

TECHNICAL CONDITIONS OF CONTRACT (TCC)

This volume shall be construed as part of tender document and shall be read along-with others volumes of tender. Unless otherwise specified, all terms & conditions shall be applicable for entire scope and for each part/package of the tender.

CLAUSE NO	DESCRIPTION			
1.0	PROJECT SYNOPSIS AND GENERAL INFORMATION			
	Name of the Owner : TSGENCO (Telangana State Power Generation Corporation Li			
	Project & Capacity: Yadadri (5X800 MW EPC)			
		n: Miriyalaguda- 35 kms from project site		
	Nearest Town	: Miriyalaguda		
	Nearest Airport : Hyderabad			
	Name of the Owner	: TANGEDCO (Tamil Nadu Generation and Distribution Corporation)		
	Project & Capacity	: Udangudi (2X660 MW EPC)		
	Nearest Railway statio	n: Tiruchendur - 12 kms from project site		
	Nearest Town	: Tiruchendur		
	Nearest Airport	: Tuticorin		
	Name of the Owner	: TANGEDCO (Tamil Nadu Generation and Distribution Corporation)		
	Project & Capacity	: SEZ-Ennore (2X660 MW EPC)		
	Nearest Railway statio	n: Ennore- 2 kms from project site		
	Nearest Town	: Chennai		
	Nearest Airport	: Chennai		
2.0	NAME OF WORK			
	Providing Safety Mana	gement services along with manpower for strengthening of Safety Culture		
	and effective implem	entation of Health, Safety and Environment Management system at		
	projects Yadadri, Udai	ngudi & Ennore-SEZ on fixed monthly rate basis as per specification and		
	terms & conditions of t	ender.		
3.0	OBJECTIVE AND SCOPE OF WORK			
3.1	OBJECTIVE OF THE WORK			
3.1.1	To take preventive measures so as to avoid any unwarranted incident at site.			
3.1.2	BHEL site job involve working at height, Hot work, Radiography, Confined Space, Deep Excavation, Heavy Lifting, Chemical handling, handling of compressed gas cylinders, Handling of Electrical and Electronic circuits including high voltage and also in hazardous condition like uneven mud road, water accumulation, strong wind etc. To ensure safe working, systematic approach to identify the risks, analyze the risk and find out the mechanism to mitigate the same, needs to be developed in line with the best practices prevailing in the industry.			
3.1.3		e of these activities, safety culture needs to be built up by training of lding for a longer period.		
3.2	BROAD SCOPE OF WORK			
3.2.1	Major areas under purview of the work of the agency at Yadadri, Udangudi & Ennore-SEZ sites are Boiler, Turbine, NDCT, Chimney, Electrical Systems, AHP, CHP & Misc BOP areas. However, based on site requirement / criticality and as per instruction of BHEL site engineer / HSE Dept. the agency may have to deploy their manpower in other areas also. The agency has to assess the gaps in execution pertaining to safety and advise BHEL site management on relevant improvement measures to be adopted and provide guidance on implementation.			
3.2.2	·	safety improvement program		
3.2.3		specialists at site to drive safety initiatives which include developing & entation of comprehensive construction safety management at site		

3.2.4	Agency will use & train the safety manpower deployed by various agencies of BHEL at site to start
	& manage all safety initiatives at site via use of technology
3.2.5	Agency will enable BHEL to strengthen the safety management systems at site and improve the safety culture at site
3.2.6	Train BHEL personnel and those working with erection agencies through classroom and on-site training, for building capability for adopting proactive measures to prevent incidents. Conduct induction training for all persons joining the site including visitors. Training module shall be submitted to BHEL for review and approval.
3.2.7	Conducting regular audits at site for identifying weak areas and suggest corrective measures.
3.2.8	Administer/manage Construction Safety at the site
3.2.9	Evaluate the gaps in experience and capability of man-power deployed and provide support to ensure capabilities required for critical work by conducting Capacity building programs for safety supervisors of BHEL/Sub-contractor.
3.3	ROLES & RESPONSIBILTIES
3.3.1	Agency shall strengthen the safety management system by safety specialist deployment for strengthening high risk activities, competency building program through Contractor Incubation Centre (CIC), deploying safety engineers to monitor and facilitate safety implementation. Agency shall conduct half yearly HSE audit at site. Half yearly construction safety audit shall include evaluation of all elements of construction safety, contractor wise evaluation and rating, identification of gaps and suggestion for way forward. Agency shall facilitate closure of all NCs and OFIs. Safety analysis of top 3 issues is to be done and rolling out various programs to combat them is also within the scope of the agency.
3.3.2	Agency shall conduct safety improvement programs by well-defined Management Information System (MIS). MIS should include lead and lag indicators, evaluating the progress of metrics, conducting review meetings, actions for continual improvement etc.
3.3.3	BHEL HSE Observer mobile application is to be used at site. Necessary training & support from PSSR-HQ HSE & PSHQ-HSE will be provided to all safety officials deployed. Raising of issues by registered users, closure of issues by concerned persons, liaisoning with PSSR-HQ & PSHQ-HSE for resolving application related issues, analysis of data, preparation of charts etc. The Safety Manager will act as single point contact for this HSE observer related matter of site.
3.3.4	Organizing motivational & safety promotional activities like street plays, campaigns & safety communications shall be done by the agency.
3.3.5	Organizing HSE promotion activities like Tool Box Talk, Pep Talks, Monthly HSE celebration, Periodic HSE review, putting up educative posters and banners, organizing house-keeping drive, walk-through by top officials, periodic health camps etc. Agency shall submit plans for Tool Box Talks, Pep Talks, HSE Celebrations, HSE Review, House Keeping, safety walk-throughs, health camps and layouts for installation of posters/ banners etc.
3.3.6	Promotion of Safety culture at site by means of survey, trainings/workshops for management personnel as well as supervisory personnel of BHEL and its associates.
3.3.7	In Contractor Incubation Centre (CIC), contractor selection, competency building-first time & periodical, contractor safety performance evaluation and intervention (through safety park, safety campaigns & safety passports) shall be done by the agency. Skill based training program should be done through CIC.
3.3.8	Job Specific Training: Agency shall regularly organize job specific training programs for workers involved in hazardous activities like height, Hot work, Radiography, Confined Space, Deep Excavation, Heavy Lifting, Chemical handling, Handling of Electrical and Electronic circuits including high voltage and also in hazardous condition like uneven mud road, water accumulation, strong wind etc. Training calendar shall be submitted to individual BHEL Site in well advance after award of contract.
3.3.9	Imparting HSE related skill training (in Hindi or any language followed by majority of workers) with certification (like competency certification for Scaffolders, Scaffolding supervisor, Scaffolding

	inspectors, Riggers, Operators etc.) and organizing mock drills on rescue, fire, first-aid, trauma and
	emergency response. A competency certificate to be issued to each participant by the agency.
	Agency shall submit skilled certificate training calendar to BHEL
3.3.10	Co-coordinating with Medical Centre for Pre-job and regular health check-up of personnel.
3.3.11	HSE Competency evaluation of skilled workmen to be performed before engagement in the job
	and also during execution whenever required. Documents like Height-pass to be issued by the
	agency. Competency evaluation shall be done for skilled/semiskilled manpower before induction
	training. Plan and Procedure for competency evaluation shall be submitted to BHEL
3.3.12	Compliance with all HSE, occupational health, safety & environment rules and codes of the
	BHEL/owner, relevant provisions of applicable laws pertaining to the HSE of workmen, employees,
	plant and equipment as may be prescribed from time to time. In case of any non-conformity
	between statutory requirement and HSE Rules of the BHEL/owner referred above, the later shall
	be applicable unless the statutory provisions are more stringent.
3.3.13	Compliance with HSE (Health, Safety & Environment) requirements/procedure/practices of BHEL
	at site, as per Site HSE Plan / HSE Management system. Agency will also ensure that applicable
	Operational Control Procedures (OCPs) in respective areas are being followed by BHEL/Sub-
	contractor.
3.3.14	Support for maintenance, generation and retention of all documents and records pertaining to HSE
2245	as per BHEL HSE Management System.
3.3.15	Assist BHEL in coordinating with Local authority/ statutory authority/local facilities like hospitals,
2 2 4 6	fire stations, disaster management agencies etc. as and when required.
3.3.16	Carrying out all routine works as specified in the Factories Act 1948/BOCW Act 1996 and its rules
2 2 17	and as per other statutes applicable for construction sites.
3.3.17	Investigation of accidents including near miss, as per requirement of site management
3.3.18	Incident management and documentation for reporting and record including encouraging
	reporting of near misses besides other incidents, recording and analyzing them, planning & implementing corrective actions.
3.3.19	Administering First-aid or CPR to victim by agency's manpower expeditiously and take further
3.3.13	course of action including taking victim to Medical Centre. In case of fire and other emergency,
	they will operate the fire extinguishers, if called for and help take appropriate corrective and
	preventive measures like fighting fire or evacuation of people or materials etc.
3.3.20	Inspection of all PPEs, safety equipment, T&Ps etc. and maintaining record. Agency shall submit
	the inspection plan and procedure to BHEL. Agency shall also coordinate with third Party
	competent persons for T&P certification as applicable
3.3.21	Systematically conducting HSE inspection on daily basis, Recording and analysis of observations,
	categorization, reporting and finally following up closure of observations offline & online including
	observation raised by Customer. In addition, co-ordination of Internal/External audit. Preparation
	of weekly exception report and submitting to BHEL
3.3.22	Close monitoring/ inspection of all works carried out at height including lifting/ placement/
	erection of heavy structure/ equipment/ material at height and implementing control measures
	for safe execution of the same
3.3.23	Drawing up monthly HSE activity plan in line with HSE plan and strictly following the same. The
	agency shall prepare supplementary documents of the HSE plan (including auxiliary documents), if
	necessary and suggest relevant changes of the plan for improvement. But this shall require
2 2 2 4	approval of BHEL
3.3.24	Generation of periodic report in prescribed format and sharing the same with competent
2 2 25	authorities
3.3.25	To Ensure risk assessment / hazard spotting exercises are carried out on regular basis
	Preparation/monitoring/approval of Permit-to-work, HIRA & Method statement, JSA, lifting plan
	and development of auxiliary documents/ formats related to HSE plan. The agency personnel shall sign the documents on behalf of BHEL. Issue, renewal, closing and extension of permit on behalf of
	sign the documents on behalf of brief, issue, renewal, closing and extension of permit on behalf of

	BHEL Safety for concerned site activities. Random checking of all other PTW on sample basis will be	
2 2 2 6	done by the agency.	
3.3.26	Coordinating along with BHEL closely with those responsible for Emergency Procedures within the organization to ensure, so far as possible, the prevention of fire and the safe evacuation of	
	employees in emergency situations	
3.3.27	Guidance to agencies for labour welfare measures at site and at labour colony along with	
	conductance of audits of these measures/ areas, monitoring closure of these issues.	
3.3.28	Guidance to agencies in designing and implementation of appropriate scaffolding conforming to codes, imparting training and guidance to scaffolders, scaffolding supervisors and certification of scaffolding Supervisors and inspectors. Critical scaffoldings to be certified by the agency's scaffolding inspector by signing the scaffolding tag. Random checking of all other scaffoldings on sample basis will be done by the agency. Temporary platforms, walkways & fixtures used at site shall also be part of scaffolding, for which regular inspection shall be carried out and corrective measures suggested	
3.3.29	Guidance to agencies in designing and implementation of Lift Plan, imparting training, certification	
	and guidance to riggers, rigging foreman, crane operators and signalman. Inspection before Critical	
Í	and ODC Lift. The approval of lifting plan, riggers, signalman, operators of T&Ps to be accorded by	
	the agency's person. Collection and monitoring of T&P certification data centrally and issue of alert	
	for renewal of certification	
3.3.30	Inspection of Excavation and guiding and implementing control measures for safe excavation	
3.3.31	Inspection of electrical installation and booths and coordination & implementation of statutory	
	requirements as per acts and rules. Site specific LOTO system (both electrical and non-electrical) shall be developed by agency and managed during various stages of commissioning activities.	
3.3.32	Daily Safety Clearance shall be given by the agency along with implementation of necessary PTW system.	
3.3.33	All documents/ data including all presentations created/ used for this project shall be handed over to BHEL for future reference in soft form.	
3.3.34	Bidder shall provide necessary support services to BHEL site management in preparation for ISO	
	audits/ HSE activities. Inspection documents/ results shall be retained/stored by bidder in such a	
	manner that the same can be produced during ISO/ HSE audits at site.	
3.3.35	All roles and responsibilities defined in this clause 3.3 shall be discharged by the deployed HSE manpower of bidder.	
3.3.36	Agency has to follow applicable govt. directives and/or BHEL HSE related Operation Control Procedures to prevent spread of Covid-19 virus at project sites as well as labour colonies, without any cost to BHEL. Gaps are to be highlighted.	
4.0	SITE VISIT	
4.1	The bidder may visit project sites, to acquaint themselves with the conditions prevailing at site and in & around the plant premises, together with all statutory, obligatory, mandatory requirements of various authorities before submission of bid.	
5.0	SITE FACILITIES	
5.1	ACCOMODATION	
5.1.1	Furnished Bachelor accommodation (Single or shared basis as per the availability) with free electricity and water supply, along with Mess facilities at one point shall be provided by BHEL free of any charges. However, food will be available on chargeable basis, either in BHEL mess or otherwise.	
5.2	LOCAL CONVEYANCE	
5.2.1	Local conveyance, as required, for to-and-fro movement between site and living accommodation shall be provided by BHEL on sharing basis, free of any charges.	

