materials	Handling of Sample (container)	Routine	mishandling / breakage of container	Safety & Health	Acute Injury / illness			8	4	32	High	No	1. Appropriate PPEs are used.	2	2	4	Acceptable		

Manufacturing	FPC Operations	Handling of Chemicals	Dosing of Chemicals	Preparation of chemical solution	Routine	Exposure to Chemical	Safety & Health	Acute injury / illness			8	4	32	High	No	1. Appropriate PPEs are used. 2. SOP is available. Are available. 3. Hazard communication (HAZCOM OP.11.01) process is in place.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Handling of Chemicals	Dosing of Chemicals	Preparation of chemical solution	Routine	Spillage / Leakage	Environment	Soil Pollution	X		8	2	16	Medium	Yes	1. Sampling SOP is available. is available. 2. Closed sampling system for Benzene. 3. OWS System is available.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Management of hazardous waste	Storage of Hazardous Waste	None	Routine	Inappropriate storage / handling / disposal	Environment	Soil Pollution	X		8	4	32	High	Yes	1. Dedicated area for storage is defined. 2. OP.10.07 waste management process is in place.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Management of hazardous waste	Disposal of effluent	None	Routine	Improper disposal	Environment	Water Pollution	X		8	6	48	High	Yes	1. SOP is available 2. Qualitative Analysis through LIMS monitoring 3. OP.10.05 (WW monitoring and control) is in place. 4. OP.12 function is in place 5. LIMS alert is available if off spec. parameter occur	2	2	4	Acceptable		
Manufacturing	FPC Operations	Storage of Process Chemicals	Storage of Toxic Chemicals (e.g. Benzene)	None	Routine	Leakage / Spillage	Environment	Land Pollution	X		8	4	32	High	Yes	1. Secondary Containment (Dyke) is in place 2. Benzene tank dyke is connected with OWS 3. BTEX Skid available 4. Material handling process available	2	2	4	Acceptable		
Manufacturing	FPC Operations		Storage of Toxic Chemicals (e.g. Benzene)	None	Routine	Leakage / Spillage	Health	Chronic disease / illness			8	4	32	High	No	1. Secondary Containment (Dyke) is in place 2. Benzene tank dyke is connected with OWS 3. BTEX Skid available 4. Material handling process available 5. Benzene Exposure Monitoring is in place 6. Health Assessment is in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	Storage of Process Chemicals	Storage of HCs	None	Routine	Over-flow	Safety	Fire / Explosion			8	12	96	High	No	1. Level Alarms available 2. Dykes available. 3. Shut-off MOV's available for Benzene receipt line from SABTANK. 4. Mechanical Integrity Program covering the instrumentation (PMs) is in place.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Management of Shift Personnel	Communication & Shift Change over	none	Routine	Improper information sharing b/w present & relieving shift	Safety	Serious Injury			2	4	8	Low	No	Shift changeover / log book protocol Shift books audited by Day Engineer	2	2	4	Acceptable		
Manufacturing	FPC Operations	Control of DCS/ESD	operation of DCS / ESD	General	Routine	Incompetence of operators	Safety	Fire / Explosion			4	4	16	Medium	No	JOP Panel Operators for appropriately using DCS / ESD Trained Shift Supervisors in place.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Control of Records	Record Keeping	None	Routine	Important records such as work permits, field checklists not maintained	Safety	Serious Injury			2	4	8	Low	No	Records are maintained	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Normal Plant Operation	Control of Process Parameters	Routine	Over-pressurization / venting of process gas	Safety	Serious Injury			2	6	12	Medium	No	Flare System, PRV, DCS, ESD, Alarm system	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Normal Plant Operation	Control of Process Parameters	Routine	Over-pressurization / venting of process gas	Environment	Air Emission	X		2	6	12	Medium	Yes	Flare System (Steam Supply), monitored by on line camera , PRV, DCS, ESD, Environment Procedure	2	2	4	Acceptable	Note: All these measures assume to prevent smoky flares more than 5 minutes	
Manufacturing	FPC Operations	Plant Operation	Emergency Handling	Emergency shut down steps	Emergency	War Threat	Safety	Fire / Explosion			4	4	16	Medium	No	1. Minimum defined inventory levels, intelligence info by MOI. 2. SP.14 (Security) function in place 3. ERP (PL.06) function in place.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Start-up & shutdown	Control of Process Parameters	Non-Routine	Over-pressurization / venting of process gas	Environment	Air Emission	X		2	6	12	Medium	Yes	Flare System (Steam Supply), monitored by on line camera , PRV, DCS, ESD, Environment Procedure	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Start-up & shutdown	Control of shut down activities	Non-Routine	Handling of large quantity of jobs simultaneously	Safety	Serious Injury			4	4	16	Medium	No	Enough Trained operators , SOP is available. , Planning Activates	4	1	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Process upsets	Control of Process Parameters	Routine	Over-pressurization / venting of process gas	Safety	Serious Injury			2	6	12	Medium	No	Flare System, PRV, DCS, ESD	2	2	4	Acceptable		
Manufacturing	FPC Operations	Plant Operation	Process upsets	Control of Process Parameters	Routine	Over-pressurization / venting of process gas	Environment	Air Emission	X		2	6	12	Medium	Yes	Flare System (Steam Supply), monitored by on line camera , PRV, DCS, ESD, Environment Procedure	2	2	4	Acceptable		
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of SHE Critical Device	Identification / Record of SHE Critical Equipment	Routine	Malfunctioning of device leading to spillage / leakage / fire	Environment	Air Emission	X		4	6	24	Medium	Yes	1. SHE critical list developed (OP.08.01 & PL.01.01) and available in EDMS . 2. SHE critical availability and Bad Actor Analysis in place (OP.06.05) 3. Approved alternate plan for COD developed as per OP.06.02 4. OP.12 Function is in place 5. PL.06 function is in place 6. OP.06.03 is in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of SHE Critical Device	Identification / Record of SHE Critical Equipment	Routine	Malfunctioning of device leading to spillage / leakage / fire	Environment	Ground Water	X		4	6	24	Medium	Yes	1. SHE critical list developed (OP.08.01 & PL.01.01) and available in EDMS . 2. SHE critical availability and Bad Actor Analysis in place (OP.06.05) 3. Approved alternate plan for COD developed as per OP.06.02 4. OP.12 Function is in place 5. PL.06 function is in place 6. OP.06.03 is in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of SHE Critical Device	Identification / Record of SHE Critical Equipment	Routine	Malfunctioning of device leading to spillage / leakage / fire	Safety	Fire / Explosion			4	12	48	High	No	1. SHE critical list developed (OP.08.01 & PL.01.01) and available in EDMS . 2. SHE critical availability and Bad Actor Analysis in place (OP.06.05) 3. Approved alternate plan for COD developed as per OP.06.02 4. OP.12 Function is in place 5. PL.06 function is in place 6. OP.06.03 is in place	2	4	8	Low	Periodic COD review with Top Management	On going...
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of SHE Critical Device	Identification / Record of SHE Critical Equipment	Routine	Malfunctioning of device leading to spillage / leakage / fire	Health	Chronic disease / illness			6	6	36	High	No	1. SHE critical list developed (OP.08.01 & PL.01.01) and available in EDMS . 2. SHE critical availability and Bad Actor Analysis in place (OP.06.05) 3. Benzene Monitoring Program (OP.11.05) 4. OP.12 Function is in place 5. OP.06.02 Control of Defeat in place. 6. PM program in place. 7. Standalone portable gas detectors available.	2	2	4	Acceptable		
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of SHE Critical Device	Management of SHE Critical Defeat	Routine	Unavailability of a SHE Critical Defeat / Inadequate alternate measures	Environment	Air Emission	X		4	6	24	Medium	Yes	1. SHE critical list developed (OP.08.01 & PL.01.01) and available in EDMS . 2. SHE critical availability and Bad Actor Analysis in place (OP.06.05) 3. Approved alternate plan for COD developed as per OP.06.02 4. OP.12 Function is in place 5. PL.06 is in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of SHE Critical Device	Management of SHE Critical Defeat	Routine	Unavailability of a SHE Critical Defeat / Inadequate alternate measures	Environment	Ground Water	X		4	6	24	Medium	Yes	1. SHE critical list developed (OP.08.01 & PL.01.01) and available in EDMS . 2. SHE critical availability and Bad Actor Analysis in place (OP.06.05) 3. Approved alternate plan for COD developed as per OP.06.02 4. OP.12 Function is in place 5. PL.06 is in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of SHE Critical Device	Management of SHE Critical Defeat	Routine	Unavailability of a SHE Critical Defeat / Inadequate alternate measures	Safety	Fire / Explosion			4	12	48	Medium	No	1. SHE critical list developed (OP.08.01 & PL.01.01) and available in EDMS . 2. SHE critical availability and Bad Actor Analysis in place (OP.06.05) 3. Approved alternate plan for COD developed as per OP.06.02 4. OP.12 Function is in place 5. PL.06 is in place	2	4	8	Low	Periodic COD review with Top Management	On going...
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of SHE Critical Device	Management of SHE Critical Defeat	Routine	Unavailability of a SHE Critical Defeat / Inadequate alternate measures	Safety	Fire / Explosion			2	6	12	Medium	No	1. SHE critical list developed (OP.08.01 & PL.01.01) and available in EDMS . 2. SHE critical availability and Bad Actor Analysis in place (OP.06.05) 3. Approved alternate plan for COD developed as per OP.06.02 4. OP.12 Function is in place	2	2	4	Acceptable		

Manufacturing	FPC Operations	Management of SHE critical equipment	Control of SHE Critical Device	Management of SHE Critical Defeat	Routine	Unavailability of a SHE Critical Defeat / Inadequate alternate measures	Health	Chronic disease / Illness		2	6	12	Medium	No	1. SHE critical list developed (OP.08.01 & PL.01.01) and available in EDMS. 2. SHE critical availability and Bad Actor Analysis in place (OP.06.05) 3. Approved alternate plan for COD developed as per OP.06.02 4. OP.12 Function is in place 5. OP.11.09 & OP.11.05 in place for Health Monitoring	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of car seal valves	None	Routine	Over-pressurization / venting or draining of process material	Environment	Air Emission	X	2	6	12	Medium	Yes	Car Seal Management Program, Flare System (Steam Supply), monitored by on line camera , PRV, DCS, ESD, Environment Procedure, drain caps	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of car seal valves	None	Routine	Over-pressurization / venting or draining of process material	Safety	Fire / Explosion		2	6	12	Medium	No	Car Seal Management Program, fire protection and reduction system, ERP	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of car seal valves	None	Routine	Over-pressurization / venting or draining of process material	Health	Acute Injury / Illness		2	6	12	Medium	No	Car Seal Management Program, PPE, FEM	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of car seal valves	None	Non-Routine	Over-pressurization / venting or draining of process material	Environment	Air Emission	X	2	6	12	Medium	Yes	Car Seal Management Program, Flare System (Steam Supply), monitored by on line camera , PRV, DCS, ESD, Environment Procedure, drain caps	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of car seal valves	None	Non-Routine	Over-pressurization / venting or draining of process material	Safety	Fire / Explosion		2	6	12	Medium	No	1. Car Seal Management Program (OP.06.07) 2. fire protection and reduction system, ERP (PL.06)	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of car seal valves	None	Non-Routine	Over-pressurization / venting or draining of process material	Health	Acute Injury / Illness		2	6	12	Medium	No	1. Car Seal Management Program (OP.06.07) 2. fire protection and reduction system, ERP (PL.06)	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of work/jobs on process plant	Issuance of work permit	Routine	HSE checks not carried out prior to authorization of permit	Environment	Air Emission	X	6	4	24	Medium	Yes	1. Work Permit System (OP.12.09). 2. Effective Training (PQP, PDP) part of SP.03.03 process. 3. Work Permit Audits part of SOC. 4. IM.01.01 incident reporting process is in place 5. OP.12 function in general in place 6. PL.06 function is in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of work/jobs on process plant	Issuance of work permit	Routine	HSE checks not carried out prior to authorization of permit	Environment	Land Pollution	X	6	4	24	Medium	Yes	1. Work Permit System (OP.12.09). 2. Effective Training (PQP, PDP) part of SP.03.03 process. 3. Work Permit Audits part of SOC. 4. IM.01.01 incident reporting process is in place 5. OP.12 function in general in place 6. PL.06 function is in place 7. OP.10.07 Process in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of work/jobs on process plant	Issuance of work permit	Routine	HSE checks not carried out prior to authorization of permit	Safety	Serious Injury		6	6	36	High	No	1. Work Permit System (OP.12.09). 2. Effective Training (PQP, PDP) part of SP.03.03 process. 3. Work Permit Audits part of SOC. 4. IM.01.01 incident reporting process is in place 5. OP.12 function in general in place 6. PL.06 function is in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of SHE critical equipment	Control of work/jobs on process plant	Issuance of work permit	Routine	HSE checks not carried out prior to authorization of permit	Health	Chronic disease / Illness		6	6	36	High	No	1. Work Permit System (OP.12.09). 2. Effective Training (PQP, PDP) part of SP.03.03 process. 3. Work Permit Audits part of SOC. 4. IM.01.01 incident reporting process is in place 5. OP.12 function in general in place 6. PL.06 function is in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	Equipment Preparation / Handing Over	Explosive Monitoring	None	Routine	Work in an explosive environment	Safety	Fire / Explosion		2	6	12	Medium	No	Work Permit Control, Gas testing, JSA, Emergency Response Preparation, SOP is available. S	2	2	4	Acceptable	
Manufacturing	FPC Operations	Equipment Preparation / Handing Over	Preparation for confined space	Proper Isolation of equipment / vessel	Routine	Exposure to process material during job execution	Safety	Fatality		8	12	96	High	No	1. OP.12.09 work permit process with OP.12.09-WI-03 for Confined space entry is available. 2. OP.12 function in place (for blinding and total confined space preparation, Work Permits, PPEs). 3. Emergency Response (PL.06) 4. As per PL.01.01 Risk assessment is being conducted for all critical confined space entry. 5. LEL/Toxic conc. is being checked prior to confined space entry 6. Medical fitness certificate is provided for all critical CS entry workman. 7. Special tool box is being conducted before such activities.	2	2	4	Acceptable	
Manufacturing	FPC Operations	Equipment Preparation / Handing Over	draining of process materials	None	Routine	waste disposal	Environment	Land Pollution	X	2	6	12	Medium	Yes	WP, ENV procedure, Equipment SOP is available.	2	2	4	Acceptable	
Manufacturing	FPC Operations	Handling of Chemicals	Storage of Chemicals	None	Routine	leakage of stored chemicals	Environment	Land Pollution	X	2	6	12	Medium	Yes	Emergency response procedure , ENV SOP is available , secondary containment, OP.12.03 Materials handling and storage is in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	Handling of Chemicals	Storage of Chemicals	None	Routine	Mixing/Reaction of different chemicals	Safety	Fire / Explosion		2	6	12	Medium	No	MSDS , Emergency Response procedure , JAMAA, OP.12.03 Materials handling and storage is in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	Handling of Chemicals	Storage of Chemicals	None	Routine	Accumulation of vapors / gases	Safety	Fire / Explosion		2	6	12	Medium	No	MSDS , Emergency Response procedure , JAMAA, OP.12.03 Materials handling and storage is in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of hazardous waste	Storage of Hazardous Waste	None	Routine	Hazard Communication	Health	Chronic disease / Illness		2	6	12	Medium	No	SOP is available , Caution signs, Labelling & HAZCOM, MSDS	2	2	4	Acceptable	
Manufacturing	FPC Operations	Storage of Process Chemicals	Storage of Toxic Chemicals (e.g. Benzene)	None	Emergency	Loss of containment	Health	Acute Injury / Illness		4	6	24	Medium	No	DCS (Alarms), Normal Inventory Monitoring, Dike, Emergency Response, PPEs, Cyclic PHA	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of Shift Personnel	Training & Qualification of personnel	None	Routine	Lack of training	Environment	Pollution		8	4	32	High	No	1. JQP (Job Qualification Program) 2. Work Permit training 3. PQP (Post Qualification Program) 4. OJT (On Job Training) 5. Evaluation in place after each training.	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of Shift Personnel	Training & Qualification of personnel	None	Routine	Lack of training	Safety	Serious Injury		8	6	48	High	No	1. JQP (Job Qualification Program) 2. Work Permit training 3. PQP (Post Qualification Program) 4. OJT (On Job Training) 5. Evaluation in place after each training.	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of Shift Personnel	Training & Qualification of personnel	None	Routine	Lack of training	Health	Acute Injury / Illness		8	4	32	High	No	1. JQP (Job Qualification Program) 2. Work Permit training 3. PQP (Post Qualification Program) 4. OJT (On Job Training) 5. Evaluation in place after each training.	2	2	4	Acceptable	
Manufacturing	FPC Operations	Modifications at process plant	Control of process changes	None	Routine	Commissioning of process modification, without proper SHE Review	Safety	Serious Injury		8	12	96	High	No	1. MOC in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	Management of Temporary Modifications	Control of process changes	None	Routine	Continued operation of temporary change after assigned target date	Safety	Serious Injury		8	12	96	High	No	1. MOC in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	Control of DCS/ESD	DCS / ESD Operations	Maintenance Over ride switch	Routine	Over-riding of any critical loop without authority	Safety	Injury		2	6	12	Medium	No	1. OP.07.04 in place for Override approval. 2. Existing MTCE-SMP-INST-4 & MTCE-F-INST-7 utilized to control the over ride	2	2	4	Low	
Manufacturing	FPC Operations	Control of equipment	Monitoring Equipment	PM / Calibration	Routine	Improper monitoring due to no calibrated equipment	Environment	Air Emission	X	8	6	48	High	Yes	1. PM program in place 2. Inspection program in place 3. Field Reading Log in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	Control of equipment	Internal Communication	None	Routine	Equipment failure	Safety	Serious Injury		8	6	48	High	No	1. Daily / Weekly check are conducted and records maintained (as per radio set operability) 2. PM program in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	Emergency in FPC	Communication with neighboring suppliers	Emergency	Emergency	Improper communication	Safety	Serious Injury		2	12	24	Medium	No	1. Hot Line / communication protocols. 2. ERP in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	Communication with neighboring industries / customers	Emergency in neighboring industries	Communication	Emergency	Improper communication	Safety	Acute Injury / Illness		4	4	16	Medium	No	1. Hot Line / communication protocols as per PL.06.01 2. Jama'a, direct contact with relevant authorities.	4	2	8	Low	Controlled risk

