

SHE MITIGATION MEASURES

OVS

SCOPE OF WORK:

1. Remove and Re-Install Insulation Lagging

Initialed	by.....	Date.....
	<i>[Signature]</i>	11.5.23

[Signature]
Pravit Kulin
Section Manager - Power Plant Safety

Main Element: Power plant							
	Sub-Element: Construction, and Maintenance						
Date:							
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)
Safety and Occupation Health Management Plan							
1	Machine Entanglement	Construction, Operation and maintenance of equipment and machines could cause major injuries to the maintenance operators and contractors.	<u>Procedures</u> 1. Review all equipment and machines to identify potential exposed moving parts and/or pinch point that may endanger the safety of any worker. 2. Post warning signs regarding machinery hazard. 3. Establish 'Work Instructions' for using of hand tool machines e.g. cutting, grinder, milling machine, lathe machine, etc. 4. Implement Lock Out and Tag Out Procedure to turn off, disconnect, isolate and de-energize the machine and equipment during servicing or maintenance in conformance with HPC's Procedures. <u>Equipment and Operation</u> 5. Install guard or cover to such identified parts to prevent access in conformance with appropriate machine safety standards and 6. Enable routine service without removal of the guarding devices or mechanisms. 7. Maintain housekeeping to keep walkway clear.	Permit to Work Record, lockout and tag out; Inspection record	As implemented Bi-weekly Monthly	Contractor HPC	3.3.4.4 (1)
				Inspection record	Bi-weekly Monthly	Contractor HPC	
				Inspection record	Bi-weekly Monthly	Contractor HPC	
				Training record	As plan	Contractor/ HPC	
				Checklist record	Monthly	Contractor HPC	
2	Exposure to Hazardous Energy	Exposure to hazardous energy (i.e. pressured air, electricity, hot steam, pressured	<u>Procedures</u> 1. Establish and implement Hazardous Energy Control Procedure and/or including hazardous energy control practice in relevant Work Procedures e.g. Electrical Work Safety Procedure (HPC-CSD-WP-007) to ensure machine or equipment where hazardous energy can	Permit to Work Record, Inspection record	As implemented Bi-weekly Monthly	Contractor HPC	3.3.4.4 (2)

Main Element: Power plant		Sub-Element: Construction, and Maintenance		Date:			
Main Activity: Construction, operation and maintenance							
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		water steam, etc.) could be expected during normal operation and maintenance activities, could result in potential injury of workers/contractors.	be stored (e.g. compressed air, pressured vessels, pressured pipeline, steam pipe and electrical components, etc.) has turned off, disconnected, isolated, and de-energized (Lock Out and Tag Out) or guarded (for moving parts) prior to servicing or maintenance, in conformance with a standard such as CSA Z460 Lockout or equivalent ISO or ANSI standard. The procedure should cover the following steps as a guideline, but not limited to; - Before beginning service or maintenance, the following steps must be accomplished in sequence and according to the specific provisions of the employer's energy-control procedure: (1) Prepare for shutdown; (2) Shut down the machine; (3) Disconnect or isolate the machine from the energy source(s); (4) Apply the lockout or tag out device(s) to the energy-isolating device(s); (5) Release, restrain, or otherwise render safe all potential hazardous stored or residual energy. If a possibility exists for reaccumulation of hazardous energy, regularly verify during the service and maintenance that such energy has not reaccumulated to hazardous levels; and (6) Verify the isolation and deenergization of the machine. - Restoring Equipment to Service. When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken. (1) Check the machine or equipment and the immediate area around the machine to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact. (2) Check the work area to ensure that all employees have been safely positioned or removed from the area. (3) Verify that the controls are in neutral. (4) Remove the lockout devices and reenergize the machine or equipment.				

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			(5) Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.				
			<u>Equipment and Operation</u> 2. Sufficiently provide Lock Out/Tag Out equipment (i.e. master lock, lockout tag, etc.).	Inspection record	Bi-weekly	Contractor	
			<u>Inspection</u> 3. Conduct inspection and implement preventive maintenance programme to keep all joints and pipes tight to prevent hazardous energy (e.g. hot steam, pressured water steam) leak.	Inspection record	Monthly Bi-weekly	HPC Contractor	
			<u>Competency</u> 4. Communicate Hazardous Energy Control program/procedure to all maintenance functions and contractors. 5. Prepare and implement the work instructions of each machinery to release hazardous energy and how to lock and tag at the appropriate points at each machine.	Training record	Monthly As plan	HPC Contractor	
			<u>Preventative Maintenance</u> 6. Regular inspection, maintenance and repair of fittings, pipes and hoses.	Checklist record	Monthly	Contractor	
3	Exposure to excessive noise	Potential exposure to excessive noise generated from machineries/ equipment used (i.e. pump, agitator, boiler, turbine, drilling, excavating, blasting, dumping, crushing, etc.) during normal operation and maintenance activities which could cause impact to hearing ability of workers	<u>Procedures</u> 1. Develop noise control and hearing conservation program. The program should include, but not limited to, the followings: - Conduct high noise generating activities e.g. crushing, grinding and screening activities in enclosed building where possible. - Identify and mark high noise areas and require that personal noise protecting gear is used all the time when working in such high noise areas more than 8 hr. (typically areas with noise levels >85 dB(A)) - Provide warning sign at the location where high noise operation is performed. - Noise prevention and mitigation measures to be applied where predicted or measured noise impacts from a project facility or operations exceed the applicable noise level guideline at the most sensitive point of reception. The preferred method for controlling noise from stationary sources is to implement noise control measures at source.	Inspection record/ Monitoring record	Bi-weekly / As plan	Contractor	3.3.4.4 (3)