5.3	SITE OFFICE
5.3.1	Reasonable office space for proper functioning of the deployed safety personnel will be provided by BHEL at site, free of any charges. BHEL shall also provide office furniture as per availability at site. Other infrastructure such as training room, training material, Projector, Video conferencing facilities etc. will be provided by BHEL free of cost, as per availability at site.
5.3.2	The bidder shall arrange unlimited mobile phone facility, camera and sufficient nos. of Laptop/ Desktop (each safety official should be having separate laptop/ desktop) with provision of internet, Printer(s) along with cartridge, stationary etc. for the use of their personnel at site, at their own cost. Bidder shall ensure that safety personnel deployed by it, has smart phones (with 4G internet connectivity) so that they can take photos/videos promptly and also communicate immediately as per requirement of BHEL.
5.3.3	Bidder shall provide its safety personnel raincoat, gumboot, safety shoe, goggles, binocular, torchlight and enough other welfare support as they will be required to work at odd hours and face adverse climate at site. No additional payment will be made by BHEL on account of that.
5.4	MISCELLANEOUS
5.4.1	The bidder has to arrange for medical facilities and necessary insurance facilities for his Safety Personnel posted at site at their own cost.
5.4.2	Bidder shall also nominate one of their senior personnel as site-in-charge for all contractual dealings/payment purpose etc. for the site and power of attorney shall be issued in his name.
5.4.3	Local conveyance during mobilization of manpower, during periodic audit (if required at site) will be arranged by BHEL. It will be limited to nearest airport/ railway station as the case may be.
6.0	SPECIAL CONDITIONS OF CONTRACT
6.1	All data/findings obtained from this work shall become the property of BHEL. This cannot be published/utilized by bidder/bidder's representative without written permission of competent authority of BHEL. Safety personnel shall keep all business and technical /safety information/procedures received from the other Party in connection with this Agreement confidential and treat it with the same degree of care as their own similar trade or business secrets and not make it available to third parties, unless permitted in writing by competent authority of BHEL-PSSR.
6.2	Sub-letting of jobs within the agreed scope of work, in any way is not permitted.
6.3	Bidder shall make available suitable personnel (personnel, other than those posted at site) for discussions/ interactions with BHEL, Customer and consultants, vendors / sub-contractors wherever need arises. Senior level personnel of bidder will visit sites periodically (at least once in a quarter) to ascertain the quality of jobs performed by their site personnel. Such visits of senior personnel will be free of any additional charges to BHEL.
6.4	BHEL reserves the right to make final decisions on rejections of the personnel deployed by the bidder in case of unsatisfactory performance and such decisions shall be binding on bidder and become conclusive.
6.5	BHEL reserves the right to terminate the above contract at any point of time without assigning any reason, upon giving 30 days' notice to the bidder. BHEL reserves the right to short close the contract/reduce the deployed safety personnel upon giving 30 days' notice, depending upon requirement. In such cases, the payment shall be made for the completed months and part thereof on pro-rata basis, based upon approved rate of contract and no other compensation will be granted by BHEL.
6.6	Bidder's personnel posted at any of the above sites shall not move outstation without the prior permission of Site in Charge of BHEL. For any exigencies during execution of the contract or against requirement of services at any location other than place of normal work, if desired and instructed by BHEL site Construction Manager or Head-HSE-PSER, the bidder shall have to provide safety services by deputing its personnel at desired location. Expenses incurred by the visiting personnel in this regard will be reimbursed in the following manner.

	a) Travel expenses at actual shall be paid (limited to 2AC to and fro train fare) with
	reservation / supplementary charges etc. subject to furnishing of details regarding
	ticket numbers, journey details, amount of fare etc. and submission of proof thereof.
	b) Local conveyance charges (Actual bus / cycle rickshaw/auto rickshaw/ taxi fare for local journeys at out station) as permitted by the BHEL Engineer.
	c) Cumulative Journey allowances & Daily allowances @ Rs.500/- per day
	d) Outstation lodging charges @ maximum 1500/- per day (Applicable with written instruction of BHEL Site Construction Manager & on submission of lodging bill thereof)
	e) Postal / telegraphic / telephones charges, if any, subject to production of proof of having incurred such expenditure only in relation to the official work.
	The movement of Bidder's Safety Personnel to other site than place of normal work shall be
	subject to the prior approval of BHEL Site Construction Manager or HOD-HSE/PSSR, and the same
C 7	shall be submitted with their bills/invoice for payment.
6.7	Bidder has to follow the holidays at site as per BHEL site holidays which may vary from site to site. Working hours and timing shall be as per BHEL site practice. However, work may continue round the clock including Sundays and holidays and safety officer / officers shall have to be at site along with BHEL personnel subject to requirement, for which no extra payment will be made. No compensatory off/leave will be granted in case of such working on Sundays/holidays/extended hours.
6.8	Casual leave will be admissible for personnel posted at any site on full time basis subject to
	maximum 10 days in a year or on pro rata basis. In addition, Sundays and other holidays observed by BHEL site will also be admissible. However, in case of exigencies, work may continue on Sunday
	/ Holiday and bidder has to provide HSE manpower support for the same. BHEL shall not pay
	during the period of earned leave/sick leave to be availed by bidder's personnel. However, if
	earned leave/sick leave exceeds 10 days in any one stretch, the bidder will have to make suitable
	alternative arrangements, with the approval of BHEL. For any leave other than casual leave as mentioned above, pro-rata basis deduction shall be made
	on monthly bill by BHEL site. If any person is not available at site for more than 10 days in one stretch, replacement shall be made within the next 5 working days otherwise a penalty of Rs. 1,000/- (Rupees one thousand only) per day starting from 1 st day of absence, will be imposed.
	Maximum penalty for all such occurrences is limited to Rs. 5,00,000/- per site.
6.9	It is the sole responsibility of the bidder to ensure the safety officers against accident and injury while at work.
6.10	BHEL reserves the right to discontinue the deployment of Safety Officer at any particular site or all together with 20 days' notice, in case the performance of the concerned officer is found unsatisfactory. No further payment shall be made against deployment of unacceptable Safety Officer. Replacement of such persons will have to be arranged by bidder within 20 days.
7.0	MINIMUM QUALIFICATION OF SAFETY PERSONNEL
7.1	The category wise minimum qualification of Safety personnel shall be as mentioned below:
7.1.1	Safety Manager
	i. Must be at least a graduate/ diploma in engineering (in any branch) from an AICTE/ SCTE&VT
	recognized institution.
	ii. Must have completed successfully Post/ Advanced Diploma / Degree in Industrial Safety with
	construction safety as a part of syllabus from any institute recognized by SCTE & VT/ AICTE.
	Duration of course should be at least one year. Course should have at least 8-10 separate
	papers and provision of separate papers on theory, practical and project. Qualification acquired through distance learning mode is not accepted.
	iii. For Engineering Degree holders: Must have worked for 10 years (post-engineering experience)

or more as on the date of deployment in the field of construction, out of which at least 8 years (post-safety qualification experience) should be in HSE function.

<u>For Engineering Diploma holders:</u> Must have worked for 15 years (post-engineering experience) or more as on the date of deployment in the field of construction, out of which at least 12 years (post-safety qualification experience) should be in HSE function.

He shall have experience of managing HSE Management System of a large capacity plant from main contractor or owner side.

- iv. The candidate should be in job while submission of CV (or at the most/ worst has left job not more than one year ago).
- v. Must be a certified Internal/lead Auditor for ISO 14001: 2015 and ISO 45001: 2018
- vi. Preferably be fluent in English, Hindi & local language.
- vii. Must have working proficiency in Computer operation including MS Office, Power Point, etc.
- viii. The candidate should be not older than 55 years. He shall have sound health to withstand tough site conditions and extreme weather. The candidate will have to undergo medical check-up at site before his joining. He will only be allowed to join on successful clearance of medical check-up and found fit by BHEL site/ customer.

7.1.2 Scaffolding Specialist:

- i. Must have obtained recognized certifications from CITB or STI or TUV or equivalent for supervisor/ inspector level. Latest certificate should be valid at the time of submission of CV (or at the most/ worst has lapsed not more than one year ago)
- ii. Must have worked for 5 years or more as on the date of deployment as Scaffolding expert/ supervisor (preferably in the field of construction). Experience will be counted only for the duration during which scaffolding certification of the candidate was valid. All the certifications should have start as well as end date. If end date is not available in any of these certificates, then validity of that certificate should be treated as one year from the date of issue.
- iii. The candidate should be in job while submission of CV (or at the most/ worst has left job not more than one year ago).
- iv. The candidate shall have professional expertise for coaching and certification for Scaffolding inspector/supervisors and scaffolders. He shall have competency in designing Scaffold schemes as per site requirement
- v. Preferably be fluent in English, Hindi & local language.
- vi. The candidate should be not older than 50 years. He shall have sound health to withstand tough site conditions and extreme weather. The candidate will have to undergo medical check-up at site before his joining. He will only be allowed to join on successful clearance of medical check-up and found fit by BHEL site/ customer.

7.1.3 Rigging Specialist:

- i. Must have a recognized certification from LEEA or LOLER or OPITO or equivalent for supervisor/ inspector level. Latest certificate should be valid at the time of submission of CV (or at the most/ worst has lapsed not more than one year ago)
- ii. Must have worked for 5 years or more as on the date of deployment as rigging expert/ supervisor (preferably in the field of construction). Experience will be counted only for the duration during which rigging certification of the candidate was valid. All the certifications should have start as well as end date. If end date is not available in any of these certificates, then validity of that certificate should be treated as one year from the date of issue.
- iii. The candidate should be in job while submission of CV (or at the most/ worst has left job not more than one year ago).
- iv. The candidate shall have professional expertise for coaching and certification for Rigger, Signalman, and supervisors. He shall have competency in preparing lift plan for critical and ODC

Lifting.

- v. Preferably be fluent in English, Hindi & local language.
- vi. The candidate should be not older than 50 years. He shall have sound health to withstand tough site conditions and extreme weather. The candidate will have to undergo medical check-up at site before his joining. He will only be allowed to join on successful clearance of medical check-up and found fit by BHEL site/ customer.

7.1.4 Electrical Safety Specialist

- i. Must be at least a Graduate/ Diploma in Electrical engineering from an AICTE/ SCTE&VT recognized institution
- ii. Must have completed successfully Post/ Advanced Diploma / Degree in Industrial Safety with construction safety as a part of syllabus from any institute recognized by SCTE & VT/ AICTE. Duration of course should be at least one year. Course should have at least 8-10 separate papers and provision of separate papers on theory, practical and project. Qualification acquired through distance learning mode is not accepted. NEBOSH IGC is accepted.
- iii. <u>For Engineering Degree holders:</u> Must have worked for 07 years (post-engineering experience) or more as on the date of deployment in the field of construction, out of which at least 5 years (post-safety qualification experience) should be in HSE function. He shall have competency in Electrical Safety with sufficient knowledge in Acts and Rules.

<u>For Engineering Diploma holders:</u> Must have worked for 12 years (post-engineering experience) or more as on the date of deployment in the field of construction, out of which at least 10 years (post-safety qualification experience) should be in HSE function. He shall have competency in Electrical Safety with sufficient knowledge in Acts and Rules.