Manufacturing	FPC Operations		Pipe line transfer of H2	None	Emergency	Leakage in line (Inside & RC PLC)	Safety	Fire / Explosion			4	12	48	High	Yes	1. Fixed Equipment Inspections process (OP.06.04) in place. 2. SMP-INSP-10 (OP.07.04 STANDARD MAINTENANCE PROCEDURE INSPECTION OF RC CORRIDOR PIPING) in place 3. MOVs are in place for s/d from CCB. 4. Compliance Evaluation as a part of EV.04.02 for RC PLC / UC in place. 5. PL.06.01 (ERP) in place. 6. Dedicated contact number is available for H2 vendor for emergency isolation.	2	2	4	Acceptable	
Manufacturing	FPC Operations		Pipe line transfer of Kero from Sasref	None	Emergency	Leakage in line (Inside & RC PLC)	Safety	Fire / Explosion			4	12	48	High	Yes	1. Fixed Equipment Inspections process (OP.06.04) in place. 2. SMP-INSP-10 (OP.07.04 STANDARD MAINTENANCE PROCEDURE INSPECTION OF RC CORRIDOR PIPING) in place 3. MOVs are in place for s/d from CCB. 4. Compliance Evaluation as a part of EV.04.02 for RC PLC / UC in place. 5. PL.06.01 (ERP) in place. 6. Dedicated hot line contact is available for emergency isolation.	2	2	4	Acceptable	
Manufacturing	FPC Operations		Pipe line transfer of FG from ARAMCO	None	Emergency	Leakage in line (Inside & RC PLC)	Safety	Fire / Explosion			4	12	48	High	Yes	1. Fixed Equipment Inspections process (OP.06.04) in place. 2. SMP-INSP-10 (OP.07.04 STANDARD MAINTENANCE PROCEDURE INSPECTION OF RC CORRIDOR PIPING) in place 3. MOVs are in place for s/d from CCB. 4. Compliance Evaluation as a part of EV.04.02 for RC PLC / UC in place. 5. PL.06.01 (ERP) in place. 6. Dedicated hot line contact is available for emergency isolation.	2	2	4	Acceptable	
Manufacturing	FPC Operations	Communication with neighboring industries / customers	Import of Benzene from SABTANK	None	Emergency	Leakage in line	Health	Acute Injury / Illness			4	4	16	Medium	No	1. pipeline corridor inspections. 2. pipeline patrolling in place. 3. MOVs are in place 4. Compliance Evaluation for RC PLC / UC in place 5. PL.06.01 in place 6. OP.11.09 Health monitoring program process in place.	2	2	4	Acceptable	
Manufacturing	FPC Operations		Pipe line transfer of Benzene from SABTANK	None	Emergency	Leakage in line (Inside & RC PLC)	Safety	Fire / Explosion			4	12	48	High	Yes	1. Fixed Equipment Inspections process (OP.06.04) in place. 2. SMP-INSP-10 (OP.07.04 STANDARD MAINTENANCE PROCEDURE INSPECTION OF RC CORRIDOR PIPING) in place 3. MOVs are in place for s/d from CCB. 4. Compliance Evaluation as a part of EV.04.02 for RC PLC / UC in place. 5. PL.06.01 (ERP) in place. 6. Dedicated hot line contact is available for emergency isolation.	2	2	4	Acceptable	
Manufacturing	FPC Operations	Communication with neighboring industries / customers	Pumping of LAB to SABTANK	None	Emergency	RC PLC line leakage	Environment	Soil contamination	X		4	6	24	Medium	Yes	1. Pipeline corridor inspections (OP.06.04) 2. Pipeline inspections as per Meridium (RBI). 3. Pipeline weekly patrolling in place. 4. MOVs are in place 5. Compliance Evaluation as a part of EV.04.02 for RC PLC / UC in place 6. PL.06.01 (ERP) in place. 7. OP.12 function is in place 8. M.01.01 Incident reporting process is in place	2	2	4	Acceptable	
Manufacturing	FPC Operations	None	Heater Operation	Burning of Fuel gas	Routine	Incomplete combustion of fuel gases/ Fuel Oil	Environment	Air Emission	X		8	6	48	High	Yes	1. Online Analyzers are in place. 2. Low NOx burners (LNB) installed. 3. SOP is available. for heater operations is in place.	2	2	4	Acceptable	
Manufacturing	FPC Operations	None	Heater Operation	Burning of Fuel gas	Routine	Incomplete combustion of fuel gases/ Fuel Oil	Environment	Natural resource depletion			8	2	16	Medium	No	1. Online Analyzers are in place. 2. Low NOx burners (LNB) installed. 3. SOP is available. for heater operations is in place.	2	2	4	Acceptable	
Manufacturing	FPC Operations	None	Heater Operation	Burning of Fuel gas	Routine	Incomplete combustion of fuel gases	Health	Acute Injury / Illness			8	4	32	High	No	1. Online Analyzers are in place. 2. Low NOx burners (LNB) installed. 3. SOP is available. for heater operations is in place. 4. ERP in place 5. First aid unit is available for immediate treatment.	2	2	4	Acceptable	
Manufacturing	FPC Operations	None	Heater Operation	Burning of Fuel gas	Non-Routine	Unproductive fuel gases Consumption	Environment	Natural resource depletion			8	4	32	High	No	1. Daily MS 2. Monthly Production report 3. monitoring the Specific consumption 4. Sustainability KPIs	2	2	4	Acceptable	
Manufacturing	FPC Operations	None	Rotatory Equipment Operation	Running of machineries	Non-Routine	Higher Power Consumption	Environment	Natural resource depletion			8	4	32	High	No	1. SCADA monitoring system 2. Control devices in MCC 3. DCS Monitoring	2	2	4	Acceptable	
Manufacturing	FPC Operations	None	Energy Management	Fuel gas/oil consumption	Routine	Minimization of fuel gas/oil consumption	Environment	Conservation of natural resources			8	1	8	Low	No	1. APC in place 2. Burner Management System/Control Devices 3. Online Analyzers in place 4. DCS Monitoring	2	1	2	Acceptable	
Manufacturing	FPC Operations	None	Energy Management	Power Consumption	Routine	Minimization of power usage	Environment	Conservation of natural resources			8	1	8	Low	No	1. APC in place 2. Burner Management System/Control Devices 3. Online Analyzers in place 4. DCS Monitoring	2	1	2	Acceptable	
Manufacturing	FPC Operations	None	Normal Plant Operation	None	Routine	Solid Waste Generation	Environment	Land Pollution	X		8	6	48	High	Yes	1. Handled in concrete paved areas 2. Solid wastes are transported / kept in sealed drums / Disposal bags governed by Waste management procedure 3. OP.10.07 (Waste Management Process) in place. 4. Waste inventory report is being generated and submitted to RC	2	2	4	Acceptable	
Manufacturing	FPC Operations	None	Normal Plant Operation	None	Routine	Solid Waste Generation	Environment	Ground Water	X		8	6	48	High	Yes	1. Handled in concrete paved areas 2. Solid wastes are transported / kept in sealed drums / Disposal bags governed by Waste management procedure 3. OP.10.07 (Waste Management Process) in place. 4. Waste inventory report is being generated and submitted to RC 5. OP.10.06 (Ground Water Process) in place. 6. Bore holes are available for ground water sampling analysis.	2	2	4	Acceptable	
Manufacturing	FPC Operations	None	Normal Plant Operation	None	Routine	HC waste Generation	Environment	Air Emission	X		8	6	48	High	Yes	1. Handled in concrete paved areas 2. OP.10.07 (Waste Management Process) in place. 3. Waste inventory report is being generated and submitted to RC 4. Safe incineration by RC approved waste management company.	2	2	4	Acceptable	
Manufacturing	FPC Operations	None	Normal Plant Operation	None	Routine	Off-spec Waste water Generation	Environment	Off-Spec Discharge	X		8	6	48	High	Yes	1. OP.10.05 (Industrial Waste Water monitoring and control process) in place. 2. LIMS quality control indications and alerts 3. Pretreatment system in place.	2	2	4	Acceptable	
Manufacturing	FPC Operations	None	Shut -down	Effluent Management	Routine	Recycling of waste water	Environment	Conservation of natural resources			4	1	4	Acceptable	No	1. Sustainability program in place	4	1	4	Acceptable	Positive aspects: however we have in-house effluent management by creating facility for treating the effluent and transferring them to CWTF for recycling and reuse
Manufacturing	FPC Operations	Shut -down	Flaring	None	Routine	Excess Flaring	Economic Loss	Loss of resources			8	2	16	Medium	No	1. Process troubleshooting procedure 2. SOP is available. are in place. 3. CCTV in place.	2	2	4	Acceptable	
Manufacturing	FPC Operations	Flaring	Flaring	None	Routine	Smoky Flare	Environment	Air Emission	X		8	6	48	High	Yes	1. Process troubleshooting procedure 2. SOP is available are in place. 3. CCTV in place. 4. OP.10.04 (Flare Monitoring Process) in place 5. Quenching steam for flare in place.	2	2	4	Acceptable	
Manufacturing	FPC Operations	Flaring	Flaring	None	Non-Routine	Flare flame failure / non-availability	Environment	Air Emission	X		8	6	48	High	Yes	1. Process troubleshooting procedure 2. SOP is available. are in place. 3. CCTV in place. 4. OP.10.04 (Flare Monitoring Process) in place 5. Communication protocol in place.	2	2	4	Acceptable	
Manufacturing	FPC Operations	General	Work Permit	Hot work permit	Routine	failure to comply with permit requirements	Safety	Serious injury	X		8	6	48	High	Yes	1. Work permit audit in place 2. Work permit training and qualification program in place. 3. Safe work practice processes are in place.	2	2	4	Acceptable	

Manufacturing	FPC Operations	General	Work Permit	Hot work permit	Routine	failure to comply with permit requirements	Environment	Pollution	X		8	6	48	High	Yes	1. Work permit audit in place 2. Work permit training and qualification program in place. 3. Safe work practice processes are in place.	2	2	4	Acceptable		
Manufacturing	FPC Operations	General	Work Permit	Hot work permit	Routine	failure to comply with permit requirements	Economic Loss	Business			8	2	16	Medium	No	1. Work permit audit in place 2. Work permit training and qualification program in place. 3. Safe work practice processes are in place.	2	2	4	Acceptable		
Manufacturing	FPC Operations	General	Work Permit	None	Non-Routine	failure to comply with permit requirements	Safety	Fatality	X		8	12	96	High	Yes	1. PI.01 Risk assessment prior to critical activities is carried out and recommendations implemented. 2. PL.06 ERP & ERT are in place 4. Work permit audit in place 5. Contractor EHS plan and method statement including JSA is approved as a part of WP system 6. OP.12 Safe work practice processes are in place. 7. OP.09.01 Contractor Control process in place.	2	2	4	Acceptable		
Manufacturing	FPC Operations	General	Substation access control	None	Routine	Access control not in place	Safety	Fatality			8	12	96	High	No	1. Numeric lock control available 2. Lock for cable cellar in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	General	Cable cellar access	None	Non-Routine	Trapped in cable cellar during fire	Safety	Serious Injury			2	6	12	Medium	No	1. Additional gates are available for exit 2. Confined Space Work Permit system is in place to control the access	2	2	4	Acceptable		
Manufacturing	FPC Operations	General	New Temporary Loading	Loading of materials such as MRB, LO etc.	Routine	Spillage / Leakage	Environment	soil pollution	X		8	6	48	High	yes	1. FCR requirements implemented through WRC and HAZOP carried. 2. Area is paved. 3. Pre-inspection to loading by 3rd party is ensured as per OP.05.06 4. Containment facility for MRB system is in place as per FCR # 2594	2	2	4	Acceptable		
Manufacturing	FPC Operations	General	Gas detection System	None	Routine	Non-calibrated gas detectors	Safety	Serious Injury			8	6	48	High	No	1. PM program in place 2. Ax alert in place	2	2	4	Acceptable		
Manufacturing	FPC Operations	General	Compliance to RCER 2015 requirements	None	Routine	Non-compliance with the energy efficiency standards and requirements as per Saudi Energy Efficiency Center (SEEC).	Environment	Conservation of natural resources	X		8	12	96	High	Yes	1. SEEC requirements are well addressed and monitored Under TSD 2. Energy report to SEEC as per requirement 3. Energy management Study conducted 4. Sustainability Programs covered all relevant initiative (PL.03.01) and being tracked and stewarded through SSC & MS/EC meeting	2	2	4	Acceptable		
Manufacturing	FPC Operations	General	Compliance to RCER 2015 requirements	None	Routine	Production is higher than the design without facility modification	Environment	Non-Compliance	X		8	12	96	High	Yes	1. Daily production report generated and tracked through AIF. 2. Complying to RCER requirement as we are not modified facility. 3. Production figures are being reported to RC annually through AIF. 4. production figures updated in EPO at the time of renewal based on current production 5. Validation done through Hydraulic study for LAB-2 plant 6. Hydraulic study completed for NPN & LAB-1	2	2	4	Acceptable		
Manufacturing	FPC Operations	General	Compliance to RCER 2015 requirements	None	Routine	CFC's (ODS) Usage	Environment	Non-Compliance	X		8	2	16	Medium	Yes	1. Phase-out plan in place by PE Dept. 2. Phase-out plan is communicated to Royal Commission	2	2	4	Acceptable	Phase out to be completed as per plan submitted to RC (PE)	2028
Manufacturing	FPC Operations	General	Compliance to RCER 2015 requirements	None	Routine	Non-availability of flare flow monitoring device (like Ultrasonic Flow Meter) on the vapor line after liquid knock-out drum.	Environment	Non-Compliance	X		8	4	32	High	Yes	1. Operation to raise FCR - Target Date 31 May 2016 - Done 2. TSD will evaluate FCR - Target Date 30-Sep-2016 - In progress	8	4	32	High	Jubail Expansion Project - To execute the requirements as part of plant commissioning - Covered under Scope and communicated to RC part of PAP submittal	Q3 2020
Manufacturing	FPC Operations	General	Compliance to RCER 2015 requirements	None	Routine	non-availability of RC On-Line Data Management System for CEM	Environment	Non-Compliance	X		8	4	32	High	Yes	1. CEM monitoring is in place and reporting is being done as per RCER requirements.	8	1	8	Low	No direction for RC online monitoring system.	Q3 2022
Manufacturing	FPC Operations	General	Compliance to RCER 2015 requirements	None	Routine	non-availability of automatic feed cut-off systems as per EPO requirements	Environment	Non-Compliance	X		8	4	32	High	Yes	All the streams as per EPO are having the cut-off systems available through Coalesser level.	2	2	4	Acceptable		
Manufacturing	FPC Operations	General	Compliance to RCER 2015 requirements	None	Routine	non-availability of ambient air analyzers around the fence line	Environment	Non-Compliance	X		8	4	32	High	Yes	1. Operation to raise FCR - Target Date 31 May 2016 - Done 2. TSD will evaluate FCR - Target Date 30-Sep-2016 - In progress	8	4	32	High	Jubail Expansion Project - To execute the requirements as part of plant commissioning - Covered under Scope and communicated to RC part of PAP submittal	Q3 2020
Manufacturing	FPC Operations	General	Compliance to RCER 2015 requirements	None	Routine	not notifying RC for the schedule of routine seal inspection	Environment	Non-Compliance	X		8	4	32	High	Yes	Already communicated to RC vide a letter FPC-EHSS-RC-L-244 dated 18 January 2018	2	1	2	Acceptable		
Manufacturing	FPC Operations	General	Compliance to RCER 2015 requirements	None	Routine	Failure to conduct the Primary and Secondary Seal Inspection per RCER clause 2.9.3 & 2.9.4	Environment	Non-Compliance	X		8	4	32	High	Yes	1. Secondary Sela Inspection is being done and notified to RC in advance 2. SMP-INSP-09 is in place 3. OP.06.04 is in place 4. API 570 & API 580 RBI is adopted 5. Meridium Software is in place to control Inspection plan & Records 6. Risk assessment is being conducted as when needed	2	4	8	Low	Primary Seal Inspection for applicable tanks need to be completed	Q4 2020
Manufacturing	FPC Operations	General	Compliance to RCER 2015 requirements	None	Routine	non-availability of RC On-Line Data Management System for IWW discharge parameters	Environment	Non-Compliance	X		8	4	32	High	Yes	1. TOC Analyzer installation has been done 2. Online Monitoring is being practiced.	8	1	8	Low	No direction for RC online monitoring system.	Q3 2022
Manufacturing	FPC Operations	General	Compliance to RCER 2015 requirements	None	Routine	non-availability of Cooling Tower Drift Loss Test as per Cooling Tower Institute Protocols and Methodology (CTI Test Code ATC-140), Isokinetic Drift Measurement.	Environment	Non-Compliance	X		8	4	32	High	Yes	The old CT will be replaced with new CT; and provided with cooling tower drift loss test certificate.	2	2	4	Acceptable		
Manufacturing	FPC Operations	General	Compliance to RCER 2015 requirements	None	Routine	non-availability of Hazardous material storage areas labeling as per United Nations chemicals hazard classification	Environment	Non-Compliance	X		8	4	32	High	Yes	Requirement is executed and met the RC Compliance in line with UN hazard classification.	2	2	4	Acceptable		
Manufacturing	FPC Operations	None	Radioactive Source Management	Handling & Storage of Radioactive Materials	Non-Routine	Improper Storage of Radioactive Source	Health	Chronic Diseases/illness	X		6	6	36	High	Yes	1. OP.11.07 Ionizing Radiation process in place 2. SMP-INST-43 Radiation survey in place 3. Certified RSO are available 4. Always managing source through certified and approved third party 5. Availability of TLDs for instrument technician and RSO prior working with radiation source. 6. OP.12 function is in place 7. PI.06 function is in place	2	4	8	Low	Facility storage is required for Radioactive source as per KACARE requirements	Q1 2021

Name Of Department:	HR & GS	Date of Release: 30 Jun 2020
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PROBABILITY	
Probability	Score
Extreme (Likely to occur one or more times per year)	8
High (Likely to occur 10 or less in 25 years)	6
Moderate (Likely to occur 2 or less in 25 years)	4
Low (May occur once in 25 years)	2
Remote (Not likely to occur in 25 years)	1

RISK CRITERIA					
RISK CLASSIFICATION		Criticality/Risk Rating			
Consequence	A	B	C	D	E
A	B (12)	B (24)	A (48)	A (72)	A (96)
B	C (6)	B (12)	B (24)	A (36)	A (48)
C	D (4)	C (8)	B (16)	B (24)	A (32)
D	D (2)	D (4)	C (8)	B (12)	B (16)
E	D (1)	D (2)	D (4)	C (6)	C (8)
Probability	Remote	Low	Moderate	High	Extreme