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			- Monitor noise level based on the Identified high noise area to assess exposure level (i.e. steam turbine, crushers, conveyor, spreader, etc.) - Develop a mechanism to record and respond to complaints with respect to high noise exposure from workers/contractors.				
			<u>Equipment and Operation</u> 2. Provide personal noise protecting gear (e.g. ear plugs, ear muff), required to be used all the time when working in high noise areas more than 8 hr. (i.e. typically areas with noise levels of more than 85 dBA). 3. Ensure all employees and contractors who working in high noise level area wear protective gears at all times. 4. For installation/replacement of new equipment, consideration to improve/minimize high noise exposure shall be considered including: - Select equipment with lower sound power levels; - Install silencers for fans; - Install suitable mufflers on engine exhausts and compressor components; - Install acoustic enclosures for equipment casing radiating noise; - Improve the acoustic performance of constructed buildings, apply sound insulation (for Power Plant).	Inspection record	Bi-weekly Monthly	Contractor HPC	
			<u>Inspection</u> 5. Conduct regularly inspection programs for vehicle/heavy machineries to assess working conditions of such vehicle/heavy machineries. 6. Establish and implement noise monitoring programs at the identified high noise area to assess exposure level. Noise monitoring program shall be conducted by trained specialists.	Inspection record	Bi-weekly Monthly	Contractor HPC	
4	Exposure to Vibration	Use of hand-arm vibration equipment such as hand and power tools, or whole-body vibrations from	<u>Procedures</u> 1. Develop vibration control program. The program should include, but not limited to, the followings: - Identify activities/equipment that could generate vibration; - Define the receptor that may be impacted from vibration generated during maintenance activities in order to identify location	Inspection record	Bi-weekly Monthly	Contractor HPC	3.3.4.4 (4)

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		surfaces (i.e. crusher, pulverizer, jack hammer, coal pulverizer, turbine, pump, etc.) could cause vibration exposure to workers	to be included in vibration monitoring program; - Define the period allowed to conduct maintenance activities that may generate vibration; - Establish and implement vibration monitoring program as per the location defined on a routine basis. Exposure levels should be checked on the basis of daily exposure time and data provided by equipment manufacturers; - Limit the time that workers are exposed to vibration.				
			<u>Preventative Maintenance</u> 2. Establish and implement preventive maintenance program of vehicle/heavy machineries/equipment to prevent system malfunction which may result in vibrating effect. 3. Repair equipment/machine having vibration of more than acceptable level.	Checklist record	Monthly	Contractor	
			<u>Equipment and Operation</u> 4. Provide equipment to mitigate/minimize vibration from equipment/machineries (i.e. vibration dampening pads or devices, etc.). 5. Install vibration detector for main equipment (i.e. turbine, burner feed pump, condensate pump, circulating water pump, etc.) which will trip/deactivate when vibration level exceeding vibration exposure limit to workers (for Power Plant).	Inspection record	Bi-weekly Monthly	Contractor HPC	
5	Electrical Hazards	Electrical hazard from operation and maintenance activities of the project can cause fatality	<u>Procedures</u> 1. Strictly implement Electrical Work Safety Procedure (HPC-CSD-WP-007) . 2. Implement Permit-to-Work system (HPC-CSD-FO-006) , in accordance with Electrical Work Safety Procedure (HPC-CSD-WP-007), to ensure that potential hazards from working with low voltage and high voltage (>750 v) are identified and mitigated prior to starting work. 3. Use Electrical Work Safety Checklist (HPC-CSD-FO-011) to identify potential electrical work hazards and define measures to prevent electrical hazard. 4. Implement at least the following key requirements while	Permit to work	As implemented	Contractor	3.3.4.4 (5)

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			conducting maintenance of electrical equipment; - Provide mark and warning signs at all energized electrical device - Perform locking out (i.e. de-charging and leaving open with a controlled locking device) and tagging-out (warning sign placed on the lock) devices will be implemented during service or maintenance - Protect power cords and extension cords against damage from traffic by shielding or suspending above traffic areas - Check all electrical cords, cables and hand power tools for frayed or exposed cords - Check the maximum operating voltage of hand tools before connecting with the socket - Control entrance of substation to prohibit unauthorized person access by providing lock and signage - Provide marking to identify location where all buried electrical wiring based on as-built drawing to prevent unintentional damage prior to any excavation work - Ensure all employees who perform electrical/height voltage are trained				
			<u>Equipment and Operation</u> 5. Provide specific PPE for electrical work including working with height voltage. 6. Provide double insulation/ grounding with ground fault interrupter (GFI) to the electrical equipment if working in wet environment is expected. 7. Perform locking out (i.e. de-charging and leaving open with a controlled locking device) and tagging-out (warning sign placed on the lock) devices will be implemented during service or maintenance.	Inspection record	Bi-weekly Monthly	Contractor HPC	
			<u>Inspection</u> 8. Conduct the Inspection for the following issues; - Visually inspect for damage prior to start each shift - Weekly and monthly inspection. Monthly inspection shall apply tag or other symbols to identify electrical equipment's status and show that such equipment are inspected. This shall include routine	Inspection record	Bi-weekly Monthly	Contractor HPC	

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			testing of grounding system (i.e. grounding rod, lighting arrestor, etc.) provided for each equipment/machinery and building.				
			<u>Competency</u> 9. Provide training to all workers whose works related to electrical or high voltage. 10. Provide specialized electrical safety training to those workers who work with or are around exposed components of electric circuits.	Training record	As plan		
			<u>Preventative Maintenance</u> 11. Establish and implement preventive maintenance program of heavy machineries/equipment to prevent system malfunction and to ensure that electrical part of the machines/equipment are still in good working conditions. 12. Repair equipment/machine whenever electrical leak is noticed.	Checklist record	monthly		
6	Vehicle and Traffic Hazard	Potential hazard from transportation activities inside and outside project area during normal operation and maintenance activities (i.e. heavy equipment used in mine and quarry, ash pond operation, etc.) could cause severe injury and fatality to project personnel	<u>Procedures</u> 1.Implement Vehicle Transportation and Traffic Assessment requirements (HPC-OHS-SD-001) including: - Assess the project area to identify potential unsafe conditions (i.e. blind spots, etc.) In areas where project activities are undertaken and initiate corrective actions accordingly (i.e. provide retroreflector, etc.) - Enforce relevant traffic rules and regulations throughout CA boundary - Strictly follow speed limits shall be less than; o 60 km/hr public road o 30 km/hr in communities o 30 km/hr in construction area (for future activity/ expansion, if any) - All drivers shall have driving license. - Ensure drivers undergo drug surveillance - Restrict access to the site to authorized vehicles only. - Manage transportation schedule of all traffic movement in project area to avoid/minimize road usage during peak hours.	Inspection record	Bi-weekly Monthly	Contractor HPC	3.3.4.4 (6)
			<u>Equipment and Operation</u> 2. Traffic signs containing the following information in eligible	Inspection record	Bi-weekly	Contractor	

