



BASELINE RISK ASSESSMENT

COP 01

RISK ASSESSMENT TYPE

	Team	Phos acid		Name	Amrendra Kumar	Name	Kenneth Sithole		Date of assessment		20.11.2025,27.11.2025, 4.12.2025, 09.12.2025,30.12.2025,06.01.2026
				Name	Phumlani Gumede	Name	Siboniso Siyaya		Department		Phosphoric Process
				Name	Gcina Mkhonza	Name	Naresh Nandal		Section		ALL Sections (Old and New Plant)
				Name	Morrois Gumsa	Name	Wiseman M		Function/task assessed		Rock store/ Reactor/Filtration/Concentration/Units/Cooling Tower/ Dense and Buoyant Line/Holistic across plant r
				Name	Sihle Mcobi	Name	Promise N				
									Assessment Rev.No.		13

ISO/SANS CLAUSE							
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Risk no. Ref. no.	Work Area	Activity/Service	Routine/Normal Non-routine/Abnormal Emergency	Describe: 1. Hazard	Describe: 1. Risk,	Base-line Risk Assessment - pre-mitigation (no controls)			Describe existing controls Eliminate; Substitution; Engineering Control; Administrative controls; PPE			Residual Risk - Post mitigation (with controls)		Recommended additional controls; Comments; CTD/SWP required	Responsible Person	Action Due Date	Action Status			
						Severity	Likelihood	Risk Rating		Risk tolerable	Control Effective Score	Severity	Likelihood					Risk Rating	Risk tolerable	
S01	Rock Store	Rock offloading	Routine, Normal	Falling objects from No. 4 conveyor (comes from the Port to the transfer tower)	Injury	4	5	20	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Safety net installed under the conveyor Administrative Control: signage placed for pedestrians, and employees Driver training provided SOP in place Safe working procedure in place Risk assessments to be performed-HIRA Safety training provided PPE: 1. Hard hat	4	SOPXXX COP01	2	3	6	Yes	NA			
		Mobile machinery movement	Routine, Normal	Mobile machinery collision,pumping to each other	Damage to propery Injury, damage to equipment	4	4	16	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Dust suppression system installed Administrative Control: Competent drivers, Road worth certificate, lights, check list, sight specific induction, installing the remote control boom gate, Allow one at a time. Safety training provided PPE: 1. Reflective vest	3		3	3	9	No	Anti collision system to be installed for pay loader			
		Loading of rock from the rock store using the trucks, stock pile hight	Routine	Engulfing	Fatality/ Injury	4	3	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: Limited access, Plant specific induction,Control stock pile, Installed signage, Boom gate PPE: 1. Reflective vest	4		2	1	2	Yes	NA			

				Inhalation of dust	Heath and Safety	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Dust suppression system insalled Administrative Control: Improved communication Root cause investigations pile, Installed signage PPE: 1. 3M with pre filter	4		1	2	2	Yes	NA			
				Obstructed vision during rock offloading (related to dust)	Injury, damage to property, Health	4	4	16	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Dust suppression system insalled Administrative Control: Improved communication Root cause investigations pile, Installed signage PPE: 1. 3M with pre filter	4		2	2	4	Yes	NA			
				Conveyor belts- being caught by the moving conveyors during operation	Injury	4	3	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Pull wire 2, Machine guards 3, Siren for startup Administrative Control: TD 10 PARN PAR 03 dry feed section Regular cleaning under conveyor area Adjust skirts in routine maintenance Regular inspections performed Regular preventative maintenance performed Tool box talk PPE: 1.NA	4		2	1	2	Yes	No			
				Land contamination due to rock spillages over the grass around the rock entrance, conveyors and trenches.	Land Contamination, Ground water contamination	3	5	15	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Trench around the rock store with storm water recovery system 2. Dust suppression sytem installed 3. Chute detector installed on conveyors Administrative Control: 1. Housekkeping ongoing 2. Trench cleaning 3. Quality check for rock for moisture. 4. Vibrating screen inspection and regular cleaning 5.	3		2	4	8	No	1. Trucks to be covered with tratpauling before exiting rock store. 2. Rock store roof sheeting to be repaired. 3. Road sweeper should regularly clean the spillages on the road			