Risk Class Description	Risk Rating
High Risk	A
Moderate Risk	B
Low Risk	C
Acceptable Risk	D

Risk Rating (RR) = P x C

DIVISION	Name of Department	Name of Section	ACTIVITY	SUB ACTIVITY	CONDITION OF ACTIVITY	ASPECT - Identified Risk/Issue/Concerns (Output of process or activity)	FOCUS CATEGORY	IMPACT	LEGAL - Place "X" If Yes	OTHER - Place "X" If Yes	Probability of Occurrence	Consequences	RISK Score	Risk Category	SIGNIFICANT BASED ON LEGAL	Protections Available (Measure Control)	Probability of Occurrence	Consequences	RISK Score	RISK RESPONSE	Further Action	Target Date
Finance & Administration	HR & GS	First Aid Unit	Diagnosis / Treatment	NA	Routine	Improper Diagnosis	Health	Acute Injury / Illness			1	6	6	Low		History, Vital signs, Physical Examination, Investigations, Relevant Procedure is in place.	1	4	4	Acceptable		
Finance & Administration	HR & GS	First Aid Unit	Reliability control of Medical Equipment / Medicines	Calibration	Routine	Improper Diagnosis	Health	Acute Injury / Illness			4	6	24	Medium		1. Annual Calibration Program in place 2. Certified by third party 3. Self-checked is being conducted periodically 4. Employee medical history is available and reference is made 5. Regular stock taking and expiry date is in place and records are maintained.	1	4	4	Acceptable		
Finance & Administration	HR & GS	First Aid Unit	Medical Waste Management	NA	Routine	Improper handling/disposal	Environment	Land Pollution	X		8	2	16	Medium	Yes	1. OP.10.07-WI-01 is in place 2. Contract and manifest records are available for proper disposal 3. First Aid Unit staff are qualified well trained for waste handling	2	2	4	Acceptable		
Finance & Administration	HR & GS	Clinic	Medical Waste Management	NA	Routine	Improper handling	Health	Chronic disease / Illness			8	4	32	High		1. OP.10.07-WI-01 is in place 2. Clinic staff are qualified well trained for waste handling 3. OP.12 function in place 4. Annual check-up for the medical staff	2	2	4	Acceptable		
Finance & Administration	HR & GS	First Aid Unit	Annual Medical Examination	NA	Routine	Improper assessment of employee fitness	Health	Acute Injury / Illness			8	4	32	High		1. OP.11.09-WI-01 in place for Health Matrix and plan for conducting Health Monitoring. 2. Pre-employment medical fitness is mandatory 3. History, Vital signs, Physical Examination, Investigations, Relevant Procedure is in place. 4. Employee medical history is available and reference is made and 5. Monthly presentation to Management on the status.	2	2	4	Acceptable		
Finance & Administration	HR & GS	Clinic	Emergency Response	NA	Emergency	Inadequate Response	Health	Fatality / Plant Safety	X		8	12	96	High		1. Trained and qualified Employee (Physician & Male Nurses) 2. Mock drills and ER program is in place under PL.06 Function 3. Fully equipped Ambulance is available and inspection is carried out every shift and logging of all emergency equipment and medicines is done and records maintained. 4. Clinic is equipped with AED (Automated External Defibrillator) 5. Clinic will refer the victim to the nearest hospital (AL-MANA) for further medical management 6. Refresher course for medical staff to be brought in place once in 3 years.	2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	Cooking	NA	Routine	1. Food Poisoning 2. Contagious disease	Health	Acute Injury / Illness			4	4	16	Medium		1. Food Quality Control Check in place 2. Bi-annual food handler medical check-up in place 3. 3 days food sample are being kept for RC inspection 4. Pest Control program is in place	2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	Cooking	NA	Routine	Food Preparation	Health	Acute Illness			8	4	32	High		1. Trained & certified Food handlers by RC 2. Proper usage of kitchen equipment's 3. PM program for kitchen equipment's 4. Regular inspection program as per sp.06.02 & OP.11.08 carried out. 5. Special PPE such as metal gloves for food preparation to be provided 6. Safe work practices (OP.12 Function) in place.	2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	Cooking	NA	Routine	Food Preparation	Safety	Serious Injury			8	6	48	High		1. Trained & certified Food handlers by RC 2. Proper usage of kitchen equipment's 3. PM program for kitchen equipment's 4. Regular inspection program as per sp.06.02 & OP.11.08 carried out. 5. Special PPE such as metal gloves for food preparation to be provided 6. Safe work practices (OP.12 Function) in place.	2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	Cooking	NA	Routine	1. Unhygienic condition of utensils 2. Improper use of utensils	Health / Safety	Acute Injury / Illness			8	4	32	High		1. Dish washing machine is available 2. PPE available 3. PM program for kitchen equipment's 4. Regular inspection program as per sp.06.02 & OP.11.08 carried out. 5. Safe work practices (OP.12 Function) in place.	2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	Waste Management	Disposal	Routine	Improper disposal	Environment	Land Pollution			8	4	32	High		1. OP.10.07-WI-02 is in place 2. Contract and manifest records are available for proper disposal 3. Cafeteria staff are well aware for waste handling	2	2	4	Acceptable		
Finance & Administration	HR & GS	HR	Training	HSE Induction	Routine	Inadequate Training / lack of understanding of company HSE requirements	Environment	Environmental Impact			8	4	32	High		1. EHSS Orientation for all new joiners 2. Post Qualification Program for all para professionals (less than the supervisor category) 3. Professional Development Programs Effectiveness evaluation is in place for the above programs	2	2	4	Acceptable		
Finance & Administration	HR & GS	HR	Training	HSE Induction	Routine	Inadequate Training / lack of understanding of company HSE requirements	Safety	Serious Injury			8	4	32	High	No	4. EHSS training matrix in place 5. Individual Development Program (IDP) is being done every year	2	2	4	Acceptable		
Finance & Administration	HR & GS	HR	Training	HSE Induction	Routine	Inadequate Training / lack of understanding of company HSE requirements	Health	Chronic disease / Illness			8	4	32	High	No	1. SHEAC Awareness Plan is in place 2. Linked to safe driving training (refer to defensive driving)	2	2	4	Acceptable		
Finance & Administration	HR & GS	HR	Training	Off the job Safety	Routine	Lack of Awareness to associated Risk outside the Company premises	Safety	Acute Injury / Illness			4	4	16	Medium	No	1. Valid Istimarah for the vehicles maintained 2. Vehicle request through Service desk is controlled 3. Odometer control is implemented	2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	General Transportation	Vehicle Control and Maintenance	Routine	Improper Maintenance & control of vehicle	Environment	Air Emission			8	4	32	High		1. PM program for the vehicles 2. All vehicle are equipped with SRS 3. Valid driving license for drivers is ensured. 4. Safe driving awareness through SHEAC is in place 5. Emergency contact numbers of Farabi focal point displayed inside the vehicle 6. Checklist shall be made available inside the vehicle	2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	General Transportation	Vehicle Control and Maintenance	Routine	Improper Maintenance or Control	Safety	Fatality / Plant Safety			8	12	96	High		1. PM program for the vehicles 2. All vehicle are equipped with SRS 3. Valid driving license for drivers is ensured. 4. Safe driving awareness through SHEAC is in place 5. Emergency contact numbers of Farabi focal point displayed inside the vehicle 6. Checklist shall be made available inside the vehicle	2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	General Transportation	Car Cleaning	Routine	Consumption of water	Environment	Resources Depletion			8	1	8	Low		1. Using of hoses has been banned for car washing 2. Water Spray machine is being used to minimized the water consumption	8	1	8	Low	Controlled Risk	
Finance & Administration	HR & GS	GS	General Maintenance	General Trash Disposal	Routine	Improper Waste Disposal	Environment	Land Pollution			8	4	32	High			2	2	4	Acceptable		

Finance & Administration	HR & GS	GS	General Maintenance	Hazardous Waste Disposal (spray cans, paint cans, bleach, light bulbs, etc.)	Routine	Improper Waste Disposal	Environment	Air Emission			8	4	32	High			2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	General Maintenance	Hazardous Waste Disposal (spray cans, paint cans, bleach, light bulbs, etc.)	Routine	Improper Waste Disposal	Environment	Ground Water			8	4	32	High			2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	General Maintenance	Hazardous Waste Disposal (spray cans, paint cans, bleach, light bulbs, etc.)	Routine	Improper Waste Disposal	Environment	Land Pollution			8	4	32	High			2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	General Maintenance	Hazardous Waste Disposal (spray cans, paint cans, bleach, light bulbs, etc.)	Routine	Improper Waste Disposal	Health	Chronic disease / Illness			8	4	32	High	No		2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	General Maintenance	General House Keeping	Routine	Use of Cleaning Chemicals	Safety & Health	Acute Injury / Illness			8	4	32	High	No		2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	General Maintenance	Pest Control	Routine	Improper Pest Control	Safety & Health	Illness			8	4	32	High	No		2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	General	Telecommunication	Emergency	Failure of Tele communication	Safety	Serious Injury			2	4	8	Low	No		2	2	4	Acceptable		
Finance & Administration	HR & GS	GS	General	Telecommunication	Emergency	Failure of Telecommunication	Security	Property Damage			1	12	12	Medium	No		1	4	4	Acceptable		
Finance & Administration	HR & GS	HR	Extended Working Hours	NA	Non-Routine	Overtime	Health	Acute Injury / Illness	x		8	2	16	Medium			2	2	4	Acceptable		
Finance & Administration	HR & GS	HR	Training	Post Qualification / Professional Dev Prog	Routine	Inadequate Training / evaluation	Environment	Environmental Impact			8	4	32	High	No		2	2	4	Acceptable		
Finance & Administration	HR & GS	HR	Training	Post Qualification / Professional Dev Prog	Routine	Inadequate Training / evaluation	Safety	Serious Injury	x		8	4	32	High	Yes		2	2	4	Acceptable		
Finance & Administration	HR & GS	HR	Training	Post Qualification / Professional Dev Prog	Routine	Inadequate Training / evaluation	Health	Chronic disease / Illness			8	4	32	High	No		2	2	4	Acceptable		
Finance & Administration	HR & GS	HR	Training	ERT Training - Planning / Training	Routine	Inadequate Training / evaluation due to incompetent training provider	Environment	Environmental Impact	x		8	4	32	High	Yes		2	2	4	Acceptable		
Finance & Administration	HR & GS	HR	Training	ERT Training - Planning / Training	Routine	Inadequate Training / evaluation due to incompetent training provider	Safety	Serious Injury	x		8	4	32	High	Yes		2	2	4	Acceptable		
Finance & Administration	HR & GS	HR	Training	ERT Training - Planning / Training	Routine	Inadequate Training / evaluation due to incompetent training provider	Health	Chronic disease / Illness			8	4	32	High	No		2	2	4	Acceptable		
Finance & Administration	HR & GS	HR	Extended Working Hours	NA	Non-Routine	Driving after long Shift	Safety	Fatality			8	12	96	High	No		2	12	24	Medium	1. Internal training for all employees will be completed before Q-4 2020 through Defensive driving campaign; However 80% of targetted employees have already been covered in 2019.	Q4 2020
Finance & Administration	HR & GS	HR	Identification of legal Requirements with respect to MOL	None	Routine	Non-compliance to MoL workman's law	Economic Loss	MoL Penalty	x		4	2	8	Low	Yes		1	2	2	Acceptable		
Finance & Administration	HR & GS	HR	Identification of legal Requirements with respect to MOL	Employee facility	Routine	Non-compliance to MoL Article-121 A	Non-compliance	MoL Penalty	x		4	4	16	Medium			4	4	16	Medium	1. Facility Change (FCR) request need to be initiated for smoking shelter modification.	Q4 2020
Finance & Administration	HR & GS	HR	Identification of legal Requirements with respect to MOL	Recruitment	Routine	Non-compliance to MoL workman's law (Article-28)	Non-compliance	MoL Penalty	x		4	4	16	Medium	Yes		4	4	16	Medium	Planning to hire more physically challenge workman to meet the MoL Article-28 requirements	Q4 2021

Name Of Department: **ITD** Date of Release: **07.07.2018**

PROBABILITY	
Probability	Score
Extreme (Likely to occur one or more times per year)	8
High (Likely to occur 10 or less in 25 years)	6
Moderate (Likely to occur 2 or less in 25 years)	4
Low (May occur once in 25 years)	2
Remote (Not likely to occur in 25 years)	1

RISK CRITERIA					
RISK CLASSIFICATION					
Consequence	Criticality/Risk Rating				
A	B (12)	B (24)	A (48)	A (72)	A (96)
B	C (6)	B (12)	B (24)	A (36)	A (48)
C	D (4)	C (8)	B (16)	B (24)	A (32)
D	D (2)	D (4)	C (8)	B (12)	B (16)
E	D (1)	D (2)	D (4)	C (6)	C (8)

Risk Class Description	Risk Rating
High Risk	A
Moderate Risk	B
Low Risk	C
Acceptable Risk	D

Risk Rating (RR) = P x C

DIVISION	Name of Department	Name of Section	ACTIVITY	SUB ACTIVITY	CONDITION OF ACTIVITY	ASPECT - Identified Risk/Issue/Concerns (Output of process or activity)	FOCUS CATEGORY	IMPACT	LEGAL - Place "X" if Yes	OTHER - Place "X" if Yes	Probability of Occurrence	Consequences	RISK Score	Risk Category	SIGNIFICANT BASED ON LEGAL	Protections Available (Measure Control)	Probability of Occurrence	Consequences	RISK Score	RISK RESPONSE	Further Action	Target Date
Finance & Administration	IT	IT	Security - IT	Granting Access - Internal	Routine	Security Breach	Security	Damage to Information / Connectivity			8	4	32	High	No	1. Firewalls Control 2. AntiVirus 3. Security rights 4. Two layers of E-mail gate-ways 5. Access Control and Protocol in place. 6. Certified and audited for ISO 27001 - 2013. 7. Security information and event management (SIEM) 8. Datacenter Next Generation Firewall control. (including Malware detection, ATP & web-filtering...)	2	2	4	Acceptable		
Finance & Administration	IT	IT	Security - IT	Granting Access -External	Routine	Security Breach	Security	Damage to Information / Connectivity			8	6	48	High	No	1. Next Generation Firewalls Control 2. AntiVirus 3. Security rights 4. Two layers of E-mail gate-ways 5. Access Control and Protocol in place. 6. Certified and audited for ISO 27001 - 2013. 7. Contract with ISP and with technological partners for Service Level Agreement (SLA) 8. Security information and event management (SIEM) 9. VPN access. 10. Multi-Factor Authentication.	2	2	4	Acceptable		
Finance & Administration	IT	IT	Security - IT	Cabling (Power, Network)	Routine	Access to network hardware & cabling	Economic Loss	Damage to Information / Connectivity			4	2	8	Low	No	1. Network Device Security 2. IP Address Blocking	2	2	4	Acceptable		
Finance & Administration	IT	IT	Service Utilization	Hardware	Routine	Hardware Crash	Economic Loss	Property Damage			4	4	16	Medium	No	1. SLA in place 2. Material Gate Control 3. Inventory Controlling 4. Cluster / Redundancy of hardwares is available.	2	2	4	Acceptable		
Finance & Administration	IT	IT	Data Storage Management	Back-Up and Restore	Routine	Loss of Data	Economic Loss	Damage to Information / Connectivity			6	6	36	High	No	1. data Back-up provision 2. Data Back-up duplication 3. Data Back-up transfer 4. Backup data is stored in a security control with access control.	2	2	4	Acceptable		
Finance & Administration	IT	IT	IT Server Room monitoring / conditions	Maintaining Server/Device Integrity	Routine	Failure of Server & devices	Economic Loss	Property Damage			6	6	36	High	No	1. Temperature log sheet maintained manually. 2. Automatic system is installed for humidity and temperature control.	2	4	8	Low	1. HVAC system to be corrected for fire cases. 2. FM 200 inspection to be carried out regularly.	Q4 2020
Finance & Administration	IT	IT	Hardware Waste Management	Disposal	Non-Routine	Improper disposal	Environment	Soil Contamination	X		8	6	48	High	Yes	1. Used materials are being returned back to the same vendor as per agreement under Scrap and is not disposed by FPC as an e-Waste.	2	2	4	Acceptable		
Finance & Administration	IT	IT	E-Waste (Such as Cartridge) Management	Disposal	Non-Routine	Improper disposal	Environment	Soil Contamination	X		8	6	48	High	Yes	1. Used materials are being returned back to the same vendor as per agreement under Scrap and is not disposed by FPC as an e-Waste.	2	2	4	Acceptable		
Finance & Administration	IT	IT	Service Desk Management	Service Management	Routine	Delay in Service Delivery	Economic Loss	Business			4	4	16	Medium	No	1. KPI stewardship 2. Service desk and application is being tracked 3. Prioritization of the request by IT based on business impact.	2	2	4	Acceptable		
Finance & Administration	IT	IT	Service Desk Management	Incident Management	Routine	Delay to rectify	Economic Loss	Business			4	4	16	Medium	No	1. KPI stewardship 2. Service desk and application is being tracked 3. Prioritization of the request by IT based on business impact.	2	2	4	Acceptable		
Finance & Administration	IT	IT	IT Infrastructure Management	None	Routine	Non availability/Failure of IT infrastructure	Security	Damage to Information / Connectivity			4	4	16	Medium	No	1. Redundancy of devices 2. High availability of devices 3. Access Control for the server room in place. 4. Access Control for Admin building is in place.	2	2	4	Acceptable		
Finance & Administration	IT	IT	IT Infrastructure Management	None	Routine	Non availability/Failure of IT infrastructure	Security	Damage to Information / Connectivity			4	4	16	Medium	No	1. Redundancy of devices 2. High availability of devices 3. Access Control for the server room in place. 4. Access Control for Admin building is in place.	2	2	4	Acceptable		
Finance & Administration	IT	IT	Communication between CRs & Business network (IT)	None	Routine	Mis-communication	Cyber Security	Business Impact	x		4	6	24	Medium	Yes	1. SP.12.01 Information Security Monitoring system is in place 2. DMZ area between OT & IT 3. Firewall between DMZ & OT 4. Firewall between DMZ & IT 5. IT Data centre firewall	2	2	4	Acceptable		
Finance & Administration	IT	IT	Communication between CRs & Business network (IT)	None	Routine	Improper Data Integrity	Cyber Security	Business Impact	x		4	6	24	Medium	Yes	1. SP.12.01 Information Security Monitoring system is in place 2. DMZ area between OT & IT 3. Firewall between DMZ & OT 4. Firewall between DMZ & IT 5. IT Data centre firewall	2	2	4	Acceptable		
Finance & Administration	IT	IT	Communication between CRs & Business network (IT)	None	Routine	Lack of Communication authorization	Cyber Security	Property Damage	x		4	6	24	Medium	Yes	1. SP.12.01 Information Security Monitoring system is in place 2. DMZ area between OT & IT 3. Firewall between DMZ & OT 4. Firewall between DMZ & IT 5. IT Data centre firewall	2	2	4	Acceptable		