- iv. The candidate should be in job while submission of CV (or at the most/ worst has left job not more than one year ago).
- v. Preferably be fluent in English, Hindi & local language
- vi. Must have working proficiency in Computer operation including MS Office, Power Point, etc.
- vii. The candidate should be not older than 50 years. He shall have sound health to withstand tough site conditions and extreme weather. The candidate will have to undergo medical check-up at site before his joining. He will only be allowed to join on successful clearance of medical check-up and found fit by BHEL site/ customer.

7.1.5 Safety Trainer

- i. Must be at least a graduate/ diploma in engineering (in any branch) from an AICTE/SCTE&VT recognized institution
- ii. Must have sufficient knowledge and adequate training in safety management.
- iii. <u>For Engineering Degree holders:</u> Must have worked for 7 years or more as on the date of deployment in the field of construction, out of which at least 5 years should be in HSE function and training.

<u>For Engineering Diploma holders:</u> Must have worked for 12 years or more as on the date of deployment in the field of construction, out of which at least 10 years should be in HSE function and training.

- iv. Must be a certified Internal/lead Auditor for ISO 14001 and ISO 45001 or IMS.
- v. The candidate should be in job while submission of CV (or at the most/ worst has left job not more than one year ago).
- vi. Preferably be fluent in English, Hindi & local language
- vii. Must have working proficiency in Computer operation including MS Office, Power Point, etc.
- viii. Must have professional expertise and competency in conducting HSE training programs for officials and workers
- ix. The candidate should be not older than 55 years. He shall have sound health to withstand tough

	site conditions and extreme weather. The candidate will have to undergo medical check-up at site before his joining. He will only be allowed to join on successful clearance of medical check-up and found fit by BHEL site/ customer.
7.1.6	Safety Engineer:
7.2.0	 i. Must be a diploma/ degree in engineering (in any branch) from an AICTE/ SCTE&VT recognized institution. ii. Must have completed successfully Post/ Advanced Diploma / Degree in Industrial Safety with construction safety as a part of syllabus from any institute recognized by SCTE & VT/ AICTE. Duration of course should be at least one year. Course should have at least 8-10 separate papers and provision of separate papers on theory, practical and project. Qualification acquired through distance learning mode is not accepted. iii. Must have worked in the field of construction in HSE function (Post-safety qualification experience) for min 4 years in case of graduate engineers or 7 years in case of Diploma holders. iv. The candidate should be in job while submission of CV (or at the most/ worst has left job not more than one year ago). v. Preferably be fluent in English, Hindi & local language. vi. Must have working knowledge in Computer operation
	vii. Candidates with awareness of ISO-14001 and ISO-45001 will be preferred. viii. The candidate should be not older than 50 years. He shall have sound health to withstand tough site conditions and extreme weather. The candidate will have to undergo medical check-up at site before his joining. He will only be allowed to join on successful clearance of medical check-up and found fit by BHEL site/ customer.
7.1.7	Work at height specialist:i. Must be a diploma/ degree in engineering (in any branch) from an AICTE/ SCTE&VT
	 recognized institution. ii. Must have a recognised certification from IRATA level 1 or equivalent. iii. Must have worked in the field of construction in HSE function (Post-safety qualification experience) for min 5 years in case of graduate engineers or 7 years in case of Diploma holders. iv. The candidate shall have professional expertise for training on WAH to all concerned. He shall have competency in certifying horizontal and vertical lifeline system. v. The candidate should be in job while submission of CV (or at the most/ worst has left job not more than one year ago). vi. Preferably be fluent in English, Hindi & local language. viii. He must be able to communicate and design rescue arrangements viiii. He must be able to assess risks in all height work locations. ix. Candidates with awareness of ISO-14001 and ISO-45001 will be preferred. x. The candidate should be not older than 50 years. He shall have sound health to withstand tough site conditions and extreme weather. The candidate will have to undergo medical check-up at site before his joining. He will only be allowed to join on successful clearance of medical check-up and found fit by BHEL site/ customer.
7.1.8	Safety Auditor –To conduct half yearly audit
7.1.0	Half yearly Safety Audit to be done by a qualified Safety Auditor. i. Must be at least a graduate/ diploma in engineering (in any branch) from an AICTE/ SCTE&VT recognized institution. ii. Must be a certified Lead Auditor for ISO 14001: 2015 and ISO 45001: 2018 iii. Preferably be fluent in English, Hindi & local language.
7.2	The CV with a covering letter from the agency (certifying that the candidate has been interviewed and all supporting docs verified) in line with above requirements along with copy of proof of

	to BHI may be verifice out by reimber nor an BHEL	ty and address, academic are EL sites for approval before be conducted before accept ation of certificates of selectly the agency at the cost of ursement in this regard will be deviation accepted. The cost cost cost for verification. Any mathematical transfer in the cost of the cos	deployment to tance / appro ted candidates of the agency, be entertained candidate shall	o site. If required val of the perso from concerned before their de . Post deploymer be required to p	d, interview (Phys nnel. Also, if req institutions/board eployment at site at approval shall no produce all origina	ical/telephonic) uired by BHEL, d will be carried e. No claim for ot be permitted al certificates at
8.0	DEPLO	YMENT PERIOD				
8.1.1		ntative category wise requir ntioned below:	ement at the p	project site Ennor	e, Udangudi, and '	Yadadri shall be
	S.No	Description	UOM		Projects	
				Ennore	Udangudi	Yadadri
	1	Cofety Manager	Man-	22	2.4	2.4
	1	Safety Manager	Month Man-	22	24	24
	2	Scaffolding specialist	Month	22	24	24
		Scarrolating specialist	Man-	22	24	24
	3	Rigging specialist	Month	22	24	24
	3	Magning specialist	Man-		21	21
	4	Electrical safety specialist	Month	22	24	24
	-		Man-			
	5	Safety Trainer	Month	22	24	24
		,	Man-			
	6	Safety Engineer	Month	88	96	192
			Man-			
	7	Work at height specialist	Month	22	24	24
	8	Half yearly Audit	Number	3	4	4
8.1.3	The tentative requirement and deployment period of safety personnel at various project sites wi be decided as per actual project requirement and accordingly separate site specific work order LOI shall be issued for the respective project sites with the intimation of duration of work order and number of safety personnel required category wise. FIELD SAFETY SERVICES Number of safety personnel & period of deployment should be as per man month mentioned in			fic work order/ n of work order h mentioned in		
	requir requir contra respec	erork order issued against a ements of safety personne ement. In case of requirem actor atleast 20 days advan- ctive site.	l & deployme ent of additio ce. Deploymer	nt period may v nal safety perso nt shall be strictl	ary time to time nnel, intimation v y as per the adv	as per project will be given to ice sent by the
8.1.4	specifi to be s site ag necess	r shall note that for the persic work order, detailed Bio-disubmitted to BHEL site withing ainst approval and clearance sary interview, if required.	lata along with n 7 days of rec ce of BHEL site	all supporting deliving intimation after scrutiny of	ocuments of those . Man power shall of bio data, work	e personnel has be deployed at experience and
8.1.5	with a agenci	of these HSE personnel shal all sub-agencies for facilitati ies of BHEL shall report to tl shall report to BHEL site HSE	ng implement he Safety Man	ation of HSE sys	tem. The HSE offi	icers of various

8.1.6	The agency shall deploy a team of Qualified HSE professionals as advised by BHEL from time to			
	time in synchronization with the project requirement.			
8.1.7	The above mentioned duration is tentative and actual man-month deployed may vary to any			
	extent. The quoted Unit rate shall remain firm throughout contract duration including extensions if			
	any, irrespective of any variation in quantities.			
9.0	MOBILISATION			
9.1	Bidder shall mobilize the manpower and start the work at site within 15 days from the day			
	issuance of site specific work order.			
Start date of Work: Work start date will be certified by BHEL Site Construction				
10.0	COMPLETION PERIOD			
10.1	The contract period for the above scope of contract is valid for a period of 24 (Twenty-four			
	months) from the date of issue of LOI.			
10.2	BHEL reserves the right to extend the contract, if necessary for a further period of 3 months at the			
	same rate.			
10.3	BHEL reserves the right to terminate the service contract at any time, in case the service provided			
	by the agency is found unsatisfactory.			
11.0	EXTENSION OF TIME FOR COMPLETION			
11.1	Not applicable			
12.0	CERTIFICATE TOWARDS COMPLETION			
12.1	The work under the scope of the contract shall be deemed to have been completed in all respect			
	only when so certified by BHEL Site Construction Manager. The decision of BHEL in this regard shall			
	be final and binding on the successful bidder.			
13.0	CONTRACT PRICE			
13.1	The bidder shall quote their total price strictly in accordance with prescribed Price Schedule. The			
440	total price quoted in Price Schedule , shall be considered for evaluation & awarding.			
14.0	TERMS OF PAYMENT & PAYING AUTHORITY			
14.1	Successful bidder shall submit RA bill at the end of each month as per billing break-up of the tender and in line with currency matrix. Bill shall be accompanied with list of services rendered			
	during the month and attendance sheet (certified by BHEL Engr.).			
14.2	Progressive payment shall be made by BHEL against bidder's RA bill, GST complied Invoice			
14.2	complete & correct in all respect accompanied by BHEL engineer's certified/ measurement sheet,			
	jointly signed; requisite statutory certificates, certified by BHEL; within 45 days of submission of			
	the bill.			
14.3	However, no extra payment / interest charges shall be made in the event of deferment in			
	payment.			
14.4	For all items of work as per rate/price schedule, the monthly interim payment shall be limited to			
	95% of the gross value of interim bill (RA bills) on item rate basis. All admissible recovery /			
	adjustments etc. shall be made from the interim payable amount. The balance (Retention amount)			
	5% shall be payable along-with final bill which shall be released on completion of all the works,			
	smooth closing / winding up of the site and on certification of the BHEL site in-charge. Bidder's			
	invoices shall be accompanied by progress report for the month (with details of man-days etc.),			
	duly signed by BHEL Engineer. Payments will be made as per rates accepted.			
14.5	All admissible recovery/ adjustment, etc. shall be made from interim payable amount.			
14.6	The bills shall be submitted at respective BHEL site office for further processing.			
14.7	For all Pro Rata Basis payment / recovery, duration of month will be considered as 30 days.			
14.8	Construction Manager of respective site shall be the paying authority cum controlling officer for all			
	contractual dealing of the site.			
15.0	BIILING BREAK-UP			
15.1	Not Applicable			
16.0	MOBILISATION ADVANCE/IBRA			
16.1	Not Applicable.			

17.0	PRICE VARIATION CLAUSE		
17.1	Not Applicable.		
18.0	OVER RUN CHARGE		
18.1	Not Applicable.		
19.0	RATE REVISION		
19.1	Not Applicable		
20.0	SECURITY DEPOSIT		
20.1	The total amount of Security Deposit will be 5% of the contract value. Other terms related to Security Deposit shall be as per GCC.		
21.0	EXTRA WORK		
21.1	There is no provision of any extra work in this contract.		
22.0	LIQUIDATED DAMAGE		
22.1	Since time is the main essence of the contract, the deployment of manpower is to be made within the time limit specified in the tender. In case bidder deploys the man power beyond the period specified in the contract, BHEL will have no obligation to accept the same. BHEL reserves the right to levy liquidating damages at the rate of 0.5% (half percent) against site specific awarded work order price (net off GST component) for each week of delay or part thereof without prejudice to any other relief or compensation under any other conditions of the order subject to maximum limit of 5% of awarded total contract value of site specific work order (net off GST component). In case of any delay in deployment of man power at site, for reason not attributable to BHEL, the "Liquidated Damages" clause shall be strictly enforced, unless extension of deployment of date is granted by BHEL site construction manager.		
23.0	INSURANCE		
23.1	Insurance of manpower deployed by the agency, shall be insured by the agency itself.		
23.2	BHEL shall arrange comprehensive MCE (marine cum erection) Insurance Policy for total project supply & services including balance of plant package covering transit risks & loss, destruction or damage during handling at Site, Storage, civil works ,erection, testing and commissioning up to trial operation completion of unit including theft, sabotage, fire, lightning and other natural calamities.		
23.3	Other conditions of Insurance shall be as per relevant clause of GCC/SCC.		
24.0	HEALTH, SAFETY & ENVIRONMENT		
24.1	Vendor has to follow HSE norms at project site during execution of entire contract period and the applicable HSE norms are noted in Tender Document for HSE norms having Document Title: Health, Safety and Environment Plan for Site Operation by Subcontractors.		
25.0	GUARANTEE		
25.1	Not Applicable		
26.0	PERFORMANCE MONITORING		
26.1	Performance of the bidder shall be monitored by BHEL sites as per attached Annexure-II. Reports shall be reviewed month wise and the same shall be communicated to bidder. BHEL reserves the right to terminate the contract in case the performance of the bidder is not satisfactory, without any further reference.		