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			Language will be provided throughout the project areas and transportation road; - Speed limit; - Any applicable load limit; - Road features that may affect driving; - Road conditions (e.g. crests, hidden accesses, etc.); - Identification of road; and - Direction to operation areas. 3. Signboards and barricades will be provided during construction/ maintenance activities on public and construction/ maintenance access roads (if any) as appropriate. 4. Moving equipment with restricted rear visibility will be outfitted with audible back-up alarms. 5. Install traffic speed regulation devices (i.e. speed humps). 6. Establish safe driving program, for instances, safety event, campaign to promote safe driving etc. 7. Conduct alcohol test, fitness check and driving license check to ensure valid license is maintained prior to operating vehicle, e.g. - Adopt limits for trip duration and arranging driver rosters to avoid overtiredness - Always fasten seat belt for all drivers and passengers - Prohibit use of mobile phone when driving - Prohibit drunk driving - Strictly follow traffic signs - Prohibit operation vehicles and on-site traffic movements outside the designated access road network. - Prohibit on-road parking - Establish channel for staff to report any violation of traffic rules - Conduct random check to review if the defined rules are effectively implemented. - Prohibit passengers sitting on the edge of the vehicle cab - Prohibit taking over at the corner or on the bridge, or intersection - Press horn 2times when moving forward before starting & stopping the vehicle, and 3 times when moving backward for people to notice the vehicle movement	Monthly	HPC		

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			- Place warning signs or traffic cones when parking in case of emergency.				
			<u>Preventive Maintenance</u> 8. Establish and implement vehicle preventive maintenance (PM) to prevent system malfunction particularly brake system and to ensure that the vehicles are in good and safe working conditions.	Checklist record	Monthly	Contractor	
			<u>Inspection</u> 9. Conduct regularly inspection programs to assess working conditions (especially brake system) of all vehicles used in the project areas (i.e. truck, wheel loaders, forklift, etc.)	Inspection record	Bi-weekly	Contractor	
			<u>Competency</u> 10. Establishing safe driving program for instances, safety event, campaign to promote safe driving etc. 11. Training and licensing industrial vehicle operators in the safe operation of specialized vehicles such as wheel loaders, forklifts, including safe loading/ unloading practices, load limits, etc.	Training record	As plan	HPC	
8	Ergonomics, Repetitive Motion, Manual Handling	Injuries due to repetitive motions, manual lifting could be expected. Inappropriate lifting may cause injury to workers.	<u>Procedures</u> 1. Review all works that have potential ergonomic risks. 2. Establish maximum weight or thresholds for manual lifting and communicate to all staff. 3. Implement quality control and maintenance programs that reduce unnecessary forces and exertions. 4. Take into consideration additional special conditions such as left handed persons. 5. For new equipment or equipment retrofitting, consider to select and design tools that reduce force requirements and holding times, and improve postures	Inspection record	Bi-weekly Monthly	Contractor HPC	3.3.4.4 (8)
			<u>Equipment and Operation</u> 6. Consider to provide the following equipment to minimize ergonomics hazard and potential injuries from repetitive motion and manual handling works including: - Mechanical assists (if possible and feasible) to eliminate or reduce exertions in material lifting, holding tool and work objects - Tools that reduce force requirements and holding times, and improve postures	Inspection record	Bi-weekly Monthly	Contractor HPC	

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			- User adjustable work stations 7. Consider incorporating rest and stretch breaks into work processes taking into account of level of workload and difficult work environment Training 8. Provide ergonomics training and the hazards of manual handling. 9. Promote posture for good ergonomics e.g. manual lifting, working in office work station.	Training record	As plan	Contractor	
9	Fall from Height	Potential of workers falling from high level area caused from normal operation and maintenance activities	Procedures 1. Implement Fall Hazard Management Procedure (HPC-OHS-WP-006) and Scaffolding Safety Procedure (HPC-CSD-WP-011) . The procedure should include, but not limited to, the followings: - Identify areas/activities where a worker is exposed to the hazard of falling more than two (2) meters into operating machine, water or other liquid, hazardous substances or through an opening in a work surface - Implement permit-to-work system when working at height above 4 meters or working on scaffold ≥8 metres height to ensure all necessary precautions relevant to work at height, including emergency procedures, have been communicated to the person in charge of the work Equipment and Operation 2. Provide suitable and adequate fall protection equipment (e.g. safety belt) for all works conducted at height. 3. Select and install fall prevention devices with consideration of appropriate level of protection: - Safety belt with lanyard travel limiting devices to prevent access to fall hazard area - Full body harnesses used in conjunction with shock absorbing lanyards or self-retracting inertial fall arrest devices attached to fixed anchor point or horizontal life-lines - Safety nets securely attached to supporting framework 4. Ensure that fall protection system is appropriate for the tower structure and necessary movements, including ascent, descent, and moving from point to point.	Permit to Work Inspection record	Bi-weekly Monthly	Contractor HPC	3.3.4.4 (9)
				Inspection record	Bi-weekly Monthly	Contractor HPC	

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Safety and Occupation Health Management Plan							
			5. Ensure that safety belts are of not less than 16 millimeters (mm) (5/8 inch) two-in-one nylon or material of equivalent strength. Rope safety belts should be replaced before signs of aging or fraying of fibers become evident. 6. Install guardrails with mid-rails and toe boards at the edge of any fall hazard area. 7. Install floor hole covers and wall opening barricades over any hole of gap larger than 12 inches.				
			<u>Training</u> 8. Provide fall from height prevention training	Training record	As plan	Contractor	
10	Slip and Trip	Slip and trip from poor housekeeping in working areas may cause severe injuries to project personnel	<u>Operating Practices</u> 1. Implement Housekeeping Procedure (HPC-CSD-WP-010) 2. Maintain tidiness and cleanliness in the working area to prevent any incident that influenced by poor housekeeping (i.e. passageway, floor, stair). 3. Cleaning up excess waste debris and liquid spills regularly. 3. Provide rubbish bins or container adequately at locations suitable for waste collection. 4. Locating electrical cords and ropes in common areas and marked corridors.	Inspection report	Bi-weekly Monthly	Contractor HPC	3.3.4.4 (10)
			<u>Equipment</u> 5. Consider use of slip retardant footwear.	Inspection report	Bi-weekly	Contractor	
			<u>Inspection</u> 6. Conduct routine inspection of working area to ensure good housekeeping. 7. Conduct area inspection when maintenance activities are completed, prior to handing over from maintenance work to operation team.	Inspection report	Monthly	HPC	
11	Falling Object	Potential falling objects (i.e. materials, equipment, etc.) from normal operation and	<u>Procedures</u> 1. Implement Permit to work procedure for lifting activities and when lifting over 15 tons (HPC-SHE-WP-003). 2. Implement Crane and Lifting Work Procedure (HPC-OSH-WP-005) and Heavy Lifting Work Instruction (HPC-CSD-WI-001) .	Inspection report	Bi-weekly Monthly	Contractor HPC	3.3.4.4 (11)