PL.01.01 RISK ASSESSMENT

PL.01.01-F-04 FPC RISK REGISTER

Revision No.	1
Issued Date	12-09-16
No.	1 of 1

Name Of Department:	JEP Logistics	Date of Release: 07.07.2018
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PROBABILITY	
Probability	Score
Extreme (Likely to occur one or more times per year)	8
High (Likely to occur 10 or less in 25 years)	6
Moderate (Likely to occur 2 or less in 25 year)	4
Low (May occur once in 25 years)	2
Remote (Not likely to occur in 25 years)	1

RISK CRITERIA					
RISK CLASSIFICATION		Criticality/Risk Rating			
Consequence	A	B	C	D	E
A	B (12)	B (24)	A (48)	A (72)	A (96)
B	C (6)	B (12)	B (24)	A (36)	A (48)
C	D (4)	C (8)	B (16)	B (24)	A (32)
D	D (2)	D (4)	C (8)	B (12)	B (16)
E	D (1)	D (2)	D (4)	C (6)	C (8)
Probability	Remote	Low	Moderate	High	Extreme

Risk Class Description	Risk Rating
High Risk	A
Moderate Risk	B
Low Risk	C
Acceptable Risk	D

Risk Rating (RR) = P x C

DIVISION	Name of Department	Name of Section	ACTIVITY	SUB ACTIVITY	CONDITION OF ACTIVITY	ASPECT - Identified Risk/Issue/Concerns (Output of process or activity)	FOCUS CATEGORY	IMPACT	LEGAL - Place "x" if Yes	OTHER - Place "x" if Yes	Probability of Occurrence	Consequences	RISK Score	Risk Category	SIGNIFICANT BASED ON LEGAL	Protections Available (Measure Control)	Probability of Occurrence	Consequences	RISK Score	RISK RESPONSE	Further Action	Target Date
Marketing	Logistics and Product Handling (JEP)	None	Drum Filling & Warehousing	Handling of empty drums by Forklift	Routine	Falling Drums	Safety	Acute Injury/Illness			8	4	32	High	No	1. OP.12.03 Material Storage Handling process is in place 2. SMP-MECH-59 Forklift operation is in place 3. Certified forklift Operators 4. OP.12 function for Safe Work Practices 5. PL.06 ERP processes are in place	2	2	4	Acceptable		
Marketing	Logistics and Product Handling (JEP)	None	Drum Filling & Warehousing	Handling of empty drums by Forklift	Routine	Hitting Object/People	Safety	Acute Injury/Illness			8	4	32	High	No	1. OP.12.03 Material Storage Handling process is in place 2. SMP-MECH-59 Forklift operation is in place 3. Certified forklift Operators 4. OP.12 function for Safe Work Practices 5. PL.06 ERP processes are in place	2	2	4	Acceptable		
Marketing	Logistics and Product Handling (JEP)	None	Drum Filling & Warehousing	Inspection & Handling of empty drums	Routine	Pallet damage	Safety	Acute Injury/Illness			8	4	32	High	No	1. OP.12.03 Material Storage Handling process is in place 2. Pallet integrity is being checked and also being monitored in planned interval. 3. SMP-MECH-59 Forklift operation is in place 4. Certified forklift Operators 5. OP.12 function for Safe Work Practices 6. PL.06 ERP processes are in place	2	2	4	Acceptable		
Marketing	Logistics and Product Handling (JEP)	None	Drum Filling & Warehousing	Drum filling machine	Routine	Spillage / Leakage	Environment	Soil Pollution	x		8	4	32	High	Yes	1. OP.10.07 Process is in process for Waste Management 2. OP.12 function for safe work practices in place 3. PL.06 ERP function in place 4. OP.10.06 Ground water Monitoring process in in place 5. Area is paved for Secondary containment requirements	4	2	8	Low	SOP need to be developed for Drum Filling Machine	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Drum Filling & Warehousing	Drum filling machine	Routine	Spillage / Leakage	Safety	Fire/Explosion			8	12	96	High		1. OP.10.07 Process is in process for Waste Management 2. OP.12 function for safe work practices in place 3. PL.06 ERP function in place 4. OP.10.06 Ground water Monitoring process in in place 5. Fire fighting equipments and deluge systems are in place 6. Area is paved for Secondary containment requirements	4	2	8	Low	SOP need to be developed for Drum Filling Machine	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Drum Filling & Warehousing	Drum Strapping machine	Routine	Improper strapping leading Spillage/Leakage	Environment	Soil Pollution	x		8	4	32	High	Yes	1. OP.10.07 Process is in process for Waste Management 2. OP.12 function for safe work practices in place 3. PL.06 ERP function in place 4. OP.10.06 Ground water Monitoring process in in place 5. Area is paved for Secondary containment requirements	4	2	8	Low	SOP need to be developed for Drum Strapping Machine	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Drum Filling & Warehousing	Drum Strapping machine	Routine	Improper strapping leading Spillage/Leakage	Environment	Soil Pollution	x		8	4	32	High	Yes	1. OP.10.07 Process is in process for Waste Management 2. OP.12 function for safe work practices in place 3. PL.06 ERP function in place 4. OP.10.06 Ground water Monitoring process in in place 5. Area is paved for Secondary containment requirements	4	2	8	Low	SOP need to be developed for Drum Strapping Machine	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Drum Filling & Warehousing	Drum Strapping machine	Routine	Improper strapping leading Spillage/Leakage	Safety	Fire/Explosion			8	12	96	High		1. OP.10.07 Process is in process for Waste Management 2. OP.12 function for safe work practices in place 3. PL.06 ERP function in place 4. OP.10.06 Ground water Monitoring process in in place 5. Fire fighting equipments and deluge systems are in place 6. Area is paved for Secondary containment requirements	4	2	8	Low	SOP need to be developed for Drum Strapping Machine	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Drum Filling & Warehousing	Loading of Drums into Container	Routine	Spillage / leakage	Environment	Soil Pollution	x		8	4	32	High	Yes	1. OP.10.07 Process is in process for Waste Management 2. OP.12 function for safe work practices in place 3. PL.06 ERP function in place 4. OP.10.06 Ground water Monitoring process in in place 5. Area is paved for Secondary containment requirements	4	2	8	Low	SOP need to be developed	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Drum Filling & Warehousing	Loading of Drums into Container	Routine	Spillage / leakage	Safety	Fire/Explosion			8	12	96	High		1. OP.10.07 Process is in process for Waste Management 2. OP.12 function for safe work practices in place 3. PL.06 ERP function in place 4. OP.10.06 Ground water Monitoring process in in place 5. Fire fighting equipments and deluge systems are in place 6. Area is paved for Secondary containment requirements	4	2	8	Low	SOP need to be developed	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Product Filling Activity	Handling of Empty Tanker	Routine	Impurities in the Containers	Economic Loss	Business			4	2	8	Medium		1. SOP is in draft and being used 2. OP.12 Function for safe work practices are in place 3. Cleaning certificate is obtained while placing the containers	4	2	8	Low	SOP need to be approved	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Product Filling Activity	Handling of Loading Arm	Routine	Materials overflow while loading	Environment	Land Pollution	x		8	6	48	High	Yes	1. OP.12.03 Materials Handling and Storage process is in place 2. Over fill protection (Interlock) is available 3. OP.10.07 process is in place 4. OP.12 Function for safe work practices 5. PL.06 ERP function is in place 6. Area is paved as per std. requirements	4	2	8	Low	SOP need to be approved	Q4 2020

Marketing	Logistics and Product Handling (JEP)	None	Product Filling Activity	Weigh bridge operation	Routine	Hiding objects by trailer	Economic Loss	Business			8	4	32	High		1. SMP-INST-34 is in place 2. OP.12 function for safe work practices are in place 3. PL.06 ERP in place	4	2	8	Low	SOP need to be approved capturing this aspect as one of the note point	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Materials loading/Unloading	Loading/Unloading	Routine	Truck movement/Spillage & Leakage	Environment	Ground Water	x		4	4	16	Medium	yes	1. OP.10.06 (GW) Process is in place 2. Prior schedule for GW Sampling 3. Spillage/Leakage Control 4. Materials/Chemicals Area is designed as per requirement (Paved) 5. Annual GW Reports (OP.10.06-F-01) as lagging indicator 6. PL.06 process is in place 7. OP.12 function for safe work practices are in place 8. SOP is in draft and being used	2	2	4	Acceptable	SOP need to be approved part of Q-Pulse	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Materials loading/Unloading	Loading/Unloading	Routine	Truck movement	Safety	Serious Injury			4	6	24	Medium		1. OP.12 safe work practice are in place 2. PL.06 function for ERP is in place 3. SOP is in draft and being used	2	2	4	Acceptable	SOP need to be approved part of Q-Pulse	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Materials loading/Unloading	Hose Connection	Routine	Spillage/Leakage	Environment	Ground Water	x		4	4	16	Medium	yes	1. OP.12 safe work practice are in place 2. PL.06 function for ERP is in place 3. SOP is in draft and being used	2	2	4	Acceptable	1. SOP need to be approved part of Q-Pulse 2. Electrical continuity of metallic hoses to be checked part of SOP	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Materials loading/Unloading	Hose Connection	Routine	Inappropriate hose & coupling	Safety	Serious Injury			4	6	24	Medium		1. OP.12 safe work practice are in place 2. PL.06 function for ERP is in place 3. SOP is in draft and being used	2	2	4	Acceptable	1. SOP need to be approved part of Q-Pulse 2. Electrical continuity of metallic hoses to be checked part of SOP	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Materials loading/Unloading	None	Routine	Electrical Shock	Safety	Serious Injury			4	6	24	Medium		1. OP.12 safe work practice are in place 2. PL.06 function for ERP is in place 3. SOP is in draft and being used 4. Interlock option is there	2	2	4	Acceptable	SOP need to be approved part of Q-Pulse	Q4 2020
Marketing	Logistics and Product Handling (JEP)	None	Materials loading/Unloading	None	Routine	Grounding of Vehicles	Safety	Fire/Explosion			4	12	48	High		1. OP.12 safe work practice are in place 2. PL.06 function for ERP is in place 3. SOP is in draft and being used 4. Interlock option is there	2	2	4	Acceptable	SOP need to be approved part of Q-Pulse	Q4 2020



PL.01.01 RISK ASSESSMENT

PL.01.01-F-04 FPC RISK REGISTER

Revision No.	1
Issued Date	12-09-16
No.	1 of 1

Name Of Department:	Maintenance	Date of Release: 07.07.2018
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PROBABILITY	
Probability	Score
Extreme (Likely to occur one or more times per year)	8
High (Likely to occur 10 or less in 25 years)	6
Moderate (Likely to occur 2 or less in 25 year)	4
Low (May occur once in 25 years)	2
Remote (Not likely to occur in 25 years)	1

RISK CRITERIA					
RISK CLASSIFICATION		Criticality/Risk Rating			
Consequence	A	B	C	D	E
A	B (12)	B (24)	A (48)	A (72)	A (96)
B	C (6)	B (12)	B (24)	A (36)	A (48)
C	D (4)	C (8)	B (16)	B (24)	A (32)
D	D (2)	D (4)	C (8)	B (12)	B (16)
E	D (1)	D (2)	D (4)	C (6)	C (8)
Probability	Remote	Low	Moderate	High	Extreme

Risk Class Description	Risk Rating
High Risk	A
Moderate Risk	B
Low Risk	C
Acceptable Risk	D

Risk Rating (RR) = P x C

DIVISION	Name of Department	Name of Section	ACTIVITY	SUB ACTIVITY	CONDITION OF ACTIVITY	ASPECT - Identified Risk/Issue/Concerns (Output of process or activity)	FOCUS CATEGORY	IMPACT	LEGAL - Place "X" if Yes	OTHER - Place "X" if Yes	Probability of Occurrence	Consequences	RISK Score	Risk Category	SIGNIFICANT BASED ON LEGAL	Protections Available (Measure Control)	Probability of Occurrence	Consequences	RISK Score	RISK RESPONSE	Further Action	Target Date
Manufacturing	Maintenance	Mechanical	Lifting / rigging operation	None	Routine	Use of an inappropriate equipments/Unskilled workmen	Safety	Fatality			8	12	96	High	No	1. Lifting Procedure (OP.12.05) is in place. 2. OP.12.5-WI-02 Safety Considerations of Lifting Equipment part of process 3. Work Permit System (OP.12.09) 4. PL.06.01 Emergency preparedness and Response and crisis management 5. PL.06 in place	2	4	8	Low	Special Tool Box talk will be conducted prior to start of any critical lifting involving all work group.	On going..
Manufacturing	Maintenance	Mechanical	Lifting / rigging operation	None	Routine	Use of an inappropriate equipments/Unskilled workmen	Economic Loss	Property Damaged			8	4	32	High	No	1. Lifting Procedure (OP.12.05) is in place. 2. OP.12.5-WI-02 Safety Considerations of Lifting Equipment part of process 3. Work Permit System (OP.12.09) 4. PL.06.01 Emergency preparedness and Response and crisis management 5. PL.06 in place	2	4	8	Low	Special Tool Box talk will be conducted prior to start of any critical lifting involving all work group.	On going..
Manufacturing	Maintenance	Mechanical	Lifting / rigging operation	None	Routine	Use of an inappropriate equipments/Unskilled workmen	Environment	Emission	X		8	4	32	High	Yes	1. Lifting Procedure (OP.12.05) is in place. 2. OP.12.5-WI-02 Safety Considerations of Lifting Equipment part of process 3. Work Permit System (OP.12.09)	2	1	2	Acceptable		
Manufacturing	Maintenance	Mechanical	Hot work jobs	None	Routine/Non-Routine	Fire/Explosion	Safety	Fatality			8	12	96	High	No	1. OP.12 function "Safe Work Practices" in place 2. PL.06 ERP in place	2	4	8	Low	Special Tool Box talk will be conducted prior to start of any critical lifting involving all work group.	On going..
Manufacturing	Maintenance	Mechanical	Hot work jobs	None	Routine/Non-Routine	Hydrocarbon release	Environment	Emission	X		8	4	32	High	Yes	1. OP.12 function "Safe Work Practices" in place 2. PL.06 ERP in place	2	4	8	Low	Special Tool Box talk will be conducted prior to start of any critical lifting involving all work group.	On going..
Manufacturing	Maintenance	Mechanical	Hot work jobs	None	Routine/Non-Routine	Fire/Explosion	Economic Loss	Property Damage			8	4	32	High	No	1. OP.12 function "Safe Work Practices" in place 2. PL.06 ERP in place	2	2	4	Acceptable		
Manufacturing	Maintenance	Mechanical	Excavation works	None	Non-Routine	Rupture of underground pipelines / cables (Utilities)	Safety	Serious Injury			4	6	24	Medium	No	1. OP.12 function "Safe Work Practices" in place 2. PL.06 ERP in place	2	2	4	Acceptable		
Manufacturing	Maintenance	Mechanical	Excavation works	None	Non-Routine	Collapse of trench in deep excavations	Safety	Fatality			4	12	48	High	No	Excavation work permit with all precautions such as shoring / hard sheet re-enforcement etc. will be in place. ERP in place. Follows CSE requirements also.	2	2	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	Working in high Noise Area	None	Routine	Exposure to high noise	Health	Chronic disease / illness	X		8	6	48	High	Yes	1.OP.12 Safe Work practices function in place. 2. OP.11.09 Health Monitoring Program (Annual Medical Checkup, Hearing Check-up Program.) in place. 3. OP.11.03 Hazard Communication in place. 4. OP.10.08 Noise monitoring in place 5. Ear Plug/Muff to be used as mandatory part of OP.12 function in Process areas.	2	2	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	None	None	Routine	Unskilled Workmen for Maintenance Activities	Safety	Acute Injury / illness			6	4	24	Medium	No	1. OP.09.01 (Contractor Control) in place 2. OP.12 function in place 3. SP.10.01 addresses emergency requirements and read along with Recruitment Process SP.01.01 and form SP.01.01-F-01 MRR	2	2	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	Cladding & Insulation	None	Routine	Exposure to Insulation Materials	Health	Chronic disease / illness			8	6	48	High	No	1. OP.12 Safe Work practices function in place. 2. OP.11.03 Hazard Communication in place. 3. Contractor's supervisor is monitoring the work continuously	2	2	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	Cladding & Insulation	None	Routine	Cut/Abrasions/Falling object/ Burn	Safety	Injury			8	4	32	High	No	1. OP.12 Safe Work practices function in place. 2. OP.11.03 Hazard Communication in place. 3. Contractor's supervisor is monitoring the work continuously	2	2	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	Cladding & Insulation	None	Routine	Waste generation	Environment	soil pollution	X		8	4	32	High	Yes	1. OP.12 Safe Work practices function in place. 2. OP.10.07 Waste management and control in place 3. OP.11.03 Hazard Communication in place. 4. Contractor's supervisor is monitoring the work continuously	2	2	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	cylinders Handling	None	Routine	Improper Storage	Safety	Serious Injury			4	6	24	Medium	No	1. OP.12 Safe Work practices function in place. 2. OP.11.03 Hazard Communication in place. 3. OP.12.03 Material Storage and Handling in place covering cylinder handling 4. Supervisor is monitoring the work continuously	2	2	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	Execution of PM Plans	None	Routine	Failure to execute the plan	Environment	Air Emission	X		4	4	16	Medium	Yes	1. OP.07.01 Preventive maintenance process in place covering PM Schedule, KPI's Performances, RC report submittal. 2. OP.10.02 CEM & Control in place.	2	2	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	Execution of PM Plans	None	Routine	Failure to execute the plan	Economic Loss	Production Loss			4	4	16	Medium	No	1. OP.07.01 Preventive maintenance process in place covering PM Schedule, KPI's Performances, RC report submittal. 2. OP.10.02 CEM & Control in place.	2	2	4	Acceptable		
Manufacturing	Maintenance	Mechanical	Workshop	Machine Handling	Routine	Exposure to flying object	Safety	Serious Injury			4	6	24	Medium	No	1. OP.12 Safe Work practices function in place. 2. PQP, SMPs, in place to train the operator 3. Machine guard in place	2	2	4	Acceptable		
Manufacturing	Maintenance	Mechanical	Workshop	Machine Handling	Routine	All Oil contaminated waste	Environment	soil pollution	X		4	4	16	Medium	Yes	OP.10.07 (Waste Management Process) is in place	2	2	4	Acceptable		
Manufacturing	Maintenance	Mechanical	Workshop	Fabrication	Routine	Waste generation	Environment	Land Pollution			4	2	8	Low	No	OP.10.07 (Waste Management Process) is in place	2	2	4	Acceptable		
Manufacturing	Maintenance	Mechanical	Workshop	Fabrication	Routine	Hot works	Safety	Injury			4	4	16	Medium	No	1.OP.12 Safe Work practices function in place. 2. PQP, SMPs, in place to train the operator 3. Inspection program and supervision in place 4. Fabrication area is segregated with hard metal sheet barrication. 5. HAZAMS study conducted and recommendation implemented	2	2	4	Acceptable		