27.0 BOCW Act & BOCW Welfare Cess Act

- 1. The Contractor Should Register their Establishment under BOCW Act 1996 read with rules 1998 by submitting Form I (Application for Registration of Establishment) and Form IV (Notice of Commencement /Completion of Building Other Construction Work) to the respective Labour Authorities i.e.,
 - a) Assistant Labour Commissioner (Central) in respect of the project premises which is under the purview of Central Govt.—NTPC, NTPL etc.
 - b) Appropriate State authorities in respect of the project premises which is under the purview of State Govt.
- 2. The Contractor Should comply with the provisions of BOCW Welfare Cess Act 1996 in respect of the work awarded to them by BHEL
- 3. The contractor should ensure compliance regarding Registration of Building Workers as Beneficiaries, Hours of work, welfare measures and other conditions of service with particular reference to Safety and Health measures like Safety Officers, safety committee, issue of Personal protective equipments, canteen, rest room, drinking water, Toilets, ambulance, first aid centre etc.,
- 4. The contractor irrespective of their nature of work and manpower (Civil, Mechanical, Electrical works etc.) should register their establishment under BOCW Act 1996 and comply with BOCW Welfare Cess Act 1996.
- 5. Contractor shall make remittance of the BOCW cess as per Act in consultation with BHEL as per the rates in force (presently 1%). BHEL shall reimburse the same upon production of documentary evidence. However, BHEL shall not reimburse the Fee paid towards the registration of establishment, fess paid towards registration of beneficiaries and contribution of beneficiaries remitted.
- **6.** Non-compliance to provisions of the BOCW act and BOCW welfare Cess act is not acceptable. In case of any non-compliance, BHEL reserves the right to withhold any sum it deems fit. Only upon total compliance to the BOCW act and also discharge of total payment of Cess under the BOCW Cess act by the contractor, BHEL shall consider refund of the amounts.

28.0 TAXES AND OTHER DUTIES

28.1 Goods and service Tax (GST) & Cess

- (i) The successful bidder shall furnish proof of GST registration with GSTN Portal in the State in which the Project is being executed, covering the services under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by the successful bidder on BHEL for this project/ work.
- (ii) Contractor's price/rates shall be exclusive of GST & Cess (if applicable) (herein after termed as GST). Contractor shall submit to BHEL the GST compliant tax invoice/debit note/revised tax invoice on the basis of which BHEL will claim the input tax credit in its return.
- (iii) Bidder shall note that the GST Tax Invoice complying with GST Invoice Rules wherein the 'Bill To' details will as below:

BHEL GSTN -

STATE	GSTN
Andhra Pradesh	37AAACB4146P7Z8
Telengana	36AAACB4146P1ZG
Madhya Pradesh	23AAACB4146P1ZN
Karnataka	29AAACB4146P1ZB
Kerala	32AAACB4146P1ZO
Tamil Nadu	33AAACB4146P2ZL
Orissa	21AAACB4146P1ZR

NAME & ADDRESS - As per Work Order issued by BHEL Site

- (iv) GST charged in the tax invoice/debit note/revised tax invoice by the contractor shall be released separately to the contractor only after contractor files the outward supply details in GSTR-1 on GSTN portal and input tax credit of such invoice is matched with corresponding details of outward supply of the contractor and has paid the GST at the time of filing the monthly return.
- (v) In case BHEL has to incur any liability (like interest / penalty etc.) due to denial/reversal / delay of input tax credit in respect of the invoice submitted by the contractor, for the reasons attributable to the contractor, the same shall be recovered from the contractor.
- (vi) Further, In case BHEL is deprived of the Input tax credit due to any reason attributable to contractor, the same shall not be paid or Recovered if already paid to the contractor.
- (vii) Tax invoice/debit Note/revised tax invoice shall contain all such particulars as prescribed in GST law and comply to the timelines for issue of the same. Invoices shall be submitted on time to the concerned BHEL Engineer In Charge.
- (viii) TDS under GST (if/ as & when applicable) shall be deducted at prevailing rates on gross invoice value from the running bills.
- (ix) E-way bills / Transit passes / Road Permits, if required for materials / T&P etc., bought into the project site is to be arranged by the Contractor only.
- (x) BHEL shall not reimburse any amounts towards any interest / penalty etc., incurred by contractor. Any additional claim at a later date due to issues such as wrong rates / wrong classification by contractor shall not be paid by BHEL.

28.2 All taxes and duty other than GST & Cess

The contractor shall pay all (except the specific exclusion viz GST & Cess) taxes, fees, license charges, deposits, duties, tools, royalty, commissions, Stamp Duties, or other charges / levies, which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract and the same shall not be reimbursed by BHEL. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.

28.3 Statutory Variations

Statutory variations are applicable under the GST Acts, against production of proof. The changes implemented by the Central / State Government during the tenure of the contract viz. increase / decrease in the rate of taxes, applicability, etc. and its impact on upward revision / downward revision are to be suitably paid/ adjusted from the date of respective variation. The bidder shall give the benefit of downward revision in favour of BHEL. No other variations shall be allowed during the tenure of the contract.

28.4 New Taxes/Levies –

In case Government imposes any new levy / tax after submission of bid during the tenure of the contract, BHEL shall reimburse the same at actual on submission of documentary proof of payment subject to the satisfaction of BHEL that such new levy / tax is applicable to this contract.

28.5 Direct Tax

BHEL shall not be liable towards Income Tax of whatever nature including variations thereof arising out of this contract as well as tax liability of the bidder and their personnel. Deduction of tax at source at the prevailing rates shall be effected by BHEL before release of payment as a statutory obligation, unless exemption certificate is produced by the bidder. TDS certificate will be issued by BHEL as per the provisions of Income Tax Act.

28.6 TDS Under Income Tax (as and when applicable) shall be deducted at prevailing rates.

29.0 GENERAL

- 29.1 Successful Bidders are requested to furnish the following at PSSR-HQ Chennai immediately after release of Letter of Intent (LOI)
 - (i) Security Deposit.
 - (ii) Unqualified Acceptance for Detailed LOI/ Work Order.
 - (iii) Rs.100/- Stamp Paper for preparation of Contract Agreement.
- 29.2 Successful Bidders are requested to furnish the proof of documents for the following at PSSR- Site.
 - (i) PF Regn No.
 - (ii) Workmen Insurance Policy No.
- 29.3 In addition to the clause 2.8 of General Conditions of Contract (Volume1C of Book-II) the contractor shall comply with the following

29.3.1 PROVIDENT FUND

(i) The contractor is required to extend the benefit of Provident Fund to the labour employed by the contractor in connection with this contract as per the Employees Provident Fund and Miscellaneous Provisions Act 1952. For due implementation of the same, the contractor is hereby required to get themselves registered with the Provident Fund authorities for the purpose of reconciliation of PF dues and furnish to us the code

number allotted to them by the Provident Fund authorities within one month from the date of issue of this letter of intent. In case the contractor is exempted from such remittance an attested copy of authority for such exemption is to be furnished. Please note that in the event of contractor's failure to comply with the provisions of said Act, if recoveries therefore are enforced from payments due to BHEL by the customer or paid to statutory authorities by BHEL, such amount will be recovered from payments due to the contractor.

(ii) The final bill amount would be released only on production of clearance certificate from PF / ESI and labour authorities as applicable.

29.3.2 OTHER STATUTORY REQUIREMENTS

- (i) The contactor shall submit monthly running bills along with the copies of monthly wages (of the preceding month) u/r78(1)(a)(1) of Contract Labour Rules & satisfy the conditions of Minimum Wages Act,1948. Copies of monthly return of PF contribution with remittance Challans under Employees Provident Fund Act 1952 and copy of renewed Employee compensation policy in respect of the workmen engaged by them.
- (ii) The Contractor should submit copies of Form 6-A (Annual Return of PF Contribution) along with copies of PF Contribution Card of each member under PF Act.
- (iii) In case of any dispute pending before the appropriate authority under Employee Compensation Act 1923 as amended through EC(Amendment) Act,2017 and PF Act 1952, BHEL reserve the right to hold such amounts from the final bills of the Contractor which will be released on submission of proof of settlement of issues from the appropriate authority under the act.
- (iv) In case of any dispute pending before the appropriate authority under I D act 1948, WC Act 1923 or ESI Act 1948 and PF Act 1952, BHEL reserve the right to hold such amounts from the final bills of the Contractor which will be released on submission of proof of settlement of issues from the appropriate authority under the act.
- (v) In case of any dispute prolonged/pending before the authority for the reasons not attributable to the contractor, BHEL reserves the right to release the final bill of the contractor on submission of Indemnity bond by the contractor indemnifying BHEL against any claims that may arise at a later date without prejudice to the rights of BHEL

29.4 GENERAL

(i) Site Visit by the Bidder

The bidder shall, prior to submitting his tender for the work, visit, examine the site of works and its surroundings at his own expense, and obtain and ascertain for himself on his own responsibility all information that may be necessary for preparing his tender and entering into a contract, and take the same into account in the quoted contract price for the work.

- (ii) The bidder should note that information, if any, in regard to the local conditions, as contained in these tender documents, has been given to tenderer merely for guidance and is not warranted to be complete.
- (iii) A bidder shall be deemed to have full knowledge of the site, whether he inspects it or not, and no extra charges consequent on any misunderstanding or otherwise shall be allowed.
- (iv) The bidder and any of his personnel or agents will be granted permission by the Site-In-Charge or his authorized nominee, on receipt of formal application in respect thereof a week in advance of the proposed date of inspection of site, to enter upon his premises and lands for purpose of such inspection, but only on the express condition that the tenderer (and his personnel and agents) will relieve and indemnify the Employer (and his personnel and agents) from and against all liability in respect thereof and will be responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses however caused which, but for

		the exercise of such permission, would not have arisen.
	(v)	All the necessary certificates and licenses required to carry out this scope of work are to
		be arranged by the contractor then and there at no extra cost.
	(vi)	In case the performance of the Safety Officer(s) is/are found to be unsatisfactory, his
		services shall be discontinued by BHEL and no payment shall be made against
		deployment of such unacceptable Safety Officer, from the date Safety Officer has been
		notified as unsatisfactory. Replacement of such persons will have to be arranged by the
		contractor within 15 days.
	(vii)	In case Safety Officers are found to be indulged in malpractices, their services will be
		terminated with immediate effect without giving any notice. Also, in such cases, BHEL
		will have right to decide the payment to be given for services provided by such Safety
		Officers. Replacement of such persons will have to be arranged by the contractor within
		15 days
	(viii)	In case, the contractor fails to provide Safety Officer/Officers in time BHEL will have the
		option to arrange the services by other suitable agency. Additional cost of such agencies
		together with overhead charges as per BHEL policy will be borne by contractor, which
		shall be deducted from any sum payable to the contractor.
	(ix)	Safety Officers shall be governed by 'Confidentiality' clause. They shall not, in any
	, ,	manner, misuse the data/ information accessible/available to them.
	(x)	All Manuals, drawings, specifications and other relevant document/ data provided to
		Safety Officer for undertaking relevant tasks, shall be returned to BHEL after completion
		of job/ completion/ termination of contract. Such documents shall not be used by the
		Safety Officers for any purpose other than for the designated task.
	(xi)	All data generated/ used by the Safety Officers shall be the property of BHEL. These
		cannot be published/ utilized or taken away by the Safety Officer or any staff of the
	/::\	Contractor.
	(xii)	All statutory requirements as applicable for this project shall be complied with.
30.0	OTHER	TERMS
30.1	All othe	er term & conditions of this specification shall be governed by the pertinent provisions of
	GCC and	d other volumes of this tender, as applicable.