				Ground water contaminated- there rock store area has boreholes at its vicinity which is prone to rock spillages	Land contamination and ground water contamination	3	5	15	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Trench around the rock store with storm water recovery system 2. Dust suppression sytem installed 3. Chute detector installed on conveyors Administrative Control: 1. Housekkeping ongoing 2. Trench cleaning 3. Quality check for rock for moisture. 4. Vibrating screen inspection and regular cleaning 5, PPE:	3		2	4	8	No	1. Trucks to be covered with tratpauling before exiting rock store. 2. Rock store roof sheeting to be repaired. 3. Road sweeper should regularly clean the spillages on the road			
				Radiation	Exposure to radiation	2	5	10	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: 1,Radioactive signage 2, Restricted access 3. Radiation monitoring 4. TLDs 5. Radiation training PPE: 1. NA	3		1	4	4	Yes				
				Conveyor belt snapping and stopping during loading	Injury	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Zero speed switch installed. 2. Machine guards available. 3. Pull wire installed. Administrative Control: 1,Proper maintenance of scrapers and skirtings regular maintenance of conveyors 2.TD 10 PARN PAR 03 dry feed section 3.Regular cleaning under conveyor area 4. Regular preventative maintenance performed 5. Counter weight area is guarded with access control PPE: 1. NA	4		1	2	2	Yes		Morris	In place	
S02	Reactor	Running machines	Routine	Noise exposure from mechanical equipment , such as gear boxes	Hearing loss in long term exposure	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: 1. Noise monitoring is done 2.SOP'S in place to guide employees . 3, Job rotation. 4, Control room has double doors. 5. Preventive maintenance on agitators/rotating machines PPE: 1, Ear muffs and protective hearing devices issued to	4		1	2	2	Yes				Done

		Reactor Operations	Routine	Plume of fumes from failure from scrubbing system operation	inhalation of fumes	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Interlock to trip reaction if fan trips/scrubber water flow drops Administrative Control: 1. Maintenance of scrubber fan remedial measures implemented 2. Bi-weeklycleaning of scrubbers PPE: 1. Breathing masks/apparatus used.	4		1	2	2	Yes				
			Non-Routine	Increased Radiation exposure- due to maintenance conducted during annual shut down	Radiation exposure	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: 1. Reactor cleaning procedure in place. 2.Radiation badge used to measure radiation levels during annual shutdowns 3.Flushing of system during maintenance shutdown 4. Radiation test done before commencing vessel entry PPE: 1, PPE-Coverall is used for cleaning and maintenance work	4		1	2	2	Yes	Testing of radiation to be done before vessel entry			
			Routine	Heat- when operators work on top of the reactor	Heatstress	4	2	8	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: 1.Regular awareness and inspections 2, Continuous monitoring and testing during confined space work 3.Clearance and work permit system in place COP on confined space 4, Job rotation PPE:	4		2	1	2	Yes	NA			
			Routine		Burns	4	4	16	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Flange covers installed Administrative Control: 1.Regular awareness and inspections 2, Continuous monitoring and testing during confined space work 3.Clearance and work permit system in place COP on confined space 4, Job rotation 5. Safety shower installed PPE:	4		2	2	4	Yes	Sulfuric acid Line replacement programme to be developed			

				Trip, slip, fall	Injury	2	4	8		Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: 1.Regular awareness and inspections 2, Engineering standards 3.Clearance and work permit system in place COP on confined space 4, Job rotation. PPE: 1. NA	4		1	2	2	Yes	NA			
		Lifting of equipment- items that requires a crane to be removed	Non-Routine	Falling object, Hit by moving machineries	Injury	4	3	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: 1.Signage placed for pedestrians and employees 2. Competent crane operators engaged 3. SOP in place 4. Safe working procedure in place 5. Risk assessments to be performed-HIRA 6. Safety training provided 7. Life saving rules-Lifting operations. 8. Crane inspection done by garage PPE: 1. NA	4		2	1	2	Yes	NA			
		Crystal formation on product	Routine	poor quality of product leading to loss in sales	Poor Quality/High P2O5 loss	3	4	12		Elimination: 1. NA Substitution: 1. NA Engineering Control: 1. Crystals habit modifier (that helps avoids formation of crystals) availability _filtration process 2. CHM dosing ratio with flowmeter and cascade control available Administrative Control: 1.SOP in place for reactor operation. 2. Training for operators 3. Reactor and rock sampling PPE: 1. NA	4		1	2	2	Yes				