Manufacturing	Maintenance	Mechanical	Workshop	Hydro testing	Routine	Exposure to high pressure	Safety	Injury			4	6	24	Medium	No	1.OP.12 Safe Work practices function in place. 2. POP,SMPs, in place to train the operator 3.Inspection program and supervision in place 4. Fabrication area is segregated with hard metal sheet barrication. 5. HAZAMS study conducted and recommendation implemented	2	2	4	Acceptable		
Manufacturing	Maintenance	Electrical	Workshop	Testing of Electrical Equipments	Routine	Electrical Shock	Safety	Fatality			8	12	96	High	No	1.OP.12.04 Electrical Safety process in place including arc flash protection 2. OP.12.07 for use of appropriate PPE and inspection in place 3. SMP-Elect for relevant aspects are in place 4. PL.06 function is in place	2	4	8	Low	OP.12.04 to address about EJP & working in live parts.	Q4-2020
Manufacturing	Maintenance	Instrument	Workshop	Testing of Instrument Equipments	Routine	Calibration of Equipments	Safety	Acute Injury / Illness			4	4	16	Medium	No	1. Appropriate PPE are being used 2. Working with low voltage (24 V DC)	2	2	4	Acceptable		
Manufacturing	Maintenance	Instrument	Workshop	Testing of Instrument Equipments	Routine	Pneumatic/Hydrostatic testing	Safety	Acute Injury / Illness			4	4	16	Medium	No	1. Appropriate PPE are being used 2. Area is barricaded 3. Hoses are tested & Certified	2	2	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	Working at height	Erection/Dismantling of Scaffolding	Routine	Fall Hazard	Safety	Fatality			8	12	96	High	No	1. OP.12 Safe Work practices function in place. 2.OP.12.08 Working at height in place. 3. Certified and qualified workmen are only allowed 4. Above 37 meter height Scaffolding need to be designed by qualified Engineer 5. PL.06 function for ERP in place 6. For any critical activity risk assessment is carried out as per PL.01.01 7. Special Tool Box talk is conducted prior to start of any critical working and /or lifting involving all work group.	2	2	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	Working at height	Working on the platform	Routine	Trip / Slip	Safety	Serious Injury			4	6	24	Medium	No	1. OP.12 Safe Work practices function in place. 2. OP.12.08 Working at height in place. 3. Certified and qualified workmen are only allowed 4. Above 37 meter height Scaffolding need to be designed by qualified Engineer 5. PL.06 function for ERP in place 6. For any critical activity risk assessment is carried out as per PL.01.01	2	2	4	Acceptable		
Manufacturing	Maintenance	Instrument	Radiation Wipe Test/Area Survey	None	Routine	Radiation Exposure beyond allowable limit	Health	Chronic disease / illness			4	6	24	Medium	yes	1. OP.11.07 (Ionizing Radiation) process in place 2. Qualified and trained people (Outsource) engaged 3. Appropriate Personal Protective Equipment by contractor	2	2	4	Acceptable		
Manufacturing	Maintenance	Instrument	Radiation Area Survey	None	Routine	Radiation Exposure beyond allowable limit	Health	Chronic disease / illness			4	6	24	Medium	yes	1. OP.11.07 (Ionizing Radiation) process in place 2. OP.12 function in place 3. TLD Badges Monitoring in place (OP.11.07)	2	2	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	Plant Maintenance	None	Routine	Benzene Exposure	Health	Chronic disease / illness			8	6	48	High	No	1. OP.12 Safe Work practices function in place. 2. OP.11.09 Health Monitoring Program (Annual Medical Checkup, Hearing Check-up Program) in place. 3. OP.11.03 Hazard Communication in place. 4. OP.10.03 Fugitive Emission Monitoring (FEM) & Control in place. 5. HC detectors are available in field at strategic location 6. OP.11.05 Carcinogen Monitoring & Control in place	4	2	8	Low	Controlled Risk	On going..
Manufacturing	Maintenance	General Maintenance	Plant Maintenance	None	Routine	H ₂ S Exposure	Health	Acute Injury / Illness			8	4	32	High	No	1. OP.12 Safe Work practices function in place. 2. OP.11.03 Hazard Communication in place. 3. OP.10.03 Fugitive Emission Monitoring (FEM) & Control in place. 4. H2S detectors are available in field at strategic location	2	2	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	Plant Maintenance	None	Routine	Exposure to Hot Fluid	Safety	Serious Injury			8	6	48	High	No	1. OP.12 Safe Work practices function in place. 2. OP.11.03 Hazard Communication in place. 3. Isolation and handover by Operations to MTCE under OP.12.09 in place 4. Special Tool Box talk is conducted prior to start of any critical work	2	2	4	Acceptable		
Manufacturing	Maintenance	Mechanical	HVAC	None	Routine	ODS release	Environment	O3 layer Depletion	X				0	Acceptable	yes	Covered under Operation Aspects			0	Acceptable		
Manufacturing	Maintenance	Mechanical	Working under Inert atmosphere	None	Non-Routine	Asphyxiation	Safety	fatality			4	12	48	High	No	1. Certified contractors and manpower 2. PL.06 ERP in place 3. Special CCTV monitoring 4. Special PPE such as double line breathing apparatus 5. OP.12 safe work practices in places 6. Risk Assessment/JSA is being carried out and recommendations implemented prior to work. Special tool box prior to start the job.	2	2	4	Acceptable		
Manufacturing	Maintenance	Mechanical	Crane/Forklift	None	Routine	Hitting Objects	Safety	Fatality			8	12	96	High	No	1. Flag man leads the vehicle as per requirements (SMP-Mech-59) 2. Certified and qualified operator 3. Work permit for process area and remaining area is under supervision. 4. Equipment certified by third party 5. OP.12 function is in place 6. PL.06 processes are in place	2	4	8	Low	Refresher course for Forklift operators by Maintenance and in parallel SHEAC will conduct the campaign across the organization for the same subject	Q4 2020
Manufacturing	Maintenance	Mechanical	Crane/Forklift	None	Routine	Hitting Objects	Economic Loss	Property Damage			8	4	32	High	No	1. Flag man leads the vehicle as per requirements (SMP-Mech-59) 2. Certified and qualified operator 3. Work permit for process area and remaining area is under supervision. 4. Equipment certified by third party	2	2	4	Acceptable		
Manufacturing	Maintenance	Mechanical	Cooling Tower Maintenance	None	Non-Routine	Health Hazard (Legionnaires' disease)	Health	Acute Injury / Illness			8	4	32	High	No	1. Chemical/biocides treatment is in place 2. Continues monitoring through third party	2	2	4	Acceptable		
Manufacturing	Maintenance	Electrical	Working with High Voltage	Breaker Maintenance	Routine	Electric Shock	Safety	Fatality			8	12	96	High	No	1. OP.12.04 Electrical Safety process in place including arc flash protection 2. OP.12.07 for use of appropriate PPE and inspection in place	4	2	8	Low	OP.12.04 to address about EJP & working in live parts.	Q4-2020
Manufacturing	Maintenance	Electrical	Working with High Voltage	Transformer Maintenance	Routine	Electric Shock	Safety	Fatality			8	12	96	High	No	1. OP.12.04 Electrical Safety process in place including arc flash protection 2. OP.12.07 for use of appropriate PPE and inspection in place	2	2	4	Acceptable		
Manufacturing	Maintenance	Electrical	Working with High Voltage	Transformer Oil Sampling	Routine	Spillage / Leakage of oil	Environment	soil pollution	X		8	2	16	Medium	Yes	1. Specialized and trained Vendor engaged for sampling. 2. OP.12.09 Work Permit in place. 3. OP.12.07 for use of appropriate PPE in place 4. Under Supervision of FPC technician 5. Connected to OWS	2	2	4	Acceptable		
Manufacturing	Maintenance	Electrical	Working with High Voltage	Motor Maintenance (including breaker Rack-in/Rack-out)	Routine	Electric Shock	Safety	Fatality			8	12	96	High	No	1. OP.12.04 Electrical Safety process in place including arc flash protection 2. OP.12.07 for use of appropriate PPE and inspection in place 3.OP.12.09 Work permit system in place for Isolation and LOTO	4	2	8	Low	OP.12.04 to address about EJP & working in live parts.	Q4-2020
Manufacturing	Maintenance	Electrical	Working with High Voltage	Bus Changeover	Routine	Equipment Malfunction	Safety	Acute Injury / Illness			8	2	16	Medium	No	1. OP.12.04 Electrical Safety process in place including arc flash protection 2. OP.12.07 for use of appropriate PPE and inspection in place 3.OP.12.09 Work permit system in place for Isolation and LOTO	2	2	4	Acceptable		
Manufacturing	Maintenance	Electrical	Working with High Voltage	Cable Repair/Replacement	Non-routine	Electric Shock (Meggering)	Safety	Acute Injury / Illness			4	6	24	Medium	No	1. OP.12.04 Electrical Safety process in place including arc flash protection 2. OP.12.07 for use of appropriate PPE and inspection in place 3.OP.12.09 Work permit system in place for Isolation and LOTO	2	2	4	Acceptable		
Manufacturing	Maintenance	Electrical	Working with High Voltage	Cable Repair/Replacement	Non-routine	Cable pulling	Safety	Acute Injury / Illness			4	4	16	Medium	No	1. Specialized and trained Vendor engaged for sampling. 2. OP.12.09 Work Permit in place. 3. OP.12.07 for use of appropriate PPE in place 4. Under Supervision of contractors supervisor / technician / FPC Engineer	2	2	4	Acceptable		

Manufacturing	Maintenance	Electrical	Miscellaneous Maintenance	Changing light bulbs/ repair	Routine	Working at height	Safety	Fatality			8	12	96	High	No	1. OP.12.04 Electrical Safety process in place including arc flash protection 2. OP.12.07 for use of appropriate PPE and inspection in place 3. OP.12.06 Working at height process in place. 4. OP.12.09 Work Permit in place. 5. PL.06 ERP function is in place	2	2	4	Acceptable		
Manufacturing	Maintenance	Electrical	Miscellaneous Maintenance	Changing light bulbs/ repair	Routine	Electrical Shock	Safety	Acute Injury / Illness			4	4	16	Medium	No	1. Specialized and trained Vendor engaged for sampling. 2. OP.12.09 Work Permit in place. 3. OP.12.07 for use of appropriate PPE in place 4. Under Supervision of contractors supervisor / technician / FPC Engineer	2	2	4	Acceptable		
Manufacturing	Maintenance	Instrument	Handling flammable Cylinders	Online analyzers	Routine	Storage near ignition sources (OSHA & HCIS requirement)	Safety	Fire & Serious Injury	X		8	6	48.00	High	Yes	1. OP.12 Safe Work practices function in place. 2. OP.11.03 Hazard Communication in place. 3. OP.12.03 Material Storage and Handling in place covering cylinder handling. 4. Leak test (LEL) being carried out regularly 5. PL.06 function is in place	4	4	16	Medium	FCR-1694 has been cancelled without appropriate justification to meet the Analyzers Calibration Cylinders shall be re-located 25 feet or 7.5 meter away from the Analyzer Cabin AC unit. Need an attention to activate the requirements	4Q-2020
Manufacturing	Maintenance	General Maintenance	Miscellaneous Maintenance	Working at height	Routine	Working at height with manlift	Safety	Serious Injury			4	12	48	High	No	1. Trained / certified operator only allowed to operate. 2. Vehicle is certified by third party 3. OP.12.05 in place for safe operation of man lift. 4. SMP - MECH-62 is in place for safe operation 5. Flag man for movements	1	4	4	Acceptable		
Manufacturing	Maintenance	General Maintenance	Equipment Maintenance	PM/CM	Routine	Sudden release of stored energy (Pressure release)	Safety	Fatality			4	12	48	High	No	1. OP.12.09 Work Permit system in place 2. 23 RCA actions have been implemented part of RCA-69 recommendation. 3. PL.06 in place	2	4	8	Low	Keep on eyes to implement on RCA-69 recommendations.	Q4 2020
Manufacturing	Maintenance	Electrical	Working with High Voltage	Cable Repair/Replacement	Non-routine	Cable pulling	Safety	Acute Injury / Illness			4	4	16	Medium	No	1. Specialized and trained Vendor engaged for sampling. 2. OP.12.09 Work Permit in place. 3. OP.12.07 for use of appropriate PPE in place 4. Under Supervision of contractors supervisor / technician / FPC Engineer	2	2	4	Acceptable		
Manufacturing	Maintenance	Electrical	Electrical Batteries Maintenance	Acid Top -up/Disposal	Routine	Burn Injury/Suffocation	Health-Safety	Acute Injury / Illness			8	4	32	High	No	1. OP.12.01 General SHE Rule 2. OP.12.07 PPE 3. OP.12.09 Work permit 4. SMP-ELEC-29 Batteries 5. PL.06 function is in place	2	4	8	Low	SMP-ELEC-29 to address special PPE requirements while handling acids	Q4-2020
Manufacturing	Maintenance	Electrical	Electrical Batteries Maintenance	Disposal of waste batteries	Routine	Improper Disposal	Environment	Soil Contamination	X		8	4	32	High	Yes	OP.10.07 Waste Management Process in place	2	2	4	Acceptable		
Manufacturing	Maintenance	Planning	Turnaround Management	None	Non-Routine	Planned/Unplanned turnaround activities	Safety	Serious Injury			4	6	24	Medium	No	1) OP.07.03 (Turnaround Maintenance) in Place. 2) Proper approval from GM(M)/Area Risk Manager with EHS risk assessment / scope of work change for the unplanned activity is in place(OP.07.03)	2	2	4	Acceptable		
Manufacturing	Maintenance	Planning	Turnaround Management	None	Non-Routine	Planned/Unplanned turnaround activities	Environment	Emission	X		4	6	24	Medium	Yes		2	2	4	Acceptable		
Manufacturing	Maintenance	Planning	Turnaround Management	None	Non-Routine	Planned/Unplanned turnaround activities	Economic Loss	Property damage			2	4	8	Low	No		2	2	4	Acceptable		
Manufacturing	Maintenance	Warehouse	Storage	Storage of Chemicals	Routine	Spillage / Leakage of chemicals	Safety	Serious Injury			2	6	12	Medium	No	1) OP.12 function is in place. 2) SOP is available. Containments, Handling & Disposal Plan, PPEs	2	2	4	Acceptable		
Manufacturing	Maintenance	Warehouse	Storage	Storage of Chemicals	Routine	Spillage / Leakage of chemicals	Environment	Land Pollution	X		2	6	12	Medium	Yes	1) PL.06.01 is in place.Emergency Response 2) OP.10 Function in place.	2	2	4	Acceptable		
Manufacturing	Maintenance	Warehouse	General	Inspection of material received	Routine	Inadequate / No inspection conducted	N/A	Other			6	4	24	Medium	No	1) SP.08.02 is in place.	2	2	4	Acceptable		
Manufacturing	Maintenance	Warehouse	General	None	Emergency	Fire inside warehouse	Safety	Serious Injury			2	6	12	Medium	No	1) PL.06.01 is in place.Emergency Response 2) Fire detection system is available.	2	2	4	Acceptable		
Manufacturing	Maintenance	Warehouse	Storage	Storage of material	Routine	Improperly stacked material / falling hazard	Safety & Health	Serious Injury			8	4	32	High	No	1. OP.12. function in place 2. OP.12.03 Material handling procedure available. 3. Material is properly stacked in dedicated area.	2	2	4	Acceptable		
Manufacturing	Maintenance	Warehouse	Handling	Handling of material	Routine	Wrong Issuance of material	Safety & Health	Serious Injury			8	6	48	High	No	1. SP.08.02 in place 2. Prior stock request from AX 3. Ensure with end user to check the material prior to issue.	2	2	4	Acceptable		
Manufacturing	Maintenance	Warehouse	Storage/Handling	Storage/Handling of Chemicals	Non-Routine	Spillage / Leakage of chemicals	Environment	Pollution	X		6	4	24	Medium	Yes	1. MSDS available for chemicals 2. Materials handling in paved areas 3. Waste Management Process (OP.10.07) is in place for safe disposal	2	2	4	Acceptable		
Manufacturing	Maintenance	Warehouse	Material Receiving	Inspection of received materials	Routine	Shortage of Quantity/Damaged Material/Not meeting the Spec.	Economic Loss	Wastage of Resources			6	4	24	Medium	No	1. Spot Checking of materials prior to receive as per PO 2. Physical condition of material checked by Warehouse 3. Material handling process is available (OP.12.03) 4. Concerned engineer shall accept the material.	2	2	4	Acceptable		
Manufacturing	Maintenance	Warehouse	Expired materials handling available in Ware House	None	Non-Routine	Disposal of Expired Materials	Economic Loss	Wastage of Resources			8	2	16	Medium	No	1. Material handling procedure available. 2. Labeling and coding is in place. 3. Disposal process (FIN-PRO-3) for surplus asset/expired material is available. 4. Notification alert available for expiry of materials.	2	2	4	Acceptable		

Name Of Department: **Procurement** Date of Release: 07.07.2018

PROBABILLTY	
Probability	Score
Extreme (Likely to occur one or more times per year)	8
High (Likely to occur 10 or less in 25 years)	6
Moderate (Likely to occur 2 or less in 25 year)	4
Low (May occur once in 25 years)	2
Remote (Not likely to occur in 25 years)	1