ANNEXURE-I

FORMAT FOR FURNISHING CV (SAFETY)

AGEN	ICY:					
· · · · · · · · · · · · · · · · · · ·	ECT TO BE DEPLOYED IN:					
POSIT						
A. <u>PE</u>	RSONAL DETAILS:					
1.	Name:					
2.	Father's Name:					_
3.	Date of Birth:			Age (Yrs)	<u>I</u>	
4.	Permanent Address:					
5.	. Present Address:					
6.	Cell:	Lan	d:		email id:	
7.	Health Details as per fo	ormat: Attacl	ned/ not at	tached		
. ACADEM	IIC DETAILS: (Only techni	cal Degree/	Diploma qu	alificatio	on to be recorded)	
SI no	Course with stream	Year of Passing	% Score- final	class	Institute/ location/state	Recognised by/affiliated to
DG Safet	y Qualification Details:					
SI no	Course		Duration		Institute	Recognised by/affiliated to
		From	То	Time in yr		

D. FIRST-AID TRAINING, ISO-14000 & OHSAS-18000 AND OTHER SPECIAL SAFETY RELATED TRAINING DETAILS:

E. EXPERIENCE:

SL NO		1	2	3
AGENCY				
CLIENT				
POSITION				
	NAME			
	LOCATION			
POWER	CAPACITY X NO OF			
PROJECT	UNIT			
DETAILS	CONSULTANT			
	OWNER			
	JOB DURATION			

F:	CON	1PUTFR	KNOWI	FDGF I	DETAILS:

G.	ANY OTHER	DETAILS REL	ATED TO	QUALIFICATION	I AND EXPERIENCE:
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ENDORSED BY AUTHORISED SIGNATORY OF AGENCY:	(SIGN OF THE CANDIDATE)
SEAL AND DATE:	DATE:

A copy of photo-identity card issued by any Govt agency, marksheet, certificate and other testimonials in support of Identity, Date of Birth, Academic Qlfn, Technical Qlfn, Experience must be submitted along with CV

ANNEXURE-II FORMAT FOR PERFORMANCE MONITORING

SI.	Parameter of	UO	Weig		Sc	ale of R	espons	se		Score	Rema
No.	measurement	M	h tage	0	1	2	3	4	5	Obtain ed	rks
(A)	PERFORMANCE (Performance of each individual safety officer is to be measured in all of the parameters separately and then average of the same is to be filled up)										
1.01	Assisting BHEL in liaising with local authority/ statutory authority/local facilities as & when required.	%	1.5	<20	20-40	41- 60	61- 70	71- 90	91-100		
1.02	New workers provided with HSE induction training.	%	2	<20	20-40	41- 60	61- 70	71- 90	91-100		
1.03	Conductance of job specific training programs, mock drills, fire drills as per monthly HSE activity plan.	%	4	<20	20-40	41- 60	61- 70	71- 90	91-100		
1.04	Periodic inspection of all PPEs, safety equipment, T&Ps, illumination, FA box etc. as per BHEL checklist and maintenance of record.	%	4	<20	20-40	41- 60	61- 70	71- 90	91-100		
1.05	Coordination with Medical Centre for Pre-job and regular health check-up of workers (actual vs required)	%	2	<20	20-40	41- 60	61- 70	71- 90	91-100		
1.06	Preparation of monthly site HSE activity plan, cascading down the same to agencies and finally ensuring	%	2	<20	20-40	41- 60	61- 70	71- 90	91-100		

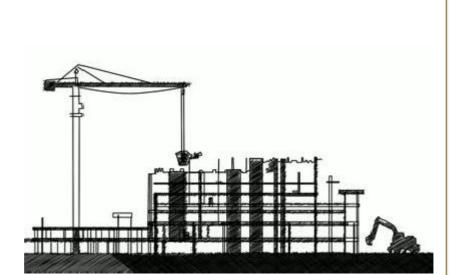
	compliance of									
	activities as per plan									
1.07	Implementation of work permit system as per BHEL HSE plan, inspection of work area prior to start of work & all related documentation.	%	3	<20	20-40	41- 60	61- 70	71- 90	91-100	
1.08	Organizing HSE promotion activities like Tool Box talk, pep talks, Monthly HSE celebration, Periodic HSE review, putting up educative posters and banners, organizing house-keeping drive, walk-through by top officials, periodic health campsetc.	%	4	<20	20-40	41- 60	61- 70	71- 90	91-100	
1.09	Checking labour welfare measures both at site and at labour colony and monitoring compliances.	%	2	<20	20-40	41- 60	61- 70	71- 90	91-100	
1.10	Managing environmental programs such as tree plantation, environmental impact assessments, waste disposal, storage and handling of chemicals, display of MSDS and ensuring legal compliance.	%	2	<20	20-40	41- 60	61- 70	71- 90	91-100	
1.11	Conductance of HSE inspection on daily basis, recording and analysis of observations, categorization, reporting and following up closure of observations.	%	3	<20	20-40	41- 60	61- 70	71- 90	91-100	

		,				1		1	1	
1.12	Coordination of internal/external HSE audits, following up closure of audit observations	%	3	<20	20-40	41- 60	61- 70	71- 90	91-100	
1.13	Nos. of days of delay in submission of incident reports, investigation reports to HSE Dept., BHEL/PSER-HQ	Nos.	2	>8	7-8	5-6	3-4	1-2	0	
1.14	Conductance of risk assessment/ hazard spotting exercises, preparation JSA, HIRA, Method statement etc. as per site job requirement.	%	1.5	<20	20-40	41- 60	61- 70	71- 90	91-100	
1.15	Preparation of various HSE reports, statistics & presentations as per BHEL requirement and submitting to competent authorities in time.	%	2	<20	20-40	41- 60	61- 70	71- 90	91-100	
1.16	Administering First- aid or CPR to victim, Operating fire extinguishers and handling emergency situations	%	1.5	<20	20-40	41- 60	61- 70	71- 90	91-100	
1.17	Coordinatingany other activity as required by BHEL in order to meet customer HSE requirements.	%	1.5	<20	20-40	41- 60	61- 70	71- 90	91-100	
1.18	Nos. of days delayed in submission of running bills with complete supporting documents for the month.	Nos.	1	>12	11-12	9-10	7-8	5-6	<5	
1.19	Nos. of times top management of contractor did not respond to critical issues of site for the month	Nos.	2	≥ 1	NA	NA	NA	NA	<1	_

1.20	Total nos. of days in the month works were stopped/refused on interpretation of contract clauses/scope due to tendency of taking undue advantage by interpreting contract clauses in their favor	Nos.	1	≥1	NA	NA	NA	NA	<1	
	TOTAL (A)		45							
(B)	RESOURCES									
2.01	Man-days of availability of HSE Officers (actual vs required)	%	40	<20	20-40	41- 60	61- 70	71- 90	91-100	
2.02	Quarterly visit by senior management level personnel of the agency to ascertain the quality of jobs performed by their site personnel (actual vs required)	%	5	<20	20-40	41- 60	61- 70	71- 90	91-100	
	TOTAL (B)		45							
(C)	SITE FINANCE									
3.01	Nos. of days delayed in making payment and providing other welfare measures to the safety officers for the last month	Nos.	10	>12	11-12	9-10	7-8	5-6	<5	
	TOTAL (C)		10							
	TOTAL (A+B+C)		100							







HEALTH,
SAFETY and
ENVIRONMENT
PLAN

for

SITE OPERATIONS

by

SUB-CONTRACTORS

HSE PLAN FOR SITE OPRATIONS BY BHEL'S SUBCONTRACTORS

AT A GLANCE

BEFORE START

SIGNING OF MOU

Agree to comply to HSE requirement- Statutory and BHEL's

HSE ORGANISATION

Manpower

- 1 (one) safety officer for every 500 workers or part thereof
- 1(one) safety-steward/ supervisor for every 100 workers

Qualification

As per Cl. 7.1

HSE Roles and responsibilities

- Site In-charge- As per clause 7.2.1
- Safety officer- As per clause 7.2.2

HSE Planning

for Man, Machinery/Equipment/Tools & Tackles

HSE INFRASTUCTURE

- **PPEs**
- **Drinking Water**
- **Washing Facilities**
- **Latrines and Urinals**
- Provision of shelter for rest
- Medical facilities

- Canteen facilities
- **Labour Colony**
- **Emergency Vehicle**
- Pest Control
- Scrapyard
- Illumination

HSE TRAINING, AWARENESS & PROMOTION

Training

- Induction training
- Height work and other critical areas
- Tool Box talk & Pep Talk

Awareness & Promotion

- Signage
- Poster
- Banner
- Competition
- Awards

Incident Reporting

- Accident- Fatal & Major
- Property damage
- **Near Miss**

HSE COMMUNICATION

Event Reporting

- Celebrations
- **Training**
- Medical camp

EXECUTE SAFELY

CHECKS

OPERATIONAL CONTROL PROCEDURES

PERMIT TO WORK

Height work (above 2 metres), Hot Work, Heavy Lifting, Confined Space, Radiography, excavation (More than 4 metres)

SAFETY DURING WORK EXECUTION

- Welding
- Rigging
- Cylinder- storage & Movement
- Demolition work
- T&Ps
- Chemical Handling
- Electrical works

- Fire
- Scaffolding
- Height work
- Working Platform
- Excavation
- Ladder
- Lifting
- Hoisting appliance

HOUSE KEEPING

WASTE MANGEMENT

TRAFFIC MANAGEMENT

ENVIRONMENTAL CONTROL

EMERGENCY PREPAREDNESS AND RESPONSE PLAN

HSE AUDITS & INSPECTION

- Daily Checks
- Inspection of PPEs
- Inspection of T& Ps
- Inspection of Cranes & Winches
- Inspection of Height work
- Inspection of Welding and Gas cutting
- Inspection of elevators etc.

HSE PERFORMANCE EVALUATION PARAMETERS

PENALTY for NON CONFORMANCE Refer Clause 16 Incremental penalty

For repeated violation by the same person, the penalty would be double of the previous penalty

For repeated fatal incident in the same Unit incremental penalty to be imposed. The subcontractor will pay 2 times the penalty compared to previously paid in case there are repeated cases of fatal incidents under the same subcontractor for the same package in the same unit.



HEALTH, SAFETY AND ENVIRONMENT PLAN FOR SITE OPERATION by SUBCONTRACTORS

Doc no.: HSEP: 14

REV: 01

Date: 20.01.2020

POWER SECTOR

REVISION HISTORY SHEET

Date	Revision No.	Details of Changes	Reason	Prepared	Reviewed	Approved
12.08.2014	00	First Issue	First Issue	S. B. Jayant, Dy Manager- FQA & Safety	A. K. Sinha, GM-FQA & Safety	Anuj Bhatnagar, ED-FQA & Safety
20.01.2020	01	Formats added: HSEP:14-F30 – Monthly HSE Planning & Review (Page 11, Clause 8.0 - updated) HSEP:14-F13E-Excavation Inspection Format (part of F30)) HSEP:14-F32B – Job Safety Analysis Format (part of F30) HSEP:14-F31A – Daily HSE Reporting (Page 18, Clause 10.3 – added) HSEP:14-F33 – HSE Performance Evaluation (Page 31, Clause 13 – revised)	IOM No. PSHQHSE/M ONREP/02 Dated 08-Jan- 2020	Rohit Kumar		sh Nair, K & HSE)



HEALTH, SAFETY AND ENVIRONMENT PLAN FOR SITE OPERATION by SUBCONTRACTORS

Doc no.: HSEP: 14

REV: 01

Date: 20.01.2020

Page: 1 of 43

POWER SECTOR

Sr. No.	Description	Page No.
1.0	PURPOSE	4
2.0	SCOPE	4
3.0	OBJECTIVES AND TARGETS	4
4.0	HEALTH, SAFETY & ENVIRONMENT POLICY	5
5.0	MEMORANDUM OF UNDERSTANDING	6
6.0	TERMS & DEFINITIONS	7
7.0	HSE ORGANIZATION	8
7.1	QUALIFICATION FOR HSE PERSONNEL	8
7.2	RESPONSIBILITIES	9
8.0	PLANNING BY SUBCONTRACTOR	11
8.1	MOBILISATION OF MACHINERY/EQUIPMENT/TOOLS	11
8.2	MOBILISATION OF MANPOWER BY SUBCONTRACTOR	11
8.3	PROVISION OF PPEs	12
8.4	ARRANGEMENT OF INFRASTRUCTURE	13
9.0	HSE TRAINING & AWARENESS	16
9.1	HSE INDUCTION TRAINING	16
9.2	HSE TOOLBOX TALK	17
9.3	TRAINING ON HEIGHT WORK	17
9.4	HSE TRAINING DURING PROJECT EXECUTION	17