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		maintenance activities	<u>Operating Practices</u> 3. Operate under safe working load and install warning signs/ barricade around lifting radius. 4. Prohibit operation without Rigger. 5. Select a crane of suitable capacity to perform the operation with an adequate margin of safety including: - The size and type of crane, its duties and outrigger settings and loadings, the radius at which it will work and boom length. - Selecting the appropriate load handling equipment, including chains, slings, lifting beams, spreaders, lifting eyes etc. taking account of the load – weight and dimensions, lift points, sharp edges and location before and after the lifting operation. 6. Establish lifting operation plans for heavy lifting (over 15 tons) which is reviewed and approved by competent person. 7. Use an approved tool bag for raising or lowering tools or materials to workers on structures. 8. Avoid lifting of heavy objects during night time 9. Provide appropriate PPE to protect personnel from falling objects e.g. hard hats and safety shoes. 10. Barricade and communicate areas having potential hazards from falling objects e.g. facility modifications, construction, etc. <u>Inspection</u> 11. Employ qualified and registered third party to inspect and test crane and lifting equipment at least annually. 12. Conduct monthly inspection for crane and lifting equipment by competent person e.g. safety representative and apply color coding, tags, etc. to show their conditions. 13. Conduct routine visual inspection of crane and lifting equipment to ensure no damage or they are in good condition to use. <u>Procedures</u> 1. Strictly implement Confined Space Safety Procedure (HPC-CSD-WP-012). 2. Strictly implement Permit to Work Procedure (HPC-CSD-WP-003) and form (HPC-CSD-FO-006).	Inspection report	Bi-weekly Monthly	Contractor HPC	
				Inspection record	Bi-weekly Monthly	Contractor HPC	
13	Asphyxiation (Confined space)	Work in confined spaces (e.g. silo, boiler, turbine, etc.) can cause serious injury or fatality due		Permit to work Inspection record	As implemented Bi-weekly Monthly	Contractor Contractor HPC	3.3.4.4 (13)

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		to inadequate preparation to enter a confined space or in attempting a rescue from a confined space.	3. Conduct gas testing before and during working in confined space area by implementing Gas Testing Form (HPC-CSD-FO-015) . 4. Prohibit working alone in confined space 5. Develop site-specific emergency and rescue plans and procedures specific to confined space work.				
			<u>Equipment and Operation</u> 6. Provide confined space control measures as identified in permit to work (e.g. ventilation, watchman, rescue plan, PPE). 7. Provide standard respiratory protective equipment 8. Provide protective clothing in case of working with airborne contaminants. 9. Provide other PPE in accordance with the hazard relevant to the job based on PPE Matrix. 10. Ensure adequate and appropriate rescue and/ or recovery equipment is in place before the workers entering confined space. 11. Access hatches should accommodate 90% of the worker population with adjustments for tools and protective clothing. 12. Ensure that process or feed lines into the confined space area are disconnected or drained, and blanked and locked-out. 13. Ensure mechanical equipment in the space is disconnected, de-energized, locked-out, and braced, as appropriate. 14. Provide sufficient lighting and ventilation to assure fresh air quality and quantity to maintain the health and safety of personnel working in confined space area. 15. If the atmospheric conditions below are not met, i.e. - Oxygen 19.5-23.5%, - CO <35% - LEL < 10% - H ₂ S< 10ppm The confined space should be ventilated until the target safe atmosphere is achieved, or entry is only to be undertaken with appropriate and additional PPE. 16. Ensure the confined space provide ample room for emergency and rescue operations.	Inspection report	Bi-weekly Monthly	Contractor HPC	

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			Inspection 17. Conduct routine test for toxic or flammable gas, oxygen deficiency throughout the period of operation in confined space to ensure safe working environment. 18. Report all unsafe conditions and/or unsafe practices for immediate correction. 19. Test the atmosphere within the confined space (HPC-CSD- FO-015) to assure the atmospheric conditions specified under item 15 are met.	Inspection record	Bi-weekly Monthly	Contractor HPC	
14	Respiratory Hazards	Inhalation of dust, fogs, fumes, mists, gases, smokes, vapors from maintenance activities of machinery/equipment in the power plant could affect to respiratory system.	<u>Procedures</u> 1. Review all working areas where respiratory hazard could be presented. 2. Implement HPC Hazardous Materials Handling Procedure (HPC-CSD-WP-016) for safe handling and transferring of chemicals that minimize human exposure including: - Assess and classify as either hazardous or non-hazardous material based on its properties and classifications mentioned in relevant safety data documents - Level of hazard will be assessed and documented based on rating of HMIS or NPA or other equivalent system mentioned in SDS. Chemical and Hazard rating system also provided in Hazardous Materials Handling Procedure(HPC-CSD-WP-016) document - Whenever working with chemical of which rating hazard is equal or higher than serious level (Rating 3), contractors/users shall request permit to work, and submit Permit to Work Form (HPC-SHE-FO-006) as well as Hazardous Materials Handling Safety Checklist (HPC-CSD-FO-020) 3. Implement work practices to minimize release of dust and contaminants into work environment including: - enclosed transfer of materials (i.e. coal, chemicals, etc.) - chemical containers shall be kept closed and sealed - minimized dust generation from movement of vehicle and machines (i.e. water spray, conveyor, etc. - refer to Air Emission Section) - Install local exhaust ventilation at emission/release points - Provide ventilation when working in areas having respiratory	Permit to work Inspection record	As implemented Bi-weekly Monthly	Contractor Contractor HPC	3.3.4.4 (14)