RISK CRITERIA					
RISK CLASSIFICATION		Criticality/Risk Rating			
Consequence		B (12)	A (6)	A (24)	A (96)
A	B (12)	B (24)	A (6)	A (24)	A (96)
B	C (6)	B (12)	B (24)	A (36)	A (48)
C	D (4)	C (8)	B (16)	B (24)	A (32)
D	E (2)	D (4)	C (8)	B (12)	B (16)
E	F (1)	D (2)	D (4)	C (6)	C (8)
Probability	Remote	Low	Moderate	High	Extreme

Risk Class Description	Risk Rating
High Risk	A
Moderate Risk	B
Low Risk	C
Acceptable Risk	D

Risk Rating (RR) = P x C

DIVISION	Name of Department	Name of Section	ACTIVITY	SUB ACTIVITY	CONDITION OF ACTIVITY	ASPECT - Identified Risk/Issue/Concerns (Output of process or activity)	FOCUS CATEGORY	IMPACT	LEGAL - Place "X" if Yes	OTHER - Place "X" if Yes	Probability of Occurrence	Consequences	RISK Score	Risk Category	SIGNIFICANT BASED ON LEGAL	Protections Available (Measure Control)	Probability of Occurrence	Consequences	RISK Score	RISK RESPONSE	Further Action	Target Date
Finance & Administration	Procurement	None	Vendor Registration	Vendor Assessment	routine	Inappropriate vendor assessment	Safety	Serious Injury			8	6	48	High	No	1. SP.10.02 (Vendor Management) process is in place 2. Pre-qualification Checklist is available in Farabi website for Contractor to make a self assessment prior to apply 3. Department Review Meetings for contractor evaluation and corrective action in place. 4. Vendor registration is rejected if inadequate information is provided. 5. Annual Vendor Updates and performance evaluation is being done manually. 6. Minimum qualification criteria in the checklist is covered in process.	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Vendor Registration	Vendor Assessment	routine	Inappropriate vendor assessment	Health	Chronic disease / illness			8	6	48	High	No	1. SP.10.02 (Vendor Management) process is in place 2. Pre-qualification Checklist is available in Farabi website for Contractor to make a self assessment prior to apply 3. Department Review Meetings for contractor evaluation and corrective action in place. 4. Vendor registration is rejected if inadequate information is provided. 5. Annual Vendor Updates and performance evaluation is being done manually. 6. Minimum qualification criteria in the checklist is covered in process.	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Vendor Registration	Vendor Assessment	routine	Inappropriate vendor assessment	Environment	Land Pollution	X		8	4	32	High	Yes	1. SP.10.02 (Vendor Management) process is in place 2. Pre-qualification Checklist is available in Farabi website for Contractor to make a self assessment prior to apply 3. Department Review Meetings for contractor evaluation and corrective action in place. 4. Vendor registration is rejected if inadequate information is provided. 5. Annual Vendor Updates and performance evaluation is being done manually. 6. Minimum qualification criteria in the checklist is covered in process.	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Vendor Management	Vendor Review & Approval	routine	Improper review / non-availability of adequate data	Safety	Serious Injury			8	6	48	High	No	1. SP.10.02 (Vendor Management) process is in place and it includes internal FPC end user feedback on their performance. 2. Annual Vendor Updates and calling for meeting and discussion in place. 3. Termination of vendor based on the review is in place. 4. Annual Vendor Updates and performance evaluation is being done manually. 5. Minimum qualification criteria in the checklist is covered in process.	2	2	4	Low		
Finance & Administration	Procurement	None	Vendor Management	Vendor Review & Approval	routine	Improper review / non-availability of adequate data	Health	Chronic disease / illness			8	6	48	High	No	1. SP.10.02 (Vendor Management) process is in place 2. Pre-qualification Checklist is available in Farabi website for Contractor to make a self assessment prior to apply 3. Internal Performance evaluation 4. Annual Vendor Updates	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Vendor Management	Vendor Review & Approval	routine	Improper review / non-availability of adequate data	Environment	Land Pollution	X		8	4	32	High	Yes	1. SP.10.02 (Vendor Management) process is in place 2. Pre-qualification Checklist is available in Farabi website for Contractor to make a self assessment prior to apply 3. Internal Performance evaluation 4. Annual Vendor Updates	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Vendor Management	Contract Development & Communication	routine	Non compliance to the FPC HSE requirements	Safety	Serious Injury			8	6	48	High	No	1. SP.10.02 (Vendor Management) process is in place 2. Internal Performance evaluation 3. Annual Vendor Updates and calling for meeting and discussion in place. 4. Termination of vendor based on the review is in place.	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Vendor Management	Contract Development & Communication	routine	Non compliance to the FPC HSE requirements	Health	Chronic disease / illness			8	6	48	High	No	1. SP.10.02 (Vendor Management) process is in place 2. Internal Performance evaluation 3. Annual Vendor Updates and calling for meeting and discussion in place. 4. Termination of vendor based on the review is in place. 5. OP.12 function covers the activities for safe work practices.	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Vendor Management	Contract Development & Communication	routine	Non compliance to the FPC HSE requirements	Environment	Land Pollution	X		8	4	32	High	Yes	1. SP.10.02 (Vendor Management) process is in place 2. Internal Performance evaluation 3. Annual Vendor Updates and calling for meeting and discussion in place. 4. Termination of vendor based on the review is in place.	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Purchasing	PR to PO Release	routine	Procurement of low standard materials/Services	Safety	Serious Injury			8	6	48	High	No	1. SP.10.01 process in place.	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Purchasing	PR to PO Release	routine	Procurement of low standard materials/Services	Health	injury/illness			8	6	48	High	No	1. SP.10.01 process in place.	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Purchasing	PR to PO Release	routine	Procurement of low standard materials/Services	Environment	pollution			8	6	48	High	No	1. SP.10.01 process in place.	2	2	4	Acceptable		

Finance & Administration	Procurement	None	Purchasing	PR to PO Release	Non-Routine	Emergency Procurement of materials/Services	Safety	Serious Injury			8	6	48	High	No	1. SP 10.01 process in place. 2. Special Approval from Management is obtained. 3. Sole source justification form is utilized if the duration (time) is very short. 4. SP.10.01 Process clearly explain how to handle the emergency cases (Refer point # 4.1.13 4.1.16/4.1.17/4.1.18/4.2.21 - Note -2) 5. Management approval matrices are available in SAP for release the end user requirement 6. Proper technical evaluation doing before order material or mobilize service to the site 7. End user inspection Engineer is making the validation (Accept/Reject) in SAP system after GRN 8. New measurement in Company Business plan 2020 for reducing the emergency requirement	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Purchasing	Inspection of Material / Product received	routine	Inadequate inspection of goods received	Safety	Serious Injury			8	6	48	High	No	1. SP 10.01 process in place (Acceptance after inspection and material rejection form from end user)	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Purchasing	Inspection of Material / Product received	routine	Inadequate inspection of goods received	Safety	Serious Injury			8	6	48	High	No	1. SP 10.01 process in place (Acceptance after inspection and material rejection form from end user)	2	2	4	Acceptable		
Finance & Administration	Procurement	None	Purchasing	Inspection of Material / Product received	routine	Inadequate inspection of goods received	Safety	Serious Injury			8	6	48	High	No	1. SP 10.01 process in place (Acceptance after inspection and material rejection form from end user)	2	2	4	Acceptable		



PL.01.01 RISK ASSESSMENT

PL.01.01-F-04 FPC RISK REGISTER

Revision No.	1
Issued Date	12-09-16
No.	1 of 1

Name Of Department:	R&P	Date of Release: 07.07.2018
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PROBABILITY	
Probability	Score
Extreme (Likely to occur one or more times per year)	8
High (Likely to occur 10 or less in 25 years)	6
Moderate (Likely to occur 2 or less in 25 years)	4
Low (May occur once in 25 years)	2
Remote (Not likely to occur in 25 years)	1

RISK CRITERIA					
RISK CLASSIFICATION					
Consequence	Criticality/Risk Rating				
	A	B (12)	B (24)	A (48)	A (72)
B	C (6)	B (12)	B (24)	A (36)	A (48)
C	D (4)	C (8)	B (16)	B (24)	A (32)
D	D (2)	D (4)	C (8)	B (12)	B (16)
E	D (1)	D (2)	D (4)	C (6)	C (8)

Risk Class Description	Risk Rating
High Risk	A
Moderate Risk	B
Low Risk	C
Acceptable Risk	D

Risk Rating (RR) = P x C

DIVISION	Name of Department	Name of Section	ACTIVITY	SUB ACTIVITY	CONDITION OF ACTIVITY	ASPECT - Identified Risk/Issue/Concerns (Output of process or activity)	FOCUS CATEGORY	IMPACT	LEGAL - Place "X" if Yes	OTHER - Place "X" if Yes	Probability of Occurrence	Consequences	RISK Score	Risk Category	SIGNIFICANT BASED ON LEGAL	Protections Available (Measure Control)	Probability of Occurrence	Consequences	RISK Score	RISK RESPONSE	Further Action	Target Date
Technical & Projects	Reliability & Projects	INSP	Non Destructive testing by using Dye Penetrant & Magnetic particles Consumable	None	Routine	Exposure to Chemicals (Penetrant, Cleaners, Developers & Magnetic particle ink)	Safety & Health	Acute Injury / Illness			8	4	32	High	No	1. MSDS is being referred prior to use the chemicals 2. Trained & Qualified personnel's 3. Appropriate PPE's is being used 4. SMP's INSP-02 & 03 available 5. The chemicals are non-corrosive and user friendly. 6. OP.12 function is in place 7. PL.06 ERP function is in place	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	INSP	Inspection in RC corridor	Inspection	Routine	Improper Inspection	Environment Release Spill	Non-Compliance	X		8	6	48	High	Yes	1. Inspection plan available as per RC requirements 2. SMP INSP-10 is available 3. KPI's developed for inspection (Monthly reports)	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	INSP	Inspection in RC corridor	Inspection	Routine	Exposure to HCs & Chemicals	Safety & Health	Serious Injury			8	4	32	High	No	1. Trained and Qualified Personnel's 2. Appropriate PPE's and safe practice as per OP.12 function 3. OP.11.05 is in place	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	INSP	Witnessing Hydro test	None	Routine	Over pressurized equipment	Safety & Health	Serious Injury			8	6	48	High	No	1. PSV is available to avoid over pressurizing. 2. All tools of hydro test are calibrated and certified. 3. Administrative controls i.e. alerts and barricade is in placed during hydro test. 4. Appropriate PPE's and safe practice as per OP.12 function	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	INSP, MECH(S)	Working in Confined Space	Inspection and testing	Non-Routine	Asphyxiation	Safety & Health	Fatality			8	12	96	High	No	1. OP.12.09 Work Permit in place. 2. OP.12 function for Safe Work Practices is in place 3. PL.06.01 ERP is in place. 4. Risk Assessment carried out for critical works. 5. Medical fitness certificate prior to start the Confined space entry for the work group. 6. LEL is being checked prior entry to confined space	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	INSP, MECH(S)	PM Development of Fixed Equipment	None	Routine	Inadequate PM plan / PM inspection not carried out	Economic Loss	Equipment failure			8	6	48	High	No	1. OP.06.04 is available. 2. Inspection plan is available for fixed equipment. 3. OP.06.05 process is available. 4. OP.06.03 in place.	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	INSP, MECH(S)	Technical support for corrective/TA maintenance of fixed equipment	None	Non-Routine	In-adequate trouble shooting	Economic Loss	Equipment failure			4	12	48	High	No	1. OP.06.04 is available. 2. Inspection plan is available for fixed equipment. 3. OP.06.05 process is available.	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ, Civil	Engineering & Design	None	Routine	Design failure (foundation/structure)	Safety & Health	Fatality			4	12	48	High	No	1. OP.08.01 Facility Change process in place 2. HAZOP in place (if required) 3. All applicable standards / project specifications are available in EDMS.	1	4	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ	Engineering & Design	None	Routine	Construction failure	Safety & Health	Fatality			4	12	48	High	No	1. OP.08.01 Facility Change process in place 2. HAZOP in place (if required) 3. All applicable standards / project specifications are available in EDMS. 4. OP.12 Function Safe Work Practices in place. 5. Release plan is in placed. 6. Risk assessment and implementation of recommendations for critical construction activities	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ	Engineering & Design	None	Routine	Miss / overlook of standards or specs leading to legal non-compliance (requirements such as HCIS / RC etc.)	Safety & Health	Fire / Explosion	X		4	12	48	High	Yes	1. OP.08.01 Facility Change process in place 2. HAZOP in place (if required) 3. All applicable standards / project specifications are available in EDMS. 4. EV.04.02 Identification and Evaluation of Legal & Other Requirements in place (compliance evaluation)	1	4	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ	Engineering & Design	None	Routine	Referring the superseded drawing.	Safety & Health	Serious Injury			6	6	36	High	No	1. Drawing controlled mechanism is in place via EDMS. 2. OP.08.02 process in place 3. OP.08.01 Facility Change process in place (Check point in PSSR checklist and MOFC close out form.)	1	4	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ	Engineering & Design	None	Routine	Consideration of HSE aspects in design	Environment	Air Emission			4	4	16	Medium	No	1. OP.08.01 Facility Change process in place 2. HAZOP / Aspect & Impact in place (if required) 3. All applicable standards / project specifications are available in EDMS. 4. EV.04.02 Identification and Evaluation of Legal & Other Requirements in place (compliance evaluation)	1	4	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ	Engineering & Design	None	Routine	Consideration of HSE aspects in design	Safety & Health	Fire / Explosion			4	12	48	Medium	No	1. OP.08.01 Facility Change process in place 2. HAZOP / Aspect & Impact in place (if required) 3. All applicable standards / project specifications are available in EDMS. 4. EV.04.02 Identification and Evaluation of Legal & Other Requirements in place (compliance evaluation)	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ	Engineering & Design	None	Routine	Consideration of HSE aspects in design	Safety & Health	Chronic disease / Illness			4	4	16	Medium	No	1. OP.08.01 Facility Change process in place 2. HAZOP / Aspect & Impact in place (if required) 3. All applicable standards / project specifications are available in EDMS. 4. EV.04.02 Identification and Evaluation of Legal & Other Requirements in place (compliance evaluation)	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ	Engineering & Design	None	Routine	Inadequate MoFC review process	Environment	Air Emission	X		6	4	24	Medium	Yes	1. OP.08.01 Facility Change process in place 2. HAZOP / Aspect & Impact in place (if required) 3. All applicable standards / project specifications are available in EDMS. 4. EV.04.02 Identification and Evaluation of Legal & Other Requirements in place (compliance evaluation)	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ	Engineering & Design	None	Routine	Inadequate MoFC review process	Safety & Health	Fire / Explosion			6	12	72	High	No	1. OP.08.01 Facility Change process in place 2. HAZOP / Aspect & Impact in place (if required) 3. All applicable standards / project specifications are available in EDMS. 4. EV.04.02 Identification and Evaluation of Legal & Other Requirements in place (compliance evaluation)	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ	Engineering & Design	None	Routine	Inadequate MoFC review process	Safety & Health	Chronic disease / Illness			6	6	36	High	No	1. OP.08.01 Facility Change process in place 2. HAZOP / Aspect & Impact in place (if required) 3. All applicable standards / project specifications are available in EDMS. 4. EV.04.02 Identification and Evaluation of Legal & Other Requirements in place (compliance evaluation)	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ	Engineering & Design	None	Routine	Inadequate closure of MoFC recommendations	Environment	Air Emission	X		6	4	24	Medium	Yes	1. OP.08.01 Facility Change process in place 2. HAZOP / Aspect & Impact in place (if required) 3. All applicable standards / project specifications are available in EDMS. 4. EV.04.02 Identification and Evaluation of Legal & Other Requirements in place (compliance evaluation)	2	2	4	Acceptable	In new FIMS, under FCR process, it will be mentioned that FCR will not be closed until or unless all HAZOP recommendations will not be closed.	