HEALTH, SAFETY AND ENVIRONMENT PLAN FOR SITE OPERATION by SUBCONTRACTORS

REV:

01

20.01.2020 Date:

Doc no.: HSEP: 14

Page: 2 of 43

POWER SECTOR

9.5	HSE PROMOTION-SIGNAGE, POSTERS, COMPETITION, AWARDS ETC	18
10.0	HSE COMMUNICATION	18
10.1	INCIDENT REPORTING	18
10.2	HSE EVENT REPORTING	18
11.0	OPERATIONAL CONTROL	19
11.1	HSE ACTIVITIES	19
11.2	WORK PERMIT SYSTEM	20
11.3	SAFETY DURING WORK EXECUTION	20
11.4	ENVIRONMENTAL CONTROL	24
11.5	HOUSEKEEPING	24
11.6	WASTE MANAGEMENT	25
11.7	TRAFFIC MANAGEMENT SYSTEM	26
11.8	EMERGENCY PREPAREDNESS AND RESPONSE	28
12.0	HSE INSPECTION	29
12.1	DAILY HSE CHECKS	29
12.2	INSPECTION OF PPE	29
12.3	INSPECTION OF T&Ps	30
12.4	INSPECTION OF CRANES AND WINCHES	30
12.5	INSPECTION ON HEIGHT WORKING	30
12.6	INSPECTION ON WELDING AND GAS CUTTING OPERATION	30



HEALTH, SAFETY AND ENVIRONMENT PLAN FOR SITE OPERATION by SUBCONTRACTORS

REV:

01

20.01.2020 Date:

Doc no.: HSEP: 14

Page: **3** of **43**

POWER SECTOR

12.7	INSPECTION ON ELECTRICAL INSTALLATION / APPLIANCES	31
12.8	INSPECTION OF ELEVATOR	31
12.9	INSPECTION OF EXCAVATION ACTIVITIES	31
13.0	HSE PERFORMANCE	31
14.0	HSE PENALTIES	32
15.0	OTHER REQUIREMENTS	32
16.0	NON COMPLIANCE	33
17.0	HSE AUDIT/INSPECTION	34
18.0	MONTHLY HSE REVIEW MEETING	34
19.0	FORMATS USED	34
20.0	Annexures	36



HEALTH, SAFETY AND ENVIRONMENT PLAN FOR

SITE OPERATION by SUBCONTRACTORS REV:

> 20.01.2020 Date:

POWER SECTOR Page: 4 of 43

Doc no.: HSEP: 14

01

1.0 **PURPOSE**

- 1.1 The purpose of this HSE Plan is to provide for the systematic identification, evaluation, prevention and control of general workplace hazards, specific job hazards, potential hazards and environmental impacts that may arise from foreseeable conditions during installation and servicing of industrial projects and power plants.
- 1.2 This document shall be followed by BHEL's subcontractors at all installation and servicing sites. In case customer specific documents are to be implemented, this document will be followed in conjunction with customer specific documents.
- 1.3 Although every effort has been made to make the procedures and guidelines in line with statutory requirements, in case of any discrepancy relevant statutory guidelines must be followed.
- 1.4 In case the customer has any specific requirement, the same is to be fulfilled.

2.0 **SCOPE**

The document is applicable for BHEL's Subcontractors at all installation / servicing activities of BHEL Power Sector as per the relevant contractual obligations.

3.0 **OBJECTIVES AND TARGETS**

The HSE Plan reflects that BHEL places high priority upon the Occupational Health, Safety and Environment at workplaces.

- Ensure the Health and Safety of all persons at work site is not adversely affected by the work.
- Ensure protection of environment of the work site.
- Comply at all times with the relevant statutory and contractual HSE requirements.
- Provide trained, experienced and competent personnel. Ensure medically fit personnel only are engaged at work.
- Provide and maintain plant, places and systems of work that are safe and without risk to health and the environment.
- Provide all personnel with adequate information, instruction, training and supervision on the safety aspect of their
- Effectively control, co-ordinate and monitor the activities of all personnel on the Project sites including subcontractors in respects of HSE.
- Establish effective communication on HSE matters with all relevant parties involved in the Project works.
- Ensure that all work planning takes into account all persons that may be affected by the work.
- Ensure fitness testing of all T&Ps/Lifting appliances like cranes, chain pulley blocks etc. are to be certified by competent person.
- Ensure timely provision of resources to facilitate effective implementation of HSE requirements.
- Ensure continual improvements in HSE performance
- Ensure conservation of resources and reduction of wastage.
- Capture the data of all incidents including near misses, process deviation etc. Investigate and analyze the same to find out the root cause.
- Ensure timely implementation of correction, corrective action and preventive action.



HEALTH, SAFETY AND ENVIRONMENT PLAN FOR

SITE OPERATION by SUBCONTRACTORS

POWER SECTOR

Doc no.: HSEP: 14

REV: 01

20.01.2020 Date:

Page: **5** of **43**

HSE TARGETS

EXPLOSION ZERO FATALITY ZERO LOST TIME INJURY ZERO **FIRE ZERO VEHICLE INCIDENTS ZERO ENVIRONMENTAL INCIDENTS 7FRO**

BHEL POWER SECTOR HEALTH, SAFETY & ENVIRONMENT POLICY 4.0

Health, Safety & Environment Policy of BHEL

In BHEL, Health, Safety and Environment (HSE) responsibilities are driven by our commitment to protect our employees and people we work with, community and environment. BHEL believes in zero tolerance for unsafe work/non-conformance to safety and in minimizing environmental footprint associated with all its business activities. We commit to continually improve our HSE performance by:

- > Developing safety and sustainability culture through active leadership and by ensuring availability of required resources.
- Ensuring compliance with applicable legislation, regulations and BHEL systems.
- > Taking up activities for conservation of resources and adopting sound waste management by following Reduce/Recycle/Reuse approach.
- > Continually identifying, assessing and managing environmental impacts and Occupational Health & Safety risks of all activities, products and services adopting approach based on elimination/ substitution/reduction/control.
- Incorporating appropriate Occupational Health, Safety and Environment criteria into business decisions, design of products & systems and for selection of plants, technologies and services.
- > Imparting appropriate structured training to all persons at workplace and promoting awareness amongst customers, contractors and suppliers on HSE issues.
- > Reviewing periodically this policy and HSE Management Systems to ensure its relevance, appropriateness and effectiveness.
- Communicating this policy within BHEL and making it available to interested parties.

sd/-

CMD. BHEL



HEALTH, SAFETY AND ENVIRONMENT PLAN FOR SITE OPERATION by SUBCONTRACTORS

REV:

POWER SECTOR

Doc no.: HSEP:	14
----------------	----

01

20.01.2020 Date:

Page: 6 of 43

MEMORANDUM OF UNDERSTANDING: 5.0

After award of work, subcontractors are required to enter into a memorandum of understanding as given below:

Memorandum of Understanding						
·	Region is committed to Health, Safety and Environment Policy (HSE Policy). do hereby also commit to comply with the same HSE Policy while					
executing the Contract Number						
M/s	shall ensure that safe work practices as per the HSE plan. Spirit and					
content therein shall be reached t	to all workers and supervisors for compliance.					
	shall comply to all applicable statutory and regulatory requirements of project and any special requirement specified in the contract document of the					
principal customer.	r project and any special requirement specified in the contract document of the					
• •	shall co-operate in HSE audits/inspections conducted by BHEL /customer/					
third party and ensure to close any non-conformity observed/reported within prescribed time limit.						
Signed by authorized representation	ve of M/s					

Place & Date:



HEALTH, SAFETY AND ENVIRONMENT PLAN FOR SITE OPERATION by SUBCONTRACTORS

01

REV:

20.01.2020 Date:

Doc no.: HSEP: 14

Page: **7** of **43**

POWER SECTOR

TERMS AND DEFINITIONS 6.0

6.1 **DEFINITIONS**

6.1.1 **INCIDENT**

Work- related or natural event(s) in which an injury, or ill health (regardless of severity), damage to property or fatality occurred, or could have occurred.

6.1.2 **NEAR MISS**

An incident where no ill health, injury, damage or other loss occurs, but it had a potential to cause, is referred to as "Near-Miss".

MAN-HOURS WORKED 6.1.3

The total number of man hours worked by all employees including subcontractors working in the premises. It includes managerial, supervisory, professional, technical, clerical and other workers including contract labours. Man-hours worked shall be calculated from the payroll or time clock recorded including overtime. When this is not feasible, the same shall be estimated by multiplying the total man-days worked for the period covered by the number of hours worked per day. The total number of workdays for a period is the sum of the number of men at work on each day of period. If the daily hours vary from department to department separate estimate shall be made for each department and the result added together.

FIRST AID CASES 6.1.4

First aids are not essentially all reportable cases, where the injured person is given medical treatment and discharged immediately for reporting on duty, without counting any lost time.

6.1.5 **LOST TIME INJURY**

Any work injury which renders the injured person unable to perform his regular job or an alternative restricted work assignment on the next scheduled work day after the day on which the injury occurred.

6.1.6 **MEDICAL CASES**

Medical cases come under non-reportable cases, where owing to illness or other reason the employee was absent from work and seeks Medical treatment.

6.1.7 TYPE OF INCIDENTS & THEIR REPORTING:

The three categories of Incident are as follows:

Non-Reportable Cases:

An incident, where the injured person is given medical help and discharged for work without counting any lost time.



HEALTH, SAFETY AND ENVIRONMENT PLAN FOR

SITE OPERATION by SUBCONTRACTORS REV:

01 20.01.2020 Date:

Doc no.: HSEP: 14

Page: 8 of 43

POWER SECTOR

Reportable Cases:

In this case the injured person is disable for 48 hours or more and is not able to perform his duty.

Injury Cases:

These are covered under the heading of non-reportable cases. In these cases the incident caused injury to the person, but he still continues his duty.

6.1.8 TOTAL REPORTABLE FREQUENCY RATE

Frequency rate is the number of Reportable Lost Time Injury (LTI) per one Million Man hours worked. Mathematically, the formula read as:

Number of Reportable LTI x 1,000,000

Total Man Hours Worked

6.1.9 **SEVERITY RATE**

Severity rate is the Number of days lost due to Lost Time Injury (LTI) per one Million Man hours worked. Mathematically, the formula reads as:

Days lost due to LTI __x 1,000,000

Total Man Hours Worked

6.1.10 INCIDENCE RATE

Incidence Rate is the Number of LTI per one thousand manpower deployed. Mathematically, the formula reads as:

Number of LTIx1000

Average number of manpower deployed

7.0 **HSE ORGANISATION**

Number of safety officers:

The subcontractor must deploy one safety officer for every 500 workers or part thereof in each package. In addition, there must be one safety-steward/safety-supervisor for every 100 workers.

Deployment: The subcontractor should deploy sufficient safety officers and safety-steward/Safety-supervisor, as per requirement given above, since initial stage and add more in proportion to the added strength in work force. Any delay in deployment will attract a penalty of Rs.30,000/- per man month for the delayed period.

7.1 **QUALIFICATION FOR HSE PERSONNEL**

Sl.no	Designation	Qualification	Experience
1	Safety officer (Construction Agency)	Degree or Diploma in Engineering with full time diploma in Industrial Safety with construction safety as one of the subjects	Minimum two years for degree holder and five years for diploma holder in the field of Construction of power plant/ major industries



REV: 01

Date: 20.01.2020

Doc no.: HSEP: 14

Page: 9 of 43

POWER SECTOR

2	Safety-Steward/ Safety-	Degree or diploma in any discipline with	Minimum two years
	Supervisor	full time diploma in Industrial Safety with	
		construction safety as one of the	
		subjects	

7.2 RESPONSIBILITIES

7.2.1 SITE IN -CHARGE OF SUBCONTRACTOR

- Shall sign Memorandum of Understanding (MoU) for compliance to BHEL's HSE Plan for Site Operations as per clause 5.0
- Shall engage qualified safety officer(s) and steward (s) as per clause 7.0
- Shall adhere to the rules and regulations mentioned in this code, practice very strictly in his area of work in consultation with his concerned engineer and the safety coordinator.
- Shall screen all workmen for health and competence requirement before engaging for the job and periodically thereafter as required.
- Shall not engage any employee below 18 years.
- Shall arrange for all necessary PPEs like safety helmets, belts, full body harness, shoes, face shield, hand gloves etc. before starting the job. Shall ensure that no working men/women carry excessive weight more than stipulated in Factory Rule Regulation R57.
- Shall ensure that all T&Ps engaged are tested for fitness and have valid certificates from competent person.
- Shall ensure that provisions stipulated in contract Labour Regulation Act 1970, Chapter V C.9, canteen, rest rooms/washing facilities to contracted employees at site.
- Shall adhere to the instructions laid down in Operation Control Procedures (OCPs) available with the site management.
- Shall ensure that person working above 2.0 meter should use Safety Harness tied to a life line/stable structure.
- Shall ensure that materials are not thrown from height. Cautions to be exercised to prevent fall of material from height.
- · Shall report all incidents (Fatal/Major/Minor/Near Miss) to the Site engineer /HSE officer of BHEL.
- Shall ensure that Horseplay is strictly forbidden.
- Shall ensure that adequate illumination is arranged during night work.
- Shall ensure that all personnel working under subcontractor are working safely and do not create any Hazard to self and to others.
- Shall ensure display of adequate signage/posters on HSE.
- Shall ensure that mobile phone is not used by workers while working.
- Shall ensure conductance of HSE audit, mockdrill, medical camps, induction training and training on HSE at site.
- Shall ensure full co-operation during HQ/External /Customer HSE audits.