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			hazards e.g. use of induced fan for ventilation when working in FGD duct, etc.				
			Equipment and Operation 4. Implement work practices to minimize release of dust and contaminants into work environment (i.e. water spray at crushing plant, conveyor, spreader, etc.). 5. Provide respiratory protection equipment adequately for those who are required to work in area with respiratory hazards. 6. Strictly implement PPE Procedure (HPC-CSD-WP-008) for the safe use of any respiratory protection equipment e.g. facemasks with appropriate filters for dust removal and air purification (chemicals, mists, vapors and gases),, single or multi-gas personal monitors, if available	Permit to work Inspection record	As implemented Bi-weekly Monthly	Contractor Contractor HPC	
			Monitoring 7. Conduct routine health check-up to the staff potentially exposes to respiratory hazards according to risk factor e.g. lung function, etc. 8. Conduct monitoring of workplace to evaluate level of dust and chemicals for further implementation of corrective actions in case of standard exceedance. Standards limit for monitoring chemicals in workplace are as follows, other : - HCl : 5 ppm or 7 mg/m ³ - Ammonia : 50 ppm or 35 mg/m ³ - NaOH : 2 mg/m ³ - Respiratory dust : 15 Mppcf or 5 mg/m ³ - Chlorine: 1 ppm or 3 mg/m ³ - SO ₂ : 5 ppm or 13 mg/m ³ (parameters to be adjusted based on risk assessment)	Monitoring record	If any	Contractor	
			Competency 9. Provide training on use and review integrity of PPE. Respiratory Protection 10. Use specific PPE in accordance with PPE Matrix to prevent/minimize impacts from respiratory hazards including: - Specific PPE during diesel loading and unloading according to Fuel Storage and Transferring Procedure - Use of PPE in accordance with PPE Matrix to prevent exposure to lignite mine waste - Use specific PPE for operation in lignite preparation and transferring area according to Personal Protective Equipment	Training record Inspection report	As plan Bi-weekly Monthly	Contractor Contractor HPC	

Main Element: Power plant			Sub-Element: Construction, and Maintenance		Date:		
Main Activity: Construction, operation and maintenance							
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)
Safety and Occupation Health Management Plan							
15	Exposure to Hazardous Materials	Potential exposure to hazardous chemicals used could cause dermatology burning, irritations, affect to respiratory system and body injuries, etc.	Procedure, 11. Provide respiratory protection equipment adequately for those who are required to work in area with respiratory hazards Procedures 1. Implement HPC Hazardous Materials Handling procedure (HPC-CSD-WP-016) for safe handling and transferring of chemicals that minimize human exposure including: - Assess and classify as either hazardous or non-hazardous material based on its properties and classifications mentioned in relevant safety data documents - Level of hazard will be assessed and documented based on rating of HMIS or NPA or other equivalent system mentioned in SDS. Chemical and Hazard rating system also provided in HPC-CSD-WP-016 document - Whenever working with chemical of which rating hazard is equal or higher than serious level (Rating 3), contractors/users shall request permit to work, and submit Permit to Work Form (HPC-SHE-FO-006) as well as Hazardous Materials Handling Safety Checklist (HPC-CSD-FO-020). 2. Identify specific potential occupational hazards and industrial hygiene surveys, as appropriate, to monitor and verify chemical exposure levels, and compare with applicable occupational exposure standards. Standards limit for monitoring chemicals in workplace are as follows: - HCl : 5 ppm or 7 mg/m³ - Ammonia : 50 ppm or 35 mg/m³ - NaOH : 2 mg/m³ - Respiratory dust : 15 Mppcf or 5 mg/m³ - Chlorine: 1 ppm or 3 mg/m³ - SO₂: 5 ppm or 13 mg/m³ (parameters to be adjusted based on risk assessment) 3. Identify locations of hazardous materials and associated activities on an emergency plan site map 4. Develop banned chemical substance list to include PCB, herbicide and pesticide to be integrated into HPC's procurement process for consideration during selection of supplier. 5. Prohibit/avoid using material/ equipment containing Poly	Permit to work Inspection record	As implemented Bi-weekly Monthly	Contractor Contractor HPC	3.3.4.4 (15)

Main Element: Power plant			Sub-Element: Construction, and Maintenance		Date:		
Main Activity: Construction, operation and maintenance							
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)
Safety and Occupation Health Management Plan							
16	Stress and Fatigue	Working continuously indoor and outdoor could cause stress and fatigue which may lead to health problems	emergency shutdown systems, controls and pumps, and associated process equipment as well as emergency response equipment (i.e. emergency shower and eyewash, first aid supplies, etc.) to ensure they are still in good working conditions. 18. Conduct routine health check-up to the staff potentially exposes to hazardous materials according to risk factor e.g. blood test, lung function test, etc. 19. Conduct monitoring of workplace to evaluate level of dust and chemicals for further implementation of corrective actions in case of standard exceedance. Standards limit for monitoring chemicals in workplace are as follows: - HCl : 5 ppm or 7 mg/m³ - Ammonia : 50 ppm or 35 mg/m³ - NaOH : 2 mg/m³ - Respiratory dust : 15 Mppcf or 5 mg/m³ - Chlorine: 1 ppm or 3 mg/m³ - SO₂: 5 ppm or 13 mg/m³ (parameters to be adjusted based on risk assessment) <u>Competency</u> 20. Prepare and provide training with respect to hazard communication to workers to recognize and respond to workplace chemical hazards. Programs should include aspects of hazard identification, use of available information (such as MSDS), safe operating and materials handling procedures, safe work practices, basic emergency procedures (including first aiding), and special hazards unique to their jobs. 21. Train operators on release prevention, including drills specific to hazardous materials as part of emergency preparedness response training. <u>Operating Practices</u> 1. Implement measures to minimize/prevent stress and fatigue, e.g.: - Incorporate rest and stretch breaks into work processes, and conducting job rotation - Conduct routine check of fatigue before work	Inspection report	Bi-weekly Monthly	Contractor HPC	3.3.4.4 (17)

Main Element: Power plant			Sub-Element: Construction, and Maintenance		Date:		
Main Activity: Construction, operation and maintenance							
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)
Safety and Occupation Health Management Plan							
15	Mechanical Failure	Failure of machines or equipment during normal operation may cause injury and fatality to project personnel	Equipment and Operation 1. Install emergency stop for conveyor system when off alignment. 2. Implement Procedure for Lifting Equipment Testing (O&M) e.g. Crane and Lifting Equipment Operation Procedure (HPC-OHS-WP-005) . 3. Test lifting equipment as per manufacturer's recommendations e.g. load test. 4. Conduct daily pre-use equipment inspection to recheck operating conditions of such equipment (including hand tools). <u>Preventive Maintenance</u> 5. Establish and conduct preventive maintenance program for equipment/machines as planned. 6. Conduct testing of emergency shutdown as part of preventive maintenance to ensure sequence of shutting down is safe.	Permit to work Inspection record	As implemented Bi-weekly Monthly	Contractor Contractor HPC	3.3.4.4 (20)
17	Fire and Explosion Hazards	Fire and explosion can leads to injury and fatality of project personnel, communities and wildlife animals. Storage, transferring and transportation could cause fire if ignition sources are existed.	<u>General Fire and Explosion Control Procedures</u> 1. Conduct risk assessment for process safety to prevent fire or explosion based on risk level e.g. HAZOP, PSSR, etc. 2. Strictly implement permit to work (HPC-SHE-WP-003) when working with hot work. Permit to work form (HPC-CSD-FO-006) shall be approved prior to start work (inside buildings/tunnel). 3. Strictly implement Hot Work Instruction (HPC-OHS-WI-001) . 4. Special hot work and fire prevention precautions will be implemented if welding or hot cutting is undertaken in /or near any area that easily ignition, including Permit to work and stand-by fire extinguishers. 5. Implement Fire Prevention and Protection Procedure (HPC-OHSWP-004) and Emergency Preparedness and Response Plan (HPC-OHS-WP-01) in case of fire and explosion. <u>Equipment and Operation for General Fire and Explosion</u> 6. Implement fire and explosion control, but not limit to the following examples; - Provide and maintain emergency alarm systems (i.e. heat detector, etc.), and fire-fighting equipment (i.e. fire sprinkler, fire extinguisher, fire hydrant, etc.) commensurate with the nature of risk throughout project area that are easily accessible and simple to use in workplace.	Checklist record Permit to work Inspection record	As implemented Bi-weekly Monthly	Contractor Contractor HPC	3.3.4.4 (21)
				Inspection report	Bi-weekly Monthly	Contractor HPC	