Technical & Projects	Reliability & Projects	PRJ	Engineering & Design	None	Routine	Inadequate closure of MoFC recommendations	Safety & Health	Fire / Explosion			6	4	24	Medium	No	1. OP.08.01 Facility Change process in place 2. HAZOP / Aspect & Impact. in place (if required) 3. All applicable standards / project specifications are available in EDMs. 4. EV.04.02 Identification and Evaluation of Legal & Other Requirements in place (compliance evaluation)	2	2	4	Acceptable	In new FIMS, under FCR process. It will be mentioned that FCR will not be closed until or unless all HAZOP recommendations will not be closed.	
Technical & Projects	Reliability & Projects	PRJ	Engineering & Design	None	Routine	Inadequate closure of MoFC recommendations	Safety & Health	Chronic disease / illness			6	4	24	Medium	No	1. OP.08.01 Facility Change process in place 2. HAZOP / Aspect & Impact. in place (if required) 3. All applicable standards / project specifications are available in EDMs. 4. EV.04.02 Identification and Evaluation of Legal & Other Requirements in place (compliance evaluation)	2	2	4	Acceptable	In new FIMS, under FCR process. It will be mentioned that FCR will not be closed until or unless all HAZOP recommendations will not be closed.	
Technical & Projects	Reliability & Projects	ELEC, MECH(S), MECH (R) , INSP, PRJ, INST	Execution	Contract Management	Routine	In-adequate technical Evaluation of contractor	Safety & Health	Serious Injury			6	6	36	High	No	1. OP.09.01 CONTRACTOR CONTROL process in place 2. SP.10.02 VENDOR MANAGEMENT process in place.	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ, INSP	Execution	Quality Assurance of construction activities	Routine	Non Compliance of IFC package	Safety & Health	Serious Injury			6	6	36	High	No	1. Inspection test plan is in place to check the quality assurance during construction stage using OP.08.01-F-12	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ	Execution	Waste Disposal	Routine	Improper disposal of waste	Environment	Soil Contamination	X		4	4	16	Medium	Yes	1. Waste disposal management is in place as per OP.10.07.	2	2	4	Acceptable	Process awareness of OP.10.07 to be conducted. (Resp: Process Administrator)	
Technical & Projects	Reliability & Projects	PRJ	Control of Engineering documents and Records	None	Routine	In-correct engineering documentation	Safety & Health	Fire / Explosion			6	6	36	High	No	1. EDUR is in place as per OP.08.03. 2. Superseded documents are managed via computerized data base i.e. EDMs as per OP.08.03. 3. Update hard copy documentation for EFDs in place and available in CCB & CCC	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	PRJ	Control of Engineering documents and Records	None	Routine	In-correct engineering documentation	Environment	Environment Pollution	X		6	2	12	Medium	Yes	1. EDUR is in place as per OP.08.03. 2. Superseded documents are managed via computerized data base i.e. EDMs as per OP.08.03. 3. Update hard copy documentation for EFDs in place and available in CCB & CCC 4. Compliance evaluation for the legal requirement is in place.	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	ELEC, INST, MECH(S), MECH (R) , INSP, PRJ, Civil	Supporting Field Works	None	Routine	Exposed to hot surfaces	Safety & Health	Serious Injury			4	4	16	Medium	No	OP.12 Function in place	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	ELEC, INST, MECH(S), MECH (R) , INSP, PRJ, Civil	Supporting Field Works	None	Non-Routine	Exposure to benzene	Safety & Health	Chronic disease / illness			2	6	12	Medium	No	OP.11.05 CARCINOGEN MONITORING & CONTROL process in place.	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	ELEC, INST, MECH(S), MECH (R) , INSP, PRJ, Civil	Supporting Field Works	None	Non-Routine	Exposure to toxic materials (H2S, DMDS)	Safety & Health	Chronic disease / illness			2	4	8	Medium	No	OP.12 Function in place	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	ELEC, INST, MECH(S), MECH (R) , INSP, PRJ, Civil	Supporting Field Works	None	Non-Routine	Contact with high temperature spills (HC, hot oil etc.)	Safety & Health	Serious Injury			2	6	12	Medium	No	OP.12 Function in place	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	ELEC, INST, MECH(S), MECH (R) , INSP, PRJ, Civil	Supporting Field Works	None	Non-Routine	Falling from height	Safety & Health	Fatality			2	12	24	Medium	No	1. OP.12 Function is in place 2. PL.06 ERP function is in place	2	4	8	Low	1. Special Tool Box talk will be conducted prior to start of any critical work involving all work group. 2. Carry out risk assessment	As & When Needed
Technical & Projects	Reliability & Projects	ELEC, MECH(S), MECH (R) , INSP, PRJ, WH	Use of tools while supporting field works	None	Non-Routine	Improper use of tools	Safety & Health	Serious Injury			2	6	12	Medium	No	OP.12 Function in place	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	ELEC, INST, MECH(S), MECH (R) , INSP, PRJ, Civil	Supporting Field Works	None	Non-Routine	Trapped in the area	Safety & Health	Serious Injury			2	4	8	Low	No	OP.12 Function in place	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	INST	PMPDM plan development of Instruments / systems	None	Routine	Inadequate PMPDM plan	Economic Loss	Equipment failure			4	6	24	Medium	No	1. OP.06.03 PM and Spare Parts process is in place. 2. SMP for PM and PDM is available for Instruments 3. Instrument checks list are available. 4. OP.06.05 Bad Actors Analysis process in place.	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	ELEC, INST, MECH(S), MECH (R) , INSP, Civil	Analysis of PMPDM Data	None	Routine	In-Adequate analysis	Safety & Health	Fire / Explosion			2	4	8	Low	No	1. OP.06.03 PM and Spare Parts process is in place. 2. SMP for PM and PDM is available 3. Instrument checks list are available. 4. OP.06.05 Bad Actors Analysis process in place.	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	MECH (R) , INSP, PRJ	Supporting Field Works	None	Routine	Non-calibrated / faulty instruments	Safety & Health	Fire / Explosion			8	6	48	High	No	1. OP.06.03 is available. 2. SMP for PM and PDM is available 3. OP.06.05 process is available. 4. Experienced and qualified personnel are available. 5. PL.06 ERP in place 6. AX software for calibration due and reminders	1	4	4	Acceptable		
Technical & Projects	Reliability & Projects	ELEC	PMPdm development of electrical equipment	None	Routine	Inadequate PMPdm plan	Economic Loss	Property Damage			6	6	36	High	No	1. OP.06.04 is available. 2. SMP for PM and PDM is available for electrical equipment 3. Checklist is part of SMP. 4. OP.12.04 is available for electrical safety guidelines.	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	ELEC	Technical support for corrective/TA maintenance of electrical equipment	None	Non-Routine	In-adequate trouble shooting	Safety & Health	Fatality			6	12	72	High	No	1. SMP for corrective maintenance is available for electrical equipment's. 2. Checklist is a part of SMP. 3. OP.12.04 is available for electrical safety guidelines. 4. OP.12.07 appropriate PPEs for electrical equipment's. 4. OP.12.09 work permit process is available.	1	4	4	Acceptable		
Technical & Projects	Reliability & Projects	ELEC	General (electrical)	None	Routine	Accumulation of H2 in battery room	Safety & Health	Fire / Explosion			4	6	24	Medium	No	1. Fire detection system. 2. Continuous Ventilation 3. OP.12 function in place	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	INST	Field work support for radio active instruments	None	Non-Routine	Exposure to radiation	Occupational Exposure	Chronic disease / illness	X		2	4	8	Low	Yes	1. Very low dose / activity source are being used. 2. As per KACARE guidelines yearly radiation survey (wipe test) is being done under supervision of RSO.	1	4	4	Acceptable		
Technical & Projects	Reliability & Projects	ELEC, INST, MECH(S), MECH (R) , INSP, Civil	PMPDM plan development of Instruments / systems	None	Routine	Inadequate PMPDM plan	Economic Loss	Equipment failure			4	6	24	Medium	No	1. OP.06.03 PM and Spare Parts process is in place. 2. SMP for PM and PDM is available 3. Instrument checks list are available. 4. OP.06.05 Bad Actors Analysis process in place.	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	MECH (R)	Condition Monitoring of rotating equipment	None	Routine	In-adequate gathering and misinterpretation of vibration data.	Economic Loss	Equipment failure			6	6	36	High	No	1. Only qualified/certified personnel is gathering data. 2. Calibrated equipment are used. 3. AMS Machinery health analyzer software is available. 4. RBI (Meridium) in place	2	2	4	Acceptable		
Technical & Projects	Reliability & Projects	MECH (R)	PMPdm development of rotating equipment	None	Routine	Inadequate PMPdm plan	Economic Loss	Equipment failure			8	6	48	High	No	1. OP.06.03 is available. 2. SMP for PM and PDM is available for rotating equipment. 3. Effective condition monitoring program available. 4. OP.06.05 process is available. 5. RCA for repetitive failed equipment is in place.	1	2	2	Acceptable		
Technical & Projects	Reliability & Projects	MECH (R)	Supporting Field Works	None	Routine	In-adequate trouble shooting	Economic Loss	Equipment failure			4	12	48	High	No	1. Experienced and qualified personnel are available. 2. OP.06.05 process is available. 3. RCA for repetitive failed equipment is in place. 4. SMPs are available for maintenance.	2	2	4	Acceptable		

	PL.01.01 RISK ASSESSMENT	Revision No.	1
		Issued Date	12-09-16
	PL.01.01-F-04 FPC RISK REGISTER	No.	1 of 1

Name Of Department:	Sales & Logistics	Date of Re-assessment: 13-Jul-20
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PROBABILITY		RISK CRITERIA				
Probability	Score	RISK CLASSIFICATION				
Extreme (Likely to occur one or more times per year)	8					
High (Likely to occur 10 or less in 25 years)	6					
Moderate (Likely to occur 2 or less in 25 years)	4					
Low (May occur once in 25 years)	2					
Remote (Not likely to occur in 25 years)	1					

Consequence	Criticality/Risk Rating				
A	B (12)	B (24)	A (48)	A (72)	A (96)
B	C (6)	B (12)	B (24)	A (36)	A (48)
C	D (4)	C (8)	B (16)	B (24)	A (32)
D	D (2)	D (4)	C (8)	B (12)	B (16)
E	D (1)	D (2)	D (4)	C (6)	C (8)

Risk Class Description	Risk Rating
High Risk	A
Moderate Risk	B
Low Risk	C
Acceptable Risk	D

Risk Rating (RR) = P x C

DIVISION	Name of Department	Name of Section	ACTIVITY	SUB ACTIVITY	CONDITION OF ACTIVITY	ASPECT - Identified Risk/Issue/Concerns (Output of process or activity)	FOCUS CATEGORY	IMPACT	LEGAL - Place "X" if Yes	OTHER - Place "X" if Yes	Probability of Occurrence	Consequences	RISK Score	Risk Category	SIGNIFICANT BASED ON LEGAL	Protections Available (Measure Control)	Probability of Occurrence	Consequences	RISK Score	RISK RESPONSE	Further Action	Target Date
Marketing	Sales and Logistics	None	Selling of Products	Bulk Shipment	Routine	Delay in Berthing	Economic Loss	Business			8	4	32	High	No	1. We have access to 3 Jetlys 2. Planning and Scheduling the shipment in advance 3. OP.05 function in place	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Pipeline Transfer	Planning of Transfer	Routine	Improper planning/Lack of Communication	Economic Loss	Business			8	4	32	High	No	1. Meeting b/w Operation & Marketing 2. Matching of Product movement 3. Planning and scheduling in advance	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Selling of Products	Bulk Shipment	Routine	Production Loss	Economic Loss	Business			8	6	48	High	No	1. Request SBTK to berth the vessels on urgency basis as under special case 2. Schedule the vessels ahead of time 3. Proper planning for production movement 4. OP.05 function in place	2	4	8	Low	1. To increase the loading containers and RTT (Controlled Risk)	On Going
Marketing	Sales and Logistics	None	Selling of Products	RTT Loading	Routine	Spillage / Leakage	Environment	Soil Pollution	X		8	4	32	High	Yes	1. FIMS Process for loading is in Place 2. Systemized loading automated pre-program is in place 3. Secondary containment to OWS 4. Trained and qualified Operators	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Selling of Products	RTT Movement	Routine	Accident/ Spillage / Discharge within Industrial City	Environment	Soil Pollution	X		8	4	32	High	Yes	1. Transporter informing Royal Commission ISSD immediately 2. Farabi notify RC EPCD for Non-Compliance Report 3. Restore the contaminated area followed by safe disposal	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Selling of Products	RTT Movement	Routine	Spill During Transit	Environment	Soil Pollution	X		8	4	32	High	Yes	1. Drivers of transit vehicles are notifying the local Authority 2. Drivers are trained to notify Consigners 3. Drivers are trained to notify Consignee 4. Drivers will cooperate and support the local authority team	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Execution of Logistic Operation	Documentation (Pre & Post) of Loading	Routine	Improper documentation process	Economic Loss	Business			8	4	32	High	No	1. OP.05.07 (Customers & Port Interface) process is in place which explain the documentation requirements 2. Review process is in place for readiness of documentation 3. Check list for documentation tracking is proper.	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Execution of Logistic Operation	Bulk Shipment Stewardship	Routine	Spillage / Leakage in Sea	Environment	Water Pollution	X		8	4	32	High	Yes	1. Marine Insurance is in Place 2. Certified shipping lines who are accountable to mitigate incase of spillage/leakage while transit 3. Ship owner declared the readiness of the ship for loading through "NOR" 4. Check guard by local Port authorities to accept the vessel	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	License for Logistic Operation (Industrial & Commercial)	None	Non-Routine	Expiry of License	Economic Loss	Business			4	4	16	Medium		1. Tracking for renewal of all required permits 2. Compliance Evaluation 3. Internal Audit	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Product Shipment	Storage of product (SABTANK)	Routine	Leakage / Spillage	Environment	Land Pollution	X		8	6	48	High	Yes	1. Emergency Preparedness & Handling Plan (SABTANK), scope is outside FPC domain. 2. Secondary Containment is available 3. Sprinkler system is in place 4. Fire Fighting Equipment is in place 5. Gas Detectors for Benzene in Place 6. Interlock system in tanks 7. Bore Holes available for Ground water Monitoring	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Product Shipment	Storage of product (SABTANK)	Emergency	Loss of containment	Environment	Land Pollution	X		8	6	48	High	Yes	1. Emergency Preparedness & Handling Plan (SABTANK), scope is outside FPC domain. 3. Sprinkler system is in place 4. Fire Fighting Equipment is in place 5. Gas Detectors for Benzene in Place 6. Interlock system in tanks	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Product Shipment	Storage of product (SABTANK)	Emergency	Loss of containment	Health	Serious Injury			8	6	48	High	No	1. Emergency Preparedness & Handling Plan (SABTANK), scope is outside FPC domain. 3. Sprinkler system is in place 4. Fire Fighting Equipment is in place 5. Gas Detectors for Benzene in Place 6. Interlock system in tanks	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Product Shipment	Storage of product (outbound)	Routine	Spillage / Leakage	Environment	Soil Pollution	X		8	4	32	High	Yes	1. Secondary containment is available 2. Fire fighting equipment's are in place as per standard 3. Safe disposal as per local authority regulation	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Product Shipment	Storage of product (outbound)	Routine	Spillage / Leakage	Safety	Fire / Explosion			8	12	96	High	No	1. Secondary containment is available 2. Fire fighting equipment's are in place as per standard 3. Emergency command by local authority and rehabilitate the situation 4. OP.05 function in place	2	4	8	Low	Double check with Stock Point authority for Safety measures and emergency response	On Going
Marketing	Sales and Logistics	None	Product Shipment	Storage of product (outbound)	Emergency	Loss of containment	Environment	Air Emission	X		8	6	48	High	Yes	1. Emergency command by local authority and rehabilitate the situation 2. Fire Equipment's are in place (Std.) 3. OP.05.06 process is in place	2	4	8	Low	Double check with Stock Point authority for Safety measures and emergency response	On Going
Marketing	Sales and Logistics	None	Product Shipment	Storage of product (outbound)	Emergency	Loss of containment	Health	Acute Injury / Illness			8	6	48	High	No	1. Emergency command by local authority and rehabilitate the situation 2. Fire Equipment's are in place (Std.) 3. OP.05.06 process is in place	2	4	8	Low	Double check with Stock Point authority for Safety measures and emergency response	On Going
Marketing	Sales and Logistics	None	Loading of Product (FPC site)	Operation of loading facility	Routine	Competency of loading Operators	Environment	Land Pollution			8	4	32	High	No	1. Trained and qualified operators 2. Refresher training for the operators 3. Basic fire fighting training given to the operators 4. Fire Equipment's training given 5. Operators are under Farabi Supervision	2	2	4	Acceptable		

Marketing	Sales and Logistics	None	Loading of Product (FPC site)	Operation of loading facility	Routine	Competency of loading Operators	Safety & Health	Acute Injury / Illness			8	4	32	High	No	1. Trained and qualified operators 2. Refresher training for the operators 3. Basic fire fighting training given to the operators 4. Fire Equipment's training given 5. Operators are under Farabi Supervision 6. Health monitoring program is in place	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Loading of Product (FPC site)	Sampling of product	Routine	Spillage / Leakage	Environment	Land Pollution	X		8	4	32	High	Yes	1. OP.05.06-WI-03 2. Appropriate PPEs 3. Trained & Qualified Operator are taking sample 4. Usage of appropriate equipment for sample collection 5. Sample is being collected from dedicated area which is connected with OWS.	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Loading of Product (FPC site)	Sampling of product	Routine	Exposure of Chemicals/HC	Health	Chronic disease / Illness			8	6	48	High	No	1. OP.05.06-WI-03 2. Appropriate PPEs part of OP.12 function 3. Trained & Qualified Operator are taking sample 4. Usage of appropriate equipment for sample collection 5. Health Assessment plan is in place	4	2	8	Low	1. Training and awareness to the operators for the aspects on periodic basis by Supervisor 2. To be captured under SHEAC Awareness Campaign	31 Dec'20
Marketing	Sales and Logistics	None	Loading of Product (FPC site)	Fire Protection / Emergency Response at Loading Facility	Routine	Inadequacy of fire fighting equipment	Safety	Fatality			8	12	96	High	No	1. OP.05 function in place 2. PL.06 function in place 3. OP.12 function in place	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Loading of Product (FPC site)	Truck Movement	Routine	Hitting Objects/personnel	Safety	Fatality			8	12	96	High	No	1. OP.05 function in place 2. PL.06 ERP function in place 3. OP.12 Safe Work Practices function in place 4. M.01.01 Process for Incident Management is in place 5. Drivers are trained from the carrier side 6. Farabi ID are being issued based on basic training and Awareness on Safety	4	2	8	Low	Ensure and double check with loading area operator to be there while movement and also drivers to be trained for this action as well.	On-Going
Marketing	Sales and Logistics	None	Customer Complain Handling	None	Non-Routine	Ignoring/Not properly addressed the complain	Economic Loss	Business			8	12	96	High	No	1. Customer complain handling (EV.01.03) process is in place 2. Customer satisfaction survey is in place	2	2	4	Acceptable		
Marketing	Sales and Logistics	None	Tanker Cleaning	Sludge Disposal	Non-Routine	Improper Disposal	Environment	Land Pollution	X		4	2	8	Low	Yes	1. Dedicated RTT is assigned for each materials 2. RC certified Transporter who is taking care the disposal requirements under their scope.	2	2	4	Acceptable		

Name Of Department: **Site Wide** Date of Release: 22-Jul-20

PROBABILITY	
Probability	Score
Extreme (Likely to occur one or more times per 25 years)	8
High (Likely to occur 10 or less in 25 years)	6
Moderate (Likely to occur 2 or less in 25 years)	4
Low (May occur once in 25 years)	2
Remote (Not likely to occur in 25 years)	1

RISK CRITERIA					
RISK CLASSIFICATION					
Consequence	Criticality/Risk Rating				
A	B (12)	B (24)	A (48)	A (72)	A (96)
B	C (6)	B (12)	A (24)	A (36)	A (48)
C	D (4)	C (8)	B (16)	B (24)	A (32)
D	D (2)	D (4)	C (8)	B (12)	B (16)
E	D (1)	D (2)	D (4)	C (6)	C (8)
Probability	Remote	Low	Moderate	High	Extreme

Risk Class Description	Risk Rating
High Risk	A
Moderate Risk	B
Low Risk	C
Acceptable Risk	D