REV: 01

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **10** of **43**

POWER SECTOR

Shall ensure submission of look-ahead plan for procurement of HSE equipment's and PPEs as per work schedule.

- Shall ensure good housekeeping.
- Shall ensure adequate valid fire extinguishers are provided at the worksite.
- Shall ensure availability of sufficient number of toilets /restrooms and adequate drinking water at work site and labour colony.
- Shall ensure adequate emergency preparedness.
- Shall be member of site HSE committee and attend all meetings of the committee
- Power source for hand lamps shall be maximum of 24 v.
- Temporary fencing should be done for open edges if Hand railings and Toe-guards are not available.

7.2.2 HEALTH, SAFETY AND ENVIRONMENT OFFICER OF SUBCONTRACTOR

- Carry out safety inspection of Work Area, Work Method, Men, Machine & Material, P&M and other tools and tackles.
- Facilitate inclusion of safety elements into Work Method Statement.
- Highlight the requirements of safety through Tool-box / other meetings.
- Help concerned HOS to prepare Job Specific instructions for critical jobs.
- Conduct investigation of all incident/dangerous occurrences & recommend appropriate safety measures.
- Advice & co-ordinate for implementation of HSE permit systems, OCPs & MPs.
- Convene HSE meeting & minute the proceeding for circulation & follow-up action.
- Plan procurement of PPE & Safety devices and inspect their healthiness.
- Report to PS Region/HQ on all matters pertaining to status of safety and promotional program at site level.
- Facilitate administration of First Aid
- Facilitate screening of workmen and safety induction.
- Conduct fire Drill and facilitate emergency preparedness
- Design campaigns, competitions & other special emphasis programs to promote safety in the workplace.
- Apprise PS- Region on safety related problems.
- Notify site personnel non-conformance to safety norms observed during site visits / site inspections.
- Recommend to Site In charge, immediate discontinuance of work until rectification, of such situations warranting immediate action in view of imminent danger to life or property or environment.
- To decline acceptance of such PPE / safety equipment that do not conform to specified requirements.
- Encourage raising Near Miss Report on safety along with, improvement initiatives on safety.
- Shall work as interface between various agencies such customer, package-in-charges, subcontractors on HSE matters



REV: 01

HEV: UI

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **11** of **43**

POWER SECTOR

8.0 PLANNING BY SUBCONTRACTOR

Monthly planning and review of HSE activities shall be carried out by subcontractor as per format No. HSEP:14-F30 jointly along with BHEL.

8.1 MOBILISATION OF MACHINERY/EQUIPMENT/TOOLS BY SUBCONTRACTOR

- As a measure to ensure that machinery, equipment and tools being mobilized to the construction site are fit for
 purpose and are maintained in safe operating condition and complies with legislative and owner requirement,
 inspection shall be arranged by in-house competent authority for acceptance as applicable.
- The machinery and equipment to be embraced for this purpose shall include but not limited to the following:
 - o Mobile cranes.
 - Side Booms.
 - Forklifts.
 - Grinding machine.
 - Drilling machine.
 - Air compressors.
 - Welding machine.
 - o Generator sets.
 - Dump Trucks.Excavators.
 - o Excavai
 - o Grit Blasting Equipment.
 - Hand tools.
- Subcontractor shall notify the engineer, of his intention to bring on to site any equipment or any container, with liquid or gaseous fuel or other substance which may create a hazard. The Engineer shall have the right to prescribe the condition under which such equipment or container may be handled and used during the performance of the works and the subcontractor shall strictly adhere to such instructions. The Engineer shall have the right to inspect any construction tool and to forbid its use, if in his opinion it is unsafe. No claim due to such prohibition will be entertained.

8.2 MOBILISATION OF MANPOWER BY SUBCONTRACTOR

- The subcontractor shall arrange induction and regular health check of their employees as per schedule VII of BOCW rules by a registered medical practitioner.
- The subcontractor shall take special care of the employees affected with occupational diseases under rule 230 and schedule II of BOCW Rules. The employees not meeting the fitness requirement should not be engaged for such job.
- Ensure that the regulatory requirements of excessive weight limit (to carry/lift/ move weights beyond prescribed limits) for male and female workers are complied with.
- Appropriate accommodation to be arranged for all workmen in hygienic condition.



SITE OPERATION by SUBCONTRACTORS REV:

Date: 20.01.2020

> Page: **12** of **43**

Doc no.: HSEP: 14

01

POWER SECTOR

8.3 **PROVISION OF PPEs**

Personnel Protective Equipment (PPEs), in adequate numbers, will be made available at site & their regular use by all concerned will be ensured

The following matrix recommends usage of minimum PPEs against the respective job.

SI.	Type of work	PPEs
No		
1	Concrete and asphalt mixing	Nose mask, hand glove, apron and gum boot
2	Welders/Grinders/ Gas cutters	Welding/face screen, apron, hand gloves, nose mask and ear
		muffs if noise level exceeds 90dB. Helmet fitted with welding shield
		is preferred for welders
3	Stone/ concrete breakers	Ear muffs, safety goggles, hand gloves
4	Electrical Work	Rubber hand glove, Electrical Resistance shoes
5	Insulation Work	Respiratory mask, Hand gloves, safety goggles
6	Work at height	Double lanyard full body harness, Fall arrestor (specific cases)
7	Grit/Sand blasting	Blast suit, blast helmet, respirator, leather gloves
8	Painting	Plastic gloves, Respirators (particularly for spray painting)
9	Radiography	As per BARC guidelines

The PPEs shall conform to the relevant standards as below and bear ISI mark.

Relevant is-codes for personal protection

IS: 2925 – 1984	Industrial Safety Helmets.
IS: 4770 – 1968	Rubber gloves for electrical purposes.
IS: 6994 - 1973 (Part-I)	Industrial Safety Gloves (Leather &Cotton Gloves).
IS: 1989 – 1986 (Part-I-II)	Leather safety boots and shoes.
IS: 5557 – 1969	Industrial and Safety rubber knee boots.
IS: 6519 – 1971	Code of practice for selections care and repair of Safety footwear.
IS: 11226 – 1985	Leather Safety footwear having direct molding sole.
IS: 5983 – 1978	Eye protectors.
IS: 9167 – 1979	Ear protectors.
IS: 1179-1967	Eye & Face protection during welding
IS: 3521 – 1983	Industrial Safety Belts and Harness
IS:8519 -1977	Guide for selection of industrial Safety equipment for body protection
IS:9473-2002,14166- 1994,14746-1999	Respiratory Protective Devices

The list is not exhaustive. The safety officer may demand additional PPEs based on specific requirement.



REV: 01

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **13** of **43**

POWER SECTOR

- Where workers are employed in sewers and manholes, which are in use, the subcontractor shall ensure that the
 manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into
 manhole, and the manholes so opened shall be cordoned off with suitable railing and provided with warning
 signals or boards to prevent incident to the public
- Besides the PPEs mentioned above, the persons shall use helmet and safety shoe. The visitors shall use Helmet and any other PPEs as deemed appropriate for the area of work.

Colour scheme for Helmets:

1. Workmen: Yellow

2. Safety staff: Green or white with green band

3. Electrician: Red

4. Others including visitors: White

- All the PPEs shall be checked for its quality before issue and the same shall be periodically checked. The users shall be advised to check the PPEs themselves for any defect before putting on. The defective ones shall be repaired/ replaced.
- The issuing agency shall maintain register for issue and receipt of PPEs.
- The Helmets shall have logo or name (abbreviation of agency name permitted) affixed or printed on the front.
- The body harnesses shall be serial numbered.

8.4 ARRANGEMENT OF INFRASTRUCTURE

8.4.1 DRINKING WATER

- Drinking water shall be provided and maintained at suitable places at different elevations.
- Container should be labeled as "Drinking Water"
- Cleaning of the storage tank shall be ensured atleast once in 3 months indicating date of cleaning and next due
 date.
- Potability of water should be tested as per IS10500 at least once in a year.

8.4.2 WASHING FACILITIES

- In every workplace, adequate and suitable facilities for washing shall be provided and maintained.
- Separate and adequate cleaning facilities shall be provided for the use of male and female workers. Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition and dully illuminated for night use.
- Overalls shall be supplied by the subcontractor to the workmen and adequate facilities shall be provided to enable the painters and other workers to wash during the cessation of work.

8.4.3 LATRINES AND URINALS

- Latrines and urinals shall be provided in every work place.
- Urinals shall also be provided at different elevations.
- They shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times, by appointing designated person.
- Separate facilities shall be provided for the use of male and female worker if any.



REV: 01

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **14** of **43**

POWER SECTOR

8.4.4 PROVISION OF SHELTER DURING REST

Proper Shed & Shelter shall be provided for rest during break

8.4.5 MEDICAL FACILITIES

8.4.5.1 MEDICAL CENTRE (As per Schedule V, X and XI of BOCW central Rules, 1998)

- A medical centre shall be ensured/identified at site with basic facilities for handling medical emergencies. The medical center can be jointly developed on proportionate sharing basis with permission from BHEL
- A qualified medical professional, not less than MBBS, shall be deployed at the medical centre
- The medical centre shall be equipped with one ambulance, with trained driver and oxygen cylinder.
- Medical waste shall be disposed as per prevailing legislation (Bio-Medical Waste –Management and Handling Rules, 1998)

8.4.5.2 FIRST AIDER

- Ensure availability of Qualified First-aider throughout the working hours.
- Every injury shall be treated, recorded and reported.
- Refresher course on first aid shall be conducted as necessary.
- List of Qualified first aiders and their contact numbers should be displayed at conspicuous places.

8.4.5.3 FIRST AID BOX (as per schedule III of BOCW)

- The subcontractor shall provide necessary first aid facilities as per schedule III of BOCW. At every work place first aid facilities shall be provided and maintained.
- The first aid box shall be kept by first aider who shall always be readily available during the working hours of the work place. His name and contact no to be displayed on the box.
- The first aid boxes should be placed at various elevations so as to make them available within the reach and at the quickest possible time.
- The first aid box shall be distinctly marked with a Green Cross on white background.
- Details of contents of first aid box is given in Annexure No. 01
- Monthly inspection of First Aid Box shall be carried out by the owner as per format no. HSEP:14-F01
- The subcontractor should conduct periodical first –aid classes to keep his supervisor and Engineers properly trained for attending to any emergency.

8.4.5.4 HEALTH CHECK UP (As per schedule VII and Form XI)

The persons engaged at the site shall undergo health checkup as per the format no. HSEP:14-F02 before induction. The persons engaged in the following works shall undergo health checkup at least once in a year:

- a. Height workers
- b. Drivers/crane operators/riggers



SITE OPERATION by SUBCONTRACTORS REV:

01

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **15** of **43**

POWER SECTOR

- Confined space workers
- d. Shot/sand blaster
- Welding and NDE personnel

8.4.6 **PROVISION OF CANTEEN FACILITY**

- Canteen facilities shall be provided for the workmen of the project inside the project site.
- Proper cleaning and hygienic condition shall be maintained.
- Proper care should be taken to prevent biological contamination.
- Adequate drinking water should be available at canteen.
- Fire extinguisher shall be provided inside canteen.
- Regular health check-up and medication to the canteen workers shall be ensured.