Main Element: Power plant		Sub-Element: Construction, and Maintenance		Date:			
Main Activity: Construction, operation and maintenance							
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)
Safety and Occupation Health Management Plan							
			- Provide necessary PPE to worker e.g. welder goggles and/ or a full-face eye shield will be provided for all personnel involved in, or assisting, welding operations. - Provide firefighting equipment and portable fire extinguishers for all vehicles used for flammable material transportation. - Use materials of construction compatible with products stored for all parts of storage and delivery systems, and avoiding reuse of tanks for different products without checking material compatibility. - Use of flame arresting devices on vents from flammable storage containers. - Provide fire detection systems (AerView or equivalent, reporting to a fully manned control room) where appropriate. - Provide fire protection on conveyors (i.e. water deluge if possible, at least one suitably sized fire extinguisher at each location of each conveyor system where a fire is likely to originate). - Keep workplace clear from combustible/flammable material. - Provide watchman standby when working in area that might be fired. - Provide material-specific storage for extremely hazardous or reactive materials. - Prohibit of all sources of ignition from areas near flammable storage tanks.				
18	Air Emission	Machineries and equipment used for road maintenance activities, e.g. drilling, concrete mixing, compacting, etc., could results in elevated dust level.	<u>Dust Dispersion Control</u> 1. Cover materials and sand stockpiles or vehicles with tarpaulins. 2. Provide designated location for storage of stockpiles away from effects of wind. 3. Minimize drop heights of dust generating materials during unloading at maintenance site. 4. Provide wheel washing facility for vehicles transporting limestone from the quarry to power plant. 5. Implement water spray to exposed surfaces in the following situations: - During windy conditions; - When visual inspection indicates excessive dust generation;	Inspection report	Bi-weekly Monthly	Contractor HPC	3.3.4.4

Main Element: Power plant			Sub-Element: Construction, and Maintenance		Date:														
Main Activity: Construction, operation and maintenance																			
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)												
Safety and Occupation Health Management Plan																			
17	Ambient Noise	Mechanical equipment e.g. grinding machine, cutting machine	- When dust generating activities are being carried out within 100 m of a village or construction work camp; and - In case of complaints by external parties. 6. Water spray around the road maintenance area. 7. Store the material stockpile at only at the designated area and limit the prolong storage of material stockpiles. 8. Strictly follow speed limits shall be less than; o 60 km/hr public road o 40 km/hr in communities o 30 km/hr in operation area Noise Control 1. Barricade areas of maintenance having potential noise generation. 2. Provide enclosure of the area (if possible). 3. Perform maintenance work at designated area. 4. Define the period allowed to conduct maintenance activities that may generate noise (limit to work during day time). 5. Implement Toolboxto ensure the activity that may generate noise is performed only during the period defined.	Inspection report	Bi-weekly Monthly	Contractor HPC	3.3.4.4												
14	Water Consumption	Water for cleaning e.g. grinding machine, cutting machine, tank, water tank truck	Water Use Minimization 1. Identify opportunity for reduction of water consumption of maintenance work as part of water conservation program of Power Plant. 2. Ensure no leak from connections of pipeline, tanks.	PM and inspection records	As implemented Bi-weekly Monthly	Contractor Contractor HPC	3.3.4.4												
19	Energy Consumption	Energy use could lead to the depletion of natural resources	Energy Conservation Program 1. Identify opportunity for reduction of energy use and further develop energy reduction program																
20	Wastewater Discharge	Sanitary wastewater from industrial facilities may include effluents from domestic sewage, food service, and laundry facilities serving site employees.	Wastewater Treatment System 1. Install wastewater treatment system (aerobic treatment system- sat) for showering, toilet, washing basin to separate tank. 2. Provide pit latrine toilets at each construction site and sub-camp site based on the following conditions <table><thead><tr><th>No. of Worker</th><th>No. of Toilet</th></tr></thead><tbody><tr><td>1-5</td><td>1</td></tr><tr><td>6-25</td><td>2</td></tr><tr><td>26-50</td><td>3</td></tr><tr><td>76-100</td><td>5</td></tr><tr><td>> 100</td><td>1 toilet/25 workers</td></tr></tbody></table>	No. of Worker	No. of Toilet	1-5	1	6-25	2	26-50	3	76-100	5	> 100	1 toilet/25 workers	Inspection report Monitoring record	Bi-weekly As discharged/ Monthly	Contractor	3.3.4.4
No. of Worker	No. of Toilet																		
1-5	1																		
6-25	2																		
26-50	3																		
76-100	5																		
> 100	1 toilet/25 workers																		