Risk Rating (RR) = P x C

DIVISION	Name of Department	Name of Section	ACTIVITY	SUB ACTIVITY	CONDITION OF ACTIVITY	ASPECT - Identified Risk/Issue/Concerns (Output of process or activity)	FOCUS CATEGORY	IMPACT	LEGAL - Piece "X" if Yes	OTHER - Piece "X" if Yes	Probability of Occurrence	Consequences	RISK Score	Risk Category	SIGNIFICANT BASED ON LEGAL	Protections Available (Measure Control)	Probability of Occurrence	Consequences	RISK Score	RISK RESPONSE	Further Action	Target Date
Site Wide	General	General Work Activity	Facility Operations	None	Routine	Consumption of fuel, power, water etc.	Environment	Depletion of Natural Resource			8	2	16	Medium	No	1. Sustainability Program and initiatives in place as per PL.03.01 2. SHEAC Awareness Program in place.	8	1	8	Low	Controlled Risk	
Site Wide	General	General Work Activity	Human Factor	Occupational Violence	Non-Routine	Conflict/bullying and harassment of employees	Safety & Health	injury/illness			2	4	8	Low	No	1. Code of Conduct & Ethics in SharePoint. 2. Employee Grievance (SP.04.03) 3. Employee Misconduct & behavior (SP.04.04)	2	2	4	Acceptable		
Site Wide	General	General Work Activity	Human Factor	Occupational Violence	Non-Routine	Inappropriate behavior (e.g. stalking, physical violence verbally threatening behavior etc.)	Safety & Health	injury/illness			2	4	8	Low	No	1. Code of Conduct & Ethics in SharePoint. 2. Employee Grievance (SP.04.03) 3. Employee Misconduct & behavior (SP.04.04)	2	2	4	Acceptable		
Site Wide	General	General Work Activity	Hazards identified outside FPC premises	None	Emergency	Gas Leak	Health	Chronic disease / illness			2	4	8	Low	No	1. PL.06 ERP in place 2. JAMA'A control	2	2	4	Acceptable		
Site Wide	General	General Work Activity	Facility Kitchen / Tea Room	None	Routine	Hot Surfaces	Safety	Injury			4	4	16	Medium	No	1. OP.12 Function in place. 2. OP.11 function in place	2	2	4	Acceptable		
Site Wide	General	General Work Activity	General Use of Disposable Product	None	Routine	General trash - Non-Hazardous (Paper, Plastic, etc.)	Environment	Land Pollution	X		8	2	16	Medium	Yes	1. OP.10.07 in place	8	1	8	Low	Controlled Risk	
Site Wide	General	General Work Activity	General Use of Disposable Product	None	Routine	General trash - Hazardous (Light Bulbs, Toner Cartridges, etc.)	Environment	Land Pollution	X		8	4	32	High	Yes	1. OP.10.07 in place(proper disposal of waste for incineration)	8	1	8	Low	Controlled Risk	
Site Wide	General	General Work Activity	General Use of Disposable Product	None	Routine	General trash - Hazardous (Light Bulbs, Toner Cartridges, etc.)	Health	Chronic disease / illness			8	2	16	Medium		1. OP.12 Function in place. 2. OP.11 function in place 3. OP.10.07 in place	4	1	4	Acceptable		
Site Wide	General	General Work Activity	Working Environment	Office Related	Routine	Electric Shock (plug in)	Safety	Serious injury			8	6	48	High		1. OP.12 Function in place. 2. OP.11 function in place	4	2	8	Low	Controlled Risk; However need SHEAC Awareness program for Office Safety	
Site Wide	General	General Work Activity	Working Environment	Office Related	Routine	Emotional stress	Health	Chronic disease / illness			8	6	48	High		1. Code of Conduct & Ethics in SharePoint. 2. Employee Grievance (SP.04.03) 3. Employee Misconduct & behavior (SP.04.04)	4	2	8	Low	HR to conduct Employee Stress Management Programs	Q4-2020
Site Wide	General	General Work Activity	Working Environment	Office Related	Routine	Ergonomics	Health	Chronic disease / illness			8	4	32	High		1. Office automation with lumbar support and removing strain. 2. SHEAC awareness in place for ergonomics 3. OP.11.09 in place.	8	1	8	Low	Controlled Risk	
Site Wide	General	General Work Activity	Working Environment	Office Related	Routine	Eye Strain (due to prolonged use of computer)	Health	Chronic disease / illness			8	2	16	Medium		1. Office automation with lumbar support and removing strain. 2. SHEAC awareness in place for ergonomics 3. OP.11.09 in place.	8	1	8	Low	Controlled Risk	
Site Wide	General	General Work Activity	Working Environment	Office Related	Routine	Illumination	Health	Chronic disease / illness			8	4	32	High		1. OP.11.01 in place. 2. Regular maintenance program in place	8	1	8	Low	Controlled Risk	
Site Wide	General	General Work Activity	Working Environment	Non-office / Plant Areas	Routine	Fatigue (consecutive work hours/ days)	Health	Chronic disease / illness			8	2	16	Medium		1. Working Hours Policy (SP.02-POL-01) 2. Pre-approval of extended working hours	4	2	8	Low	Controlled Risk	
Site Wide	General	General Work Activity	Working Environment	Non-office / Plant Areas	Routine	Heat stress	Safety	Serious injury			8	6	48	High		OP.11.06 - Heat stress process in place OP.11.09 in place	4	2	8	Low	Controlled Risk	
Site Wide	General	General Work Activity	Working Environment	Non-office / Plant Areas	Routine	injures due to the sharp edges	Safety	Acute Injury / Illness			8	4	32	High		1. OP.12 Function in place. 2. OP.11 function in place 3. Safe office automation is ensured. 4. Office safety audit in place	4	1	4	Acceptable		
Site Wide	General	General Work Activity	Working Environment	Non-office / Plant Areas	Routine	Injury during opening and closing doors	Safety	Acute Injury / Illness			8	4	32	High		2. OP.11 function in place 3. Safe office automation is ensured. 4. Office safety audit in place	4	1	4	Acceptable		
Site Wide	General	General Work Activity	Working Environment	Non-office / Plant Areas	Routine	injuries due to slip / trip and fall	Safety	Injury			8	4	32	High		1. OP.12 Function in place. 2. OP.11 function in place 3. MSA audit in place	8	1	8	Low	Controlled Risk	
Site Wide	General	General Work Activity	Working Environment	Human behaviour	Routine	Narcissistic habits of social media	Health	Depression & Anxiety			4	6	24	Medium		1. Social media access are blocked by IT. 2. IT controls on internet access for all office Computers. 3. Health Monitoring Program for Security Personnels are in place for Psychiatric analysis as per legal requirements.	2	4	8	Low	Behaviorial based safety to include this aspect under program	

Name Of Department:	Total Quality	Date of Release: 07.07.2018
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PROBABILLTY	
Probability	Score
Extreme (Likely to occur one or more times per year)	8
High (Likely to occur 10 or less in 25 years)	6
Moderate (Likely to occur 2 or less in 25 year)	4
Low (May occur once in 25 years)	2
Remote (Not likely to occur in 25 years)	1

RISK CRITERIA					
RISK CLASSIFICATION					
Consequence	Criticality/Risk Rating				
A	B (12)	B (24)	A (48)	A (72)	A (96)
B	C (6)	B (12)	B (24)	A (36)	A (48)
C	D (4)	C (8)	B (16)	B (24)	A (32)
D	D (2)	D (4)	C (8)	B (12)	B (16)
E	D (1)	D (2)	D (4)	C (6)	C (8)
Probability	Remote	Low	Moderate	High	Extreme

Risk Class Description	Risk Rating
High Risk	A
Moderate Risk	B
Low Risk	C
Acceptable Risk	D

Risk Rating (RR) = P x C

DIVISION	Name of Department	Name of Section	ACTIVITY	SUB ACTIVITY	CONDITION OF ACTIVITY	ASPECT - Identified Risk/Issue/Concerns (Output of process or activity)	FOCUS CATEGORY	IMPACT	LEGAL - Place "X" if Yes	OTHER - Place "X" if Yes	Probability of Occurrence	Consequences	RISK Score	Risk Category	SIGNIFICANT BASED ON LEGAL	Protections Available (Measure Control)	Probability of Occurrence	Consequences	RISK Score	RISK RESPONSE	Further Action	Target Date
Technical & Projects	Total Quality	General	None	None	Routine	Lack of understanding of HSE risk of chemicals and process sample materials handled in lab	Environment	Ground Water			8	2	16	Medium	No	1. OP.12.02 Laboratory SHE rules in place, 2. MSDS for Chemicals available on site 3. OP.12. Function in place, 4. Trained employees (JQP) in TTG. 5. All wash water sources are directed to OWS	2	2	4	Acceptable		
Technical & Projects	Total Quality	General	None	None	Routine	Lack of understanding of HSE risk of chemicals and process sample materials handled in lab	Safety	Fire / Explosion			8	2	16	Medium	No	1. OP.12.02 Laboratory SHE rules in place, 2. MSDS for Chemicals available on site 3. OP.12. Function in place, 4. Trained employees (JQP) in TTG.	2	2	4	Acceptable		
Technical & Projects	Total Quality	General	None	None	Routine	Lack of understanding of HSE risk of chemicals and process sample materials handled in lab	Health	Acute Injury / Illness			8	2	16	Medium	No	1. OP.12.02 Laboratory SHE rules in place, 2. MSDS for Chemicals available on site 3. OP.12. Function in place, 4. Trained employees (JQP) in TTG. 5. OP.11.05 & 11.09 in place.	2	2	4	Acceptable		
Technical & Projects	Total Quality	General	None	None	Routine	Exposure to Carcinogen materials (e.g. benzene)	Health	Chronic disease / Illness			8	4	32	High	No	1. DOPAK system in place 2. OP.12.02 Laboratory SHE rules in place, 3. MSDS for Chemicals available on site 4. OP.12. Function in place, 5. Trained employees (JQP) in TTG. 6. HVAC System, Fume hood in place. 7. OP.11.05 & 11.09 in place.	2	2	4	Acceptable		
Technical & Projects	Total Quality	Sample Receiving	Handling & Storage of Sample Bottles & bombs in Sample Receiving room (except DOPAK)	None	Routine	Exposure of Hydrocarbons, H2S/SO2, H2SO4, & Toxic Materials (e.g benzene, Chlorobenzene, DPO etc) in the sample receiving room	Health	Chronic disease / Illness			8	4	32	High	No	1. . OP.12.02 Laboratory SHE rules in place, 2. SDS for Chemicals available on site and Q-Pulse 3. OP.12. Function in place, 4. Trained employees (JQP) in TTG. 5. HVAC System, Fume hood in place. 6. OP.11.05 Carcinogen Control & OP.11.09 Health Monitoring in place 7. Fume hood in place for sample collection 8. hydrocarbon , Acid absorber matt in place for spill control. 9. provision of hood in sample Bottle & BOMB storage bench in place	2	2	4	Acceptable		
Technical & Projects	Total Quality	Sample Analysis	Sample Handling	None	Routine	Mishandling of samples - spillage of sample material	Health	Chronic disease / Illness			8	4	32	High	No	1. DOPAK system in place 2. OP.12.02 Laboratory SHE rules in place, 3. MSDS for Chemicals available on site 4. OP.12. Function in place, 5. Trained employees (JQP) in TTG. 6. HVAC System, Fume hood in place. 7. OP.11.05 & 11.09 in place 8. Bench Hood Installed in wetlab area 9. Suction arm Installed in Drylab hydrocarbon , Acid absorber in place	2	2	4	Acceptable		
Technical & Projects	Total Quality	Sample Analysis	Analysis	None	Routine	Venting discharging gas samples inside QC building	Safety	Chronic disease / Illness			8	6	48	High	No	1. DOPAK system in place 2. OP.12.02 Laboratory SHE rules in place, 3. SDS for Chemicals available on site 4. OP.12. Function in place, 5. Trained employees (JQP) in TTG. 6. HVAC System, Fume hood in place. 7. OP.11.05 & 11.09 in place 8. Bench Hood Installed in wetlab 9. Suction arm Installed in Drylab	2	2	4	Acceptable		
Technical & Projects	Total Quality	Sample Analysis	Analysis	None	Routine	Accumulation of sample vapors inside laboratory	Safety	Chronic disease / Illness			8	6	48	High	No	1. DOPAK system in place 2. OP.12.02 Laboratory SHE rules in place, 3. MSDS for Chemicals available on site 4. OP.12. Function in place, 5. Trained employees (JQP) in TTG. 6. HVAC System, Fume hood in place. 7. OP.11.05 & 11.09 in place 8. Bench Hood Installed in wetlab 9. Suction arm Installed in Drylab	2	2	4	Acceptable		
Technical & Projects	Total Quality	Sample Analysis	Analysis	None	Routine	Incompetence of lab technicians	Health	Chronic disease / Illness			8	4	32	High	No	1. DOPAK system in place 2. OP.12.02 Laboratory SHE rules in place, 3. MSDS for Chemicals available on site 4. OP.12. Function in place, 5. Trained employees (JQP) in TTG. 6. HVAC System, Fume hood in place. 7. OP.11.05 & 11.09 in place 8. Bench Hood Installed in wetlab area 9. Standard Testing Procedure in place	2	2	4	Acceptable		
Technical & Projects	Total Quality	Gas Line connected with the instrument	Analysis	None	Routine	Leakage of Gases inside the Working Area	Safety	Fire			8	6	48	High	No	1. OP.12.02 Laboratory SHE rules in place, 2. OP.12. Function processes are in place, 3. HVAC System, Fume hood in place. 4. OP.11.05 & OP.11.09 in place 5. Work place air monitoring - monthly in place 6. provision of hood in sample Bottle & BOMB storage bench.	2	2	4	Acceptable	1. Provision of Online Gas leak Detector sensor with alarm 2. Automatic Fire Suppression System to be installed.	Q3 2021
Technical & Projects	Total Quality	Gas Line connected with the instrument	Analysis	None	Routine	Leakage of Gases inside the Working Area (exposure of CO, CH4, CO2, N2 etc.)	Health	Chronic disease / Illness			8	4	32	High	No	1. OP.12.02 Laboratory SHE rules in place, 2. OP.12. Function in place, 3. HVAC System, Fume hood in place. 4. OP.11.05 & 11.09 in place 5. Work place air monitoring - monthly in place 6. Suction arm Installed in Drylab 10. Gas detector (CO, CH4, N2, O2) are available	2	2	4	Acceptable	Provision of Online Gas leak Detector sensor with alarm MOFC has been raised; RFQ to be placed; but Awaiting for Budget approval	Q3 2021

Technical & Projects	Total Quality	Storage of Chemicals & gases	Cylinders Storage Area	None	Routine	Inadequacy of ventilation / non-compatibility	Safety	Fire		8	6	48	High	No	1. Stored in open area under shade outside the Lab. 2. Access control in place 3. Safe distance as per requirement between cylinders 4. Proper handling, storage and utilization in line OP.12.03 5. OP.12 function in place	2	2	4	Acceptable
Technical & Projects	Total Quality	Storage of Chemicals & gases	Chemicals Storage Area inside lab	None	Routine	Inadequacy of ventilation	Health	Chronic disease / illness		8	6	48	High	No	1. Proper handling, storage and utilization in line OP.12.03 2. OP.12 function in place 3. Indoor Air Quality Monitoring. 4. HVAC in place	2	2	4	Acceptable
Technical & Projects	Total Quality	Storage of Chemicals & gases	Chemicals Storage Area	None	Routine	Spillage / leakage inside storage area	Health	Chronic disease / illness		4	4	16	Medium	No	1. Proper handling, storage and utilization in line OP.12.03 2. OP.12 function in place 3. Indoor Air Quality Monitoring. 4. HVAC in place 5. hydrocarbon , Acid absorber matt in place	2	2	4	Acceptable
Technical & Projects	Total Quality	Storage of Chemicals & gases	Chemicals Storage Area	None	Routine	Spillage / leakage inside storage area	Safety	Fire		4	4	16	Medium	No	1. Proper handling, storage and utilization in line OP.12.03 2. OP.12 function in place 3. Indoor Air Quality Monitoring. 4. HVAC in place	2	2	4	Acceptable
Technical & Projects	Total Quality	Storage of Chemicals & gases	Chemicals Storage Area	None	Routine	Misidentification of Stored Chemicals	Safety & Health	Serious Injury		4	6	24	Medium	No	1. Proper handling, storage and utilization in line OP.12.03 2. OP.12 function in place 3. Indoor Air Quality Monitoring. 4. HVAC in place	2	2	4	Acceptable
Technical & Projects	Total Quality	Storage of Chemicals & gases	Chemicals Storage Area	None	Routine	Inadequate segregation of mutually reactive chemicals (Non-compatibility)	Safety	Fire		4	12	48	High	No	1. Proper handling, storage and utilization in line OP.12.03 2. OP.12 function in place 3. Indoor Air Quality Monitoring. 4. HVAC in place	2	2	4	Acceptable
Technical & Projects	Total Quality	Waste management	Storage	None	Routine	Improper handling of waste material	Environment	Land Pollution	X	8	4	32	High	Yes	1. WM Process (OP.10.07) in place 2. OP.12.03 & 12.02 (Lab She Rule) in place. 3. Approved Waste Management Facility in place	2	2	4	Acceptable
Technical & Projects	Total Quality	Operating the Reactor	Pilot Reactor operation	None	R&D	Lack of understanding of HSE risk of chemicals and process sample materials handled in Reactor	Safety	Fire / Explosion		8	2	16	Medium	No	1. OP.12.02 Laboratory SHE rules in place, 2. MSDS for Chemicals available on site 3. OP.12. Function in place, 4. Trained employees (JQP) in TTG.	2	2	4	Acceptable
Technical & Projects	Total Quality	Storage of Chemicals & gases	Chemicals Storage Area	None	R & D	Spillage / leakage inside lab	Health	Chronic disease / illness		4	4	16	Medium	No	1. OP.12.02 Laboratory SHE rules in place, 2. MSDS for Chemicals available on site 3. OP.12. Function in place, 4. Trained employees (JQP) in TTG. 5. HVAC System, Fume hood in place. 6. OP.11.05 & 11.09 in place 7. Bench Hood Installed in wetlab area 8. Standard Testing Procedure in place 9. Universal absorbent use	2	2	4	Acceptable
Technical & Projects	Total Quality	Waste management	Pilot Reactor operation	None	R&D	Improper handling & Disposal of waste material	Environment	Land Pollution	X	8	4	32	High	Yes	1. WM Process (OP.10.07) in place 2. OP.12.03 & 12.02 (Lab She Rule) in place, 3. Approved Waste Management Facility in place, 4. Fume hood in place	2	2	4	Acceptable
Technical & Projects	Total Quality	Waste management	Storage	None	Routine	Improper handling of waste material	Health	Chronic disease / illness		8	4	32	High	No	1. DOPAK system in place 2. OP.12.02 Laboratory SHE rules in place, 3. MSDS for Chemicals available on site 4. OP.12. Function in place, 5. Trained employees (JQP) in TTG. 6. HVAC System, Fume hood in place. 7. OP.11.05 & 11.09 in place 8. Bottle washing machine in service	2	2	4	Acceptable