S03	Filtration	Lifting of equipment- items that requires a crane to be removed	Non Routine/Normal	Fall of object/Struck by oobject	Injury	4	3	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: 1.Signage placed for pedestrians and employees 2. Competent crane operators engaged 3. SOP in place 4. Safe working procedure in place 5. Risk assessments to be performed-HIRA 6. Safety training provided 7. Life saving rules-Lifting operations. 8. Crane inspection done by garage PPE: 1. NA	4		1	2	2	Yes	NA			
		Filter operation	Normal/Routine	Fumes in filtration area	Fumes inhalation	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Interlock to trip reaction when scrubber/water flow not online Administrative Control: 1.Bi-weekly scrubber cleaning PPE: 1.Breathing	4		1	2	2	Yes	NA			
		Moving Machinery- moving filter (pan and belt) that employees are exposed	Normal/Routine	Caught in between moving parts	Injury	4	4	16	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Siren for startup 2. Pull wire for filters/conveyors 3. Machine guards in place Administrative Control: 1.Trainig of employees SOP and COP 92 in place 2. Work permit system PPE: 1.NA	4		2	2	4	Yes	NA			
S04	Concentration-C tank	Normal operation	Normal/Routine	Acid splash/Acid burn	Injury/Burn	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Flange guards for sulfuric acid lines installed Administrative Control: 1.Regular awareness and inspection 2.Clearance and work permit system PPE: 1. normal PPEs	4		1	2	2	Yes	NA			

				Spillages conditions (due to de-sludging of tanks, spillages)	Burn, Injury, slip/trips	2	4	8	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Sump pump with bunded wall available. Administrative Control: 1.Procedure developed for underflow solids & SG content in clarifiers 2.. Daily and monthly monitoring of P2O5 loss in effluent through DCS/Foslim, Controlled desludging PPE:	4		1	2	2	Yes	NA			
		Waste sludge disposal/Neutralization	Normal/Non-Routine	Inhalation of fumes, Acid burns	Injury, health	2	4	8	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Installation of sump pump in bund area 2.Containment wall erected Administrative Control: 1.Recovery of spillage back to the bunded area. 2.Regular awareness	3		1	3	3	Yes	NA			
		Accesses to critical operating areas (such as valves, platforms) due to spillages/Floodings	Abnormal/Routine	Ergonomics, Slippery floor	Slip/Trip, strain	2	4	8	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Installation of sump pump in bund area to recover spillage 2. Sump pumps runs on level control Administrative Control: 1.Washing the gypsum off. 2. Approved waste disposal 3. Contractor performs cleaning & waste disposal 4.Regular inspection and awareness 5. Regular houskeeping PPE:	4		1	2	2	Yes	NA			
			Abnormal	Ground water contamination due to Susceptible cracks on the bunded floor	Land contamination and ground water contamination, Environment	3	3	9	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Installation of sump pump in bund area to recover spillage 2. Level indication available for tanks in DCS 3. Sump pump runs on level control Administrative Control: 1.Washing the gypsum off. 2. Approved waste disposal 3.Contractor performs cleaning & waste disposal 4.Regular inspection and awareness 5. Regular houskeeping PPE:	3		2	2	4	Yes	Dedicate an area for sludge neutralization and handling			

		Sampling/Dip taking	Normal/Routine	Fumes from the open roof fragments in tanks	inhalation of fumes, Health	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Closed roof tanks Administrative Control: 1.Training PPE: 1.Respirator	3		1	2	2	Yes	Install vent system on tank roof			
		Power failure	Abnormal	Injury Slip/Trip Acid spillage	Injury Acid burn	3	4	12	Yes	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Ligthing on emergency power 2. Critical equipment like rakes are on emergency power Administrative Control: 1.PM schedule in place 2.Maintenance SOPs and COPs in place PPE: 1.Respirator	4		1	2	4	Yes	Diesel compressors to be arranged for prolonged power failures			
S04	E Tank farm	Acid transfer and normal operations	Normal/Routine	Acid splashes from over-head pipes at the area	Acid burns	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: 1.Training 2. Regular awareness 3. SOP in place PPE: 1.PPE	3		2	3	6	Yes	NA			
		Sludge cleaning	Noraml/Non-Routine	Spillages conditions (due to de-sludging of tanks, spillages)	Injury Land contamination Ground water contamination	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Installation of sump pump in bund area to recover spillage 2. Manholes are installed with drain valve 3. Sump pump runs on level control Administrative Control: 1.COP-04 for vessel entry 2. Approved waste disposal 3.Contractractor performs cleaning & waste disposal 4.Regular inspection and awareness 5. Regular houskeeping PPE: 1.PPE	3		2	3	6	Yes	1. flange management procedure to be developed 2. Drain valve to be installed on all the tank manholes. 3, CTP to be developed for opening tank manholes.	Sihle		
		Taking dip/Sampling	Normal/Routine	Inhalation of fumes	Health	2	5	10	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Closed roof tanks 2. DCS level indication avaiable Administrative Control: 1.Training and awareness 2. SOP in place. PPE: 1.Respirator	3		2	3	6		Change tank sampling to tank bottom	Sihle		