Main Element: Power plant			Sub-Element: Construction, and Maintenance		Date:		
Main Activity: Construction, operation and maintenance							
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)
Safety and Occupation Health Management Plan							
21	Spill or Release to Environment	Spill or release of hazardous materials used for maintenance activities to environment could be expected.	In case septic tank system is needed to be emptied, sludge and wastewater stored in the system will be transported for off-site disposal at a suitable treatment/disposal facility. 3. Collect wastewater from laundry transferred to detergent sump and discharge to separate tank. 4. Collect wastewater from canteen to grease trap, then aerobic treatment system, then separate tank. 5. Establish and implement the inspection and preventive maintenance program for drainage system. 6. Install sedimentation and/or retention ponds to received drainage water and runoff water from construction site and work camps before being discharged off-site to a natural water bodies 7. Design the size of the sedimentation and/or retention pond based on the estimated volume of wastewater to ensure that its capacity is sufficient and for sedimentation and retention process; 8. Routinely dredged up when its capacity is reduced by a maximum of 50%; 9. Monitor for effluent discharge from camps/accommodation. 10. Locate construction work camps at least 50 metres from the waterway outside of stream bank 11. Prohibit discharging untreated wastewater to environment. Procedures 1. Implement HPC Hazardous Material Handling Procedure (HPC-CSD-WP-016) for safe handling and transferring of chemicals that minimize human exposure. Storage and Handling 2. Provide container appropriate to the chemical substances. 3. Provide curb/bund (approximately 110% of the volume of the largest container) where spill from the storage tank routed to neutralization basin. 4. Conduct visual inspection at chemical storage area on a regular basis to ensure that storage tanks and secondary containment are in good conditions with no leakage to environment. 5. Implement hazard communication via MSDS at workplace and label with the chemical name or hazard warnings in the language of users, readable and legible throughout the foreseeable storage period at all primary and secondary containers. 6. Pave the storage and transferring areas with impervious surface	Inspection record	Bi-weekly Monthly	Contractor HPC	3.3.4.4

Main Element: Power plant			Sub-Element: Construction, and Maintenance		Date:		
Main Activity: Construction, operation and maintenance							
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)
Safety and Occupation Health Management Plan							
22	Waste Generation and Disposal	Generation of general waste non – hazardous waste and hazardous waste	7. Provide spill response kit (e.g. chemical absorbent, sand) in place for spill case. 8. Implement emergency response plan and conduct emergency response drill in case of spill during transportation, storage, transferring. <u>Waste Management Procedure</u> 1. Collect waste generated from Construction office and camp area to designated areas for further management and disposal in accordance to HPC's Waste Management Procedure (HPC-CSD-WP-002). 2. Include specific types of waste generated from demineralization system e.g. used resin, used activated under HPC Waste Management Procedure and describe management and disposal method.	Inspection record	Bi-weekly Monthly	Contractor HPC	3.3.4.4
			<u>General Waste Management Practices</u> 3. Implement HPC's Waste Management Procedure for each waste type as follows: - Determine the measures for waste reduction - Segregate waste types to keep in the suitable container as color code defined in law. - Develop waste inventory to identify and manage all waste types generated from all activities with routinely updated. - Store wastes in the appropriate volume at designated area with provision of secondary containment - Provide label on waste container to indicate type of waste - Store waste in the waste container in a color codes (i.e. grey bin for hazardous waste, black bin for infectious waste, green bin for non-hazardous waste, yellow bin for recycle waste); - Provide spill response kit and fire extinguishers for emergency case - Provide adequate waste storage area with sufficient storage volume and maintain good housekeeping. - Conduct routine inspection for waste management practices. - Dispose wastes with appropriate method by certified waste treatment contractor.	Inspection and waste record	Bi-weekly Monthly	Contractor HPC	3.3.4.4

Main Element: Power plant		Sub-Element: Construction, and Maintenance		Date:			
Main Activity: Construction, operation and maintenance							
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)
Safety and Occupation Health Management Plan							
			- Provide waste management practice training for workers. - Prohibit open burning for all waste types and prohibit re-using, giving or selling the hazardous waste container. 4. Report to Industry and Commerce Authority in case waste will be kept exceeding 60 days. 5. Report the establishment of the management unit of waste, pollution and chemical substances to MOIC and report its performance every 3 months and immediately in case of any emergency situations. <u>Domestic or General Waste Disposal</u> 6. Dispose general waste at HPC Sanitary Landfill and Incinerator <u>Non-hazardous Waste Disposal Management</u> 7. Segregate non-hazardous recyclable waste/ material and sell to local vendor. 6. Sell used tires to the tire factory in Lao PDR for re-production if such tires are not worn out; 8. Compose organic waste, food waste, yard waste and use as for fertilizer				
			<u>Hazardous Waste Disposal Management</u> 9. Obtain approval/certificate for the hazardous waste management from Authorities Parties. 10. Prohibit transportation of hazardous waste for off-site disposal until certified hazardous waste treatment factory is selected (i.e. those treatment factory having approved IEE or EIA by the GOL under MONRE for used oil/ waste oil disposal). 11. Grant the approval from Corporate SHE in case the treatment of hazardous waste onsite is required to ensure that the treated waste or effluent will comply with the Standard; 12. Sell used oil or waste oil, used oil filter and lubricant oil drum to oil refinery factory use as raw material in the oil refinery or sell as fuel for steel factory. 13. Store used car battery, used Cd battery, empty paint can, empty aerosol can and empty chemical container in the temporary hazardous waste storage until the disposal factory in Lao is available or waste transport across the border by following the Basel Convention requirements.	Inspection and waste record	Bi-weekly Monthly	Contractor HPC	3.3.4.4

Main Element: Power plant			Sub-Element: Construction, and Maintenance		Date:		
Main Activity: Construction, operation and maintenance							
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)
Safety and Occupation Health Management Plan							
23	Land Conversion	Inevitable change in existing land use (e.g. residential area, agricultural area; abandoned agriculture land area; and forest area).	14. Treat the oil-contaminated soil, oil-contaminated saw dust or sand (response kit) by Bioremediation Method or send to burn in the steel production with the incinerator with high temperature of > 1200 ° C. 15. Manage the fluorescent lamp by fluorescent lamp granulator which has specific system for Hg content emission protection and then dispose by secure landfill or store in the temporary hazardous waste until the disposal factory in Lao is available. 16. Treat the expired chemicals by appropriated chemical treatment method only. 17. Inform such transportation of hazardous waste out of the factory to the Industry of Commerce Authorities. 18. Record quantity of hazardous waste and its management to Industry and Commerce Authority on yearly basis. <u>Land Use Planning</u> 1. Obtain construction site permit from Corporate SHE prior to execute the construction which require obtaining GOL permission 2. Discuss a land use planning with Muang Hongsa and related areas in alignment with development policy of government authority to avoid conflicts in future land use in case the new road has constructed out of Concession Boundary. 3. Properly plan to conduct construction activities to be in the dry season and/ or at the time that the farm productions (e.g. paddy rice and other crops) are already harvested to minimize disturbance or change in existing land use. <u>Construction Areas Control</u> 4. Prohibit conducting any project activities outside the concession areas.	Inspection record	Bi-weekly Monthly	Contractor HPC	3.3.4.4
				Inspection record	Bi-weekly	Contractor	3.3.4.4
24	Hazardous Materials Reaction and Fire	Water usage for demineralization	<u>Chemical Storage and Handling</u> 1. Designate storage area at warehouse and working areas for each type of chemicals considering compatibility. 2. Construct chemical storage warehouse with the design approved by GOL. 3. Provide MSDS, first aid kit and other emergency equipment 4. Prepare spill response and fire suppression equipment at the mixing area. 5. Store chemicals containers based on their compatibility.	Inspection record	Monthly Bi-weekly Monthly	HPC Contractor HPC	3.3.4.4

Main Element: Power plant		Sub-Element: Construction, and Maintenance		Date:			
Main Activity: Construction, operation and maintenance							
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)
Safety and Occupation Health Management Plan							
			6. Provided adequate warning signage correctly and visibly. 7. Conduct visual inspection at chemical storage area on a regular basis. 8. Provide training to workers in the use of the available information (such as SDS). 9. Obtain approval prior to possession of inflammable object. 10. Conduct risk assessment and safety equipment inspection prior to importation or utilization of the new chemical and submit such assessment to the MOIC. 11. Report the management of chemical substance (e.g. name, components, amount, purpose of use) including safety and monitoring implementation to MOIC at initial. 12. Container of chemical which will be imported from aboard shall be verified and approved by Authorities Parties at initial. 13. Report of the processing plant operation to MOIC every 3 months 14. Report the establishment of the management unit of waste, pollution and chemical substances to MOIC and report its performance every 3 months and immediately in case of any emergency situations. <u>Chemical Register and Importation</u> 15. Implement HPC's Chemical Substances Registration and Importation Procedure (HPC-CSD-WP-017) 16. Submit purchase agreement of new chemicals to Ministry of Industry and Commerce (MOIC) for certification of chemicals. 17. Chemical Substances (listed by MOIC) which will be used for Project must be register with Ministry of Industry and Commerce (MOIC) under Law. 18. The permit for importation and utilization plans of Chemical Substances shall be granted by MOIC prior to transportation 19. Maintain the validity of approved permits up to date throughout Concession Period ; and 20. Prepare the monthly utilization report for submission to Authorities Parties.				
25	Habitat Alteration	Construction of accommodation camps and offices would cause tree loss, potential change to	<u>Construction Planning</u> 1. Obtain construction site permit from Corporate SHE prior to execute the construction which require obtaining GOL permission 2. Inform the GOL to assess the location and approve for commencing construction	Inspection record	Bi-weekly Monthly	Contractor HPC	3.3.4.4

Main Element: Power plant		Sub-Element: Construction, and Maintenance			Date:		
Main Activity: Construction, operation and maintenance							
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)
Safety and Occupation Health Management Plan							
		wildlife habitats and disturbance to wildlife in adjacent areas to the construction site, and impact on aquatic lives due to change in water conditions (e.g. high turbidity)	Construction Areas Control 3. Prohibit conducting any project activities outside the concession areas. <u>Discharge Quality</u> 4. Apply Actions Required from 'Wastewater Discharge'.				

Main Element: Corporate Service			Sub-Element: Construction, and Maintenance			Date:	
Main Activity: Construction, operation and maintenance			Contractor's Camp and Visiting center construction, operation and maintenance				
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMP (rev.00)
Environmental Management Plan							
			<u>Revegetation Plan</u> 5. Carry out progressive re-vegetation of exposed soil. <u>Prevention of Hunting, Fishing and Destroying Wildlife Animal, Habitat and Aquatic</u> 6. Prohibit staff from wildlife hunting and illegal fishing. 7. Establish channel for staff to report any hunting, fishing or destroying wildlife animal, habitat and aquatic. 8. Define disciplinary actions for violation of the rules - All construction material, equipment, structures/ buildings, facilities and waste will be removed from all sites, except if a site specific decision will be discussed and agreed by the HPC and the Contractors. In case such camp has constructed on private land, the agreement with landlord will be needed to avoid future complaints or any impacts; - Recycling of waste or unused material or demolishing waste of construction material will be maximized; - All waste collected on site will be managed and safe disposed properly as required by the relevant standards, applicable Laws, Project's Environmental Management Plan (EMP) and Construction Phase Environmental Management and Monitoring Plan (CPEMMP); - Restore the sites to a condition that is visual acceptable to the area owner (both HPC and the private land owner). Final site conditions do not adversely affect the neighboring properties or living such as erosion or poor drainage and contouring, etc.	N/A	N/A	N/A	
26	Site decommissioning management.	Implementation of applicable site decommissioning management.		Inspection record	Bi-weekly	Contractor	
				Decommissioning plan/ Report	As plan	Contractor	CPEMMP 3.2.17.6
				Inspection report	Bi-weekly	Contractor	
					Monthly	HPC	
				Decommissioning plan/ Report	As plan	Contractor	CPEMMP 3.2.17.7
				Inspection report			

Main Element: Corporate Service		Sub-Element: Construction, and Maintenance		Date:			
Main Activity: Construction, operation and maintenance		Contractor's Camp and Visiting center construction, operation and maintenance					
ID	Aspects/Hazards	Source of Impacts	Action Requires	Performance Measures	Frequency	Responsible by	Refer to OPEMMMP (rev.00)
Environmental Management Plan							
			- Steel scrap, used tires or recycling material can be sold to the vendee/company or factory because it is classified as non-hazardous waste; - All septic sludge in the septic tank installed at the toilets shall be removed from the sites, especially the impoundment area. In case the vehicle of company who remove and dispose septic sludge cannot access to the site, the contractor shall perform the lime stabilization the septic sludge from toilets by following steps; - Estimated the septic sludge volume to calculate the required lime quantities to be stabilized. - Prepare the lime quantity by ratio: lime 27-30 kg per 1 cu.m. of septic sludge, the pH after mixing shall be above 12 for disinfection. - The excavator shall be mixed the septic sludge with lime for 30 minute. - Only the Contractor's assets such as dismantles structures, plywood, gypsum board, remaining office equipment, vehicles can be transported to reused on the other sites in Laos PDR or sell to the other company in Lao, the tax from shipping process shall be followed the applicable Law; - The non-contaminated demolishing material which can not be reused, underground PVC, plastic pipe installed underground can be allowed to bury at the site; - Used car batteries shall be stored in secure and await for selling to approved or certified factory or buried in the manner of secure landfill; and - After the waste or demolishing waste has been cleared from the sites, the site shall be leveling and cover by topsoil at least 30 cm and then rehabilitated by grassing or native trees or plants with the acceptable spacing for approval.				