		Waste sludge disposal	Normal/Non-Routine	Land contamination Ground water contamination	Environment	3	4	16	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Installation of sump pump in bund area to recover spillage 2. Sump pump runs on level control Administrative Control: 1.Approved waste disposal 2.Contractor performs cleaning & waste disposal 3.Regular inspection and awareness 4. Regular houskeeping PPE:	4		2	2	4	Yes	Install Borehole for water sampling	Iwazi		
		Accesses to critical operating areas (such as valves, platforms) due to spillages/Floodings	Abnormal/Routine	Ergonomics, Slippery floor	Slip/Trip, strain	2	4	8	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Installation of sump pump in bund area to recover spillage 2. Sump pumps runs on level control Administrative Control: 1.Washing the gypsum off. 2. Approved waste disposal 3. Contractor performs cleaning & waste disposal 4.Regular inspection and awareness 5. Regular houskeeping PPE:	4		1	2	2	Yes	NA			
		Tank/Structural integrity inspection that can lead to tank failure	Abnormal/Non-Routine	Tank failure	Injury Aci dburn Water/Land contamination Production loss	5	4	20	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1. Tank designed as per API code 2. tank level indiation Administrative Control: 1. Preventive maintenance on tanks. 2. Regular inspection and awareness 3. Check sheets PPE:	4		2	2	6	Yes	Minimize flanges on top of tanks	Sihle		
		Quality of Acid Product before dispatch.		poor product leading to loss of sales	Quality Sales loss	4	5	20	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1. Clarifier and acid coolers installed. 2. Flocculant dosing sytem available. Administrative Control: 1.Clarifier operation procedure 2.Acid coolers operations 3.Desludging of E tanks 3.Regular analysis of product before dispatch 4.Reactor controls 5. Rock quality PPE:	4		2	3	6	Yes				

S05	<u>Concentration)</u> <u>Units (Old and</u> <u>New)</u>	Normal Operation	Normal/Routine	Noise from the equipment such as steam ejectors, pumps	hearing loss in long term	3	3	9	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1. control room with double doors Administrative Control: 1.Hearing assessments performed yearly 2.Noise monitoring done frequently. 3.SOP'S in place to guide employees 4.Trainig and awareness PPE: 1. Ear muffs and protective	4		1	1	1	Yes	NA				
			Abnormal/Non-Routine	Acid spills leaking/ Pipeline leaks	1. Inhalation of fugitive gases 2. Acid burns	3	5	15	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Piping standard 2.Flange guards on Sulfuric acid lines Administrative Control: 1.Regular inspection and awareness 2.Color coding of pipes(COP 56) 3.Flange management PPE: 1. Normal PPE,Breathing	3		2	4	8	No	1. Develop pipe replacement program 2. Risk based inspection of pipeline				
			Abnormal/Non-Routine	Ground water contamination due to Susceptible cracks on the bunded floor	Land contamination and ground water contamination, Environment	3	3	9	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Installation of sump pump in bund area to recover spillage 2. Level indication avaiable for tanks in DCS 3. Sump pump runs on level control Administrative Control: 1.Washing the gypsum off. 2. Approved waste disposal 3.Contractractor performs cleaning & waste disposal 4.Regular inspection and awareness 5. Regular houskeeping PPE:	3		2	2	4	Yes	Dedicate an area for sludge neutralization and handling				
		Aging and damage Ladder and grating that can results to employees falling	Abnormal	Fall from height	Injury	4	4	16	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Standard design of cat ladder Administrative Control: 1.Structural repalcement program 2.MSA 3.Near miss reporting Regular inspspection and awareness PPE:	4		2	2	2	Yes	NA				

		Poor lighting (especially working at night)	Abnormal	Slip/Trip	Injury	2	3	6	Yes	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: Regular inspection Maintain and replace dull or blown out lights Lighting survey PPE: 1. Normal PPE	3	1	2	2	Yes				
		Steam leaks	Abnormal	Injury	Steam burn	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: 1.Regular awareness and inspections 2.Clearance and work permit system in place PPE: 1. Normal PPE	4	1	2	2	Yes	NA			
S06	Cooling Tower	Acidic mist generated/Falling	Abnormal	Acid mist Slippery floor	Land contamination Air pollution Injury	2	4	8	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: 1. samples sent to the lab every two hours from each cooling tower 2. Monthly inspection of mist eliminators and cleaning /repalcement 3.Cooling tower bleed off . 4, Sight glass blowing check list PPE: 1. Normal PPE	3	1	3	3	Yes				
		Foam fall-out due to acid carry-over to the cooling towers	Abnormal	Acid burn	Injury Skin irritation	2	4	8	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA Administrative Control: 1. samples sent to the lab every two hours from each cooling tower 2. Monthly inspection of mist eliminators and cleaning /repalcement 3.Cooling tower bleed off . 4, Sight glass blowing check list PPE: 1. Normal PPE	3	1	3	3	Yes	NA			
		Colling tower overflows	Abnormal	Acidic water overflow	water and ground contamination	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Automatic bleed off of cooling otwer 2. Cooling tower level indication for each cell Administrative Control: 1.Cooling tower operation SOP. 2. Effluent recovery SOP PPE: 1. Normal PPE	3	2	3	6	Yes	Na			

		Poor Ergonomics due to cat ladders	Normal/Routine	Fall from height	Strain	2	3	6	Yes	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Automatic bleed off of cooling otwer 2. Standard design of cat ladders 3. Hydraulic valves installed for distribution valves. Administrative Control: 1.Job rotation PPE: 1. NA	3		1	2	2	Yes	NA			
S07	Dense and buoyant line	Failure to comply with WUL permits and effluent license requirements	Abnormal	Non compliance to new permit requiremnts (2025) i.e. pH, TSS, Fluorine	Environment	5	4	20	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA. Administrative Control: 1.,TD 07 PARN Pickling of Filters 2.FSA consumed during pickling 3.,CoP 81 Pollution risk Control, 4.Forum meetings to discuss comply with the new requirements 5. Engegements with U UW Water to dicuss future plans PPE: 1. NA	3		4	3	12	No	1. TSS actions plan to be implemented 2. Effluent neutralization project to be implemented			
		Exposure to radiation	Routine	Occupational health related will be skin irritation on employees working in and around the area	Skin irritation Health	2	4	8	No	Elimination: 1. NA Substitution: 1. Usage of low radiation rock Engineering Control: 1.NA. Administrative Control: 1.PPE used is cleaned separately 2.Staff undergo medical examinations 3.Radiation badge used to measure radiation levels on continuous basis 4.Designated wash bay at 5.E-tank farm cleaning area PPE: 1. NA	3		1	3	3	Yes	NA			
		Exposure to Fluorine Gases	Abnormal	inhalation of gases	Health	2	3	6	Yes	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA. Administrative Control: 1.Gas tester availability checked always 2.Regular awareness and inspections 3. Continuous monitoring and testing during confined space work 4.Cooling tower bleed off periodically based on Fluorine level PPE: 1. NA	3		1	2	2	Yes	NA			

S08	<u>Hollistic across plant risk</u>	Phos Acid Spillages from pipes, including ground and overhead pipes	Abnormal	Acid burn Slip	Injury	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Piping standard Administrative Control: 1.Regular awareness and inspection 2. Clearance and work permit system PPE: 1. Normal PPE	3	2	3	6	Yes	Piping replacement program to be developed			
		Wrong Pipeline colour coding	Non routine	Injury	Safety	4	3	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA. Administrative Control: 1.COP on pipeline colour coding. 2. Training on COP PPE: 1. Normal PPE	3	3	2	6	Yes	NA			
		In-proper stacking and storage soda ash bags at dosing system	Routine	Injury	Safety	2	3	6	YES	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA. Administrative Control: 1.SOP in place PPE: 1. Normal PPE	3	1	2	2	yes	Maximum height if stock to be included in the SOP.			
		Loose hanging cables from cable racks	Abnormal	Electrocution Injury	Safety	4	3	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA. Administrative Control: 1.Cable rack maintenance 2.Continuous monitoring and inspection 3.MSA reports PPE: 1. Normal PPE	3	3	2	6	Yes	NA			
		Non-Functioning of safety showers	Abnormal	Acid burns	safety	3	4	12	No	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.NA. Administrative Control: 1.Monthly MSA 2.Safety shower inspection check list 3.Safety shower signange PPE: 1. Normal PPE	3	2	3	6	Yes	NA			
		Oil drainage from equipment	Abnormal	Land contamination and ground water contamination	Environment	2	3	6	YES	Elimination: 1. NA Substitution: 1. NA Engineering Control: 1.Low oil flow trip for agitators Administrative Control: 1.Regular inspections performed 2. Regular preventative maintenance performed. 3. Oil separation system availavle at site and waste oil disposal procedure available PPE: 1. Normal PPE	3	1	2	2	Yes	NA			

COMPILED & REVIEWED BY:						APPROVED BY:			
SIGNATURE:						SIGNATURE			

Anx.1.2 - BRA