PROVISION OF ACCOMODATION/LABOUR COLONY 8.4.7

The subcontractor shall arrange for the accommodation of workmen at nearby localities or by making a labour
colony.
Regular housekeeping of the labour colony shall be ensured.
Proper sanitation and hygienic conditions to be maintained.
Drinking water and electricity to be provided at the labour colony.
Bathing/ washing bay
Room ventilation and electrification.

8.4.8 **PROVISION OF EMERGENCY VEHICLE**

Dedicated emergency vehicle shall be made available at workplace by each subcontractor to handle any emergency

8.4.9 **PEST CONTROL**

Regular pest control should be carried out at all offices, mainly laboratories, canteen, labour colony and stores.

8.4.10 SCRAPYARD

- In consultation with customer, scrapyard shall be developed to store metal scrap, wooden scrap, waste, hazardous waste.
- Scrap/Waste shall be segregated as Bio-degradable and non-bio-degradable and stored separately.

8.4.11 ILLUMINATION

- The subcontractor shall arrange at his cost adequate lighting facilities e.g. flood lighting, hand lamps, area lighting etc. at various levels for safe and proper working operations at dark places and during night hours at the work spot as well as at the pre-assembly area.
- Adequate and suitable light shall be provided at all work places & their approaches including passage ways as per IS: 3646 (Part-II). Some recommended values are given below:



REV: 01

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **16** of **43**

POWER SECTOR

	S. No.	Location	Illumination (Lux)
A.	Construction Are	ea	
1.		Outdoor areas like store yards, entrance and exit roads	20
2.		Platforms	50
3.		Entrances, corridors and stairs	100
4.		General illumination of work area	150
5.		Rough work like fabrication, assembly of major items	150
6.		Medium work like assembly of small machined parts	300
7.		rough measurements etc. Fine work like precision assembly, precision measurements etc.	700
8.		Sheet metal works	200
9.		Electrical and instrument labs	450
В.	Office		
1.		Outdoor area like entrance and exit roads	20
2.		Entrance halls	150
3.		Corridors and lift cars	70
4.		Lift landing	150
5.		Stairs	100
6.		Office rooms, conference rooms, library reading tables	300
7.		Drawing table	450
8.		Manual telephone exchange	200

- Lamp (hand held) shall not be powered by mains supply but either by 24V or dry cells.
- Lamps shall be protected by suitable guards where necessary to prevent danger, in case of breakage of lamp.
- Emergency lighting provision for night work shall be made to minimise danger in case of main supply failure.

If the subcontractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions issued by the authorized BHEL official, BHEL shall have the right to take corrective steps at the risk and cost of the subcontractor

9.0 HSE TRAINING& AWARENESS

9.1 HSE INDUCTION TRAINING

All persons entering into project site shall be given HSE induction training by the HSE officer of BHEL /subcontractor before being assigned to work.

In-house induction training subjects shall include but not limited to:

- · Briefing of the Project details.
- Safety objectives and targets.
- Site HSE rules.
- Site HSE hazards and aspects.
- First aid facility.
- · Emergency Contact No.
- Incident reporting.
- Fire prevention and emergency response.
- Rules to be followed in the labour colony (if applicable)



SITE OPERATION by SUBCONTRACTORS REV: 01

> Date: 20.01.2020

Doc no.: HSEP: 14

Page: **17** of **43**

POWER SECTOR

- Proper safety wear & gear must be issued to all the workers being registered for the induction (i.e., Shoes/Helmets/Goggles/Leg guard/Apron etc.)
- They must arrive fully dressed in safety wear & gear to attend the induction.
- Any one failing to conform to this safety wear& gear requirement shall not qualify to attend.
- On completing attending subcontractor's in-house HSE induction, each employee shall sign an induction training form (format no. HSEP:14-F03) to declare that he had understood the content and shall abide to follow and comply with safe work practices. They may only then be qualified to be issued with a personal I.D. card, for access to the work site.

9.2 **HSE TOOLBOX TALK**

- HSE tool Box talk shall be conducted by frontline foreman/supervisor of subcontractor to specific work groups prior to the start of work. The agenda shall consist of the followings:
 - Details of the job being intended for immediate execution.
 - The relevant hazards and risks involved in executing the job and their control and mitigating measures.
 - Specific site condition to be considered while executing the job like high temperature, humidity, unfavorable weather etc.
 - Recent non-compliances observed.
 - Appreciation of good work done by any person.
 - Any doubt clearing session at the end.
- Record of Tool box talk shall be maintained as per format no. HSEP:14-F04
- Tool box talk to be conducted at least once a week for the specific work.

9.3 TRAINING ON HEIGHT WORK

Training on height work shall be imparted to all workers working at height by in-house/external faculty at least twice in a year. The training shall include following topics:

- Use of PPEs
- Use of fall arrester, retractable fall arrester, life line, safety nets etc.
- Safe climbing through monkey ladders.
- Inspection of PPEs.
- Medical fitness requirements.
- Mock drill on rescue at height.
- Dos & Don'ts during height work.

9.4 **HSE TRAINING DURING PROJECT EXECUTION**

- Other HSE training shall be arranged by BHEL/ subcontractor as per the need of the project execution and recommendation of HSE committee of site.
- The topics of the HSE training shall be as follows but not limited to:
 - Hazards identification and risk analysis (HIRA)
 - Work Permit System
 - Incident investigation and reporting
 - Fire fighting
 - First aid
 - o Fire-warden training
 - EMS and OHSMS
 - T & Ps fitness and operation



REV: 01

> 20.01.2020 Date:

Doc no.: HSEP: 14

Page: **18** of **43**

POWER SECTOR

Electrical safety

- Welding, NDE & Radiological safety
- Storage, preservation & material handling.
- A matrix shall be maintained to keep an up-to-date record of attendance of training sessions carried out.

HSE PROMOTION-SIGNAGE, POSTERS, COMPETITION, AWARDS ETC 9.5

9.5.1 Display of HSE posters and banners

Site shall arrange appropriate posters, banners, slogans in local/Hindi/English languages at work place

9.5.2 Display of HSE signage

Appropriate HSE signage shall be displayed at the work area to aware workmen and passersby about the work going on and do's and don'ts to be followed

9.5.3 Competition on HSE and award

Site will arrange different competition (slogan, poster, essay etc.) on HSE time to time (Safety day, BHEL day, World Environment Day etc.) and winners will be suitably awarded.

9.5.4 **HSE** awareness programme

Subcontractor shall arrange HSE awareness programme periodically on different topics including medical awareness for all personnel working at site

10.0 **HSE COMMUNICATION**

10.1 INCIDENT REPORTING

- The subcontractor shall submit report of all incidents, fires and property damage etc to the Engineer immediately after such occurrence, but in any case not later than 24 hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. (Refer HSE procedure for incident investigation, analysis and reporting for details)
- In addition, periodic reports on safety shall also be submitted by the subcontractor to BHEL from time to time as prescribed by the Engineer. Compiled monthly reports of all kinds of incidents, fire and property damage to be submitted to BHEL safety officer as per prescribed formats.
- HSE incidents of site shall be reported to BHEL site Management as per Procedure for Incident Investigation and Reporting in format no. HSEP:14-F15. Corrective action shall be immediately implemented at the work place and compliance shall be verified by BHEL HSE officer and until then, work shall be put on hold by Construction Manager.

HSE EVENT REPORTING 10.2

- Important HSE events like HSE training, Medical camp etc. organized at site shall be reported to BHEL site management in detail with photographs for publication in different in-house magazines
- Celebration of important days like National Safety Day, World Environment Day etc. shall also be reported as mentioned above.

10.3 **DAILY HSE ACTIVITY REPORTING**

Daily HSE activities shall be reported by subcontractor to BHEL as per Format No. HSEP:14-F31A



REV:

POWER SECTOR

01 20.01.2020 Date:

Doc no.: HSEP: 14

Page: **19** of **43**

11.0 **OPERATIONAL CONTROL**

All applicable OCPs (Operational control procedures) will be followed by subcontractor as per BHEL instructions. This will be done as part of normal scope of work. List of such OCPs is given below. In case any other OCP is found to be applicable during the execution of work at site, then subcontractor will follow this as well, within quoted rate. These OCPs (applicable ones) will be made available to subcontractor during work execution at site. However for reference purpose, these are kept with Safety Officer of BHEL at the Power Sector Regional HQ, or available in downloadable format in the website, which may be refereed by subcontractor, if they so desire.

LIST OF OCPs

Safe handling of chemicals	Safety in use of cranes	Hydraulic test
Electrical safety	Storage and handling of gas cylinders	Spray insulation
Energy conservation	Manual arc welding	Trial run of rotary equipment
Safe welding and gas cutting operation	Safe use of helmets	Stress relieving
Fire safety	Good house keeping	Material preservation
Safety in use of hand tools	Working at height	Cable laying/tray work
First aid	Safe excavation	Transformer charging
Food safety at canteen	Safe filling of hydrogen in cylinder	Electrical maintenance
Illumination	Vehicle maintenance	Safe handling of battery system
Handling and erection of heavy metals	Safe radiography	Computer operation
Safe acid cleaning	Waste disposal	Storage in open yard
Safe alkali boil out	Working at night	For sanitary maintenance
Safe oil flushing	Blasting	Batching
Steam blowing	DG set	Piling rig operation
Safe working in confined area	Handling & storage of mineral wool	Gas distribution test
Safe operation of passenger lift, material hoists & cages	Drilling, reaming and grinding(machining)	Cleaning of hotwell / deaerator
Electro-resistance heating	Compressor operation	O&M of control of AC plant & system
Air compressor	Passivation	Safe Loading of Unit
Safe EDTA Cleaning	Safe Chemical cleaning of Pre boiler system	Safe Boiler Light up
Safe Rolling and Synchronization		

HSE ACTIVITIES 11.1

HSE activities shall be conducted at site based on the HSEMSM developed by Power Sector and issued to site by

While planning for any activity the following documents shall be referred for infrastructural requirements to establish control measures:

- 1) HSE Procedure for Register of OHS Hazards and Risks
- 2) HSE Procedure for Register of Environmental Aspects and Impacts
- 3) HSE Procedure for Register of Regulations



REV: 01

ıLv. Oi

Date: 20.01.2020

Page: 20 of 43

Doc no.: HSEP: 14

POWER SECTOR

- 4) Operational Control Procedures
- 5) HSE Procedure for Emergency Preparedness and Response Plan
- 6) Contract documents

11.2 WORK PERMIT SYSTEM

- ☐ The following activities shall come under Work Permit System
 - a. Height working above 2 metres
 - b. Hot working at height
 - c. Confined space
 - d. Radiography
 - e. Excavation more than 4 meter depth
 - f. Heavy lifting above 50 ton

Refer Annexure 05 for Work permit formats.

- "HSE Procedure for Work Permit System" shall be followed while implementing permit system. Where customer
 is having separate Work Permit System the same shall be followed.
- Permit applicant shall apply for work permit of particular work activity at particular location before starting of the work with Job Hazard Analysis.
- Permit signatory shall check that all the control measures necessary for the activity are in place and issue the permit to the permit holder.
- □ Permit holder shall implement and maintain all control measures during the period of permit .He will close the permit after completion of the work. The closed permit shall be archived in HSE Department of site.

11.3 SAFETY DURING WORK EXECUTION

Respective OCPS are to be followed and adherence to the same would be contractually binding

11.3.1 WELDING SAFETY

All safety precautions shall be taken for welding and cutting operations as per IS-818. All safety precautions shall be taken for foundation and other excavation marks as per IS-3764.

11.3.2 **RIGGING**

Rigging equipment shall not be loaded in excess of its recommended safe working load. Rigging equipment, when not in use, shall be removed from the original work area so as not to present a hazard to employees.

11.3.3 CYLINDERS STORAGE AND MOVEMENT

All gas cylinders shall be stored in upright position. Suitable trolley shall be used. There shall be flash-back arrestors conforming to IS-11006 at both cylinder and burner ends. Damaged tube and regulators must be immediately replaced. No of cylinders shall not exceed the specified quantity as per OCP

Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dragged, struck or permitted to strike each other violently.



SITE OPERATION by SUBCONTRACTORS REV:

> 20.01.2020 Date: POWER SECTOR

Doc no.: HSEP: 14

01

Page: **21** of **43**

When cylinders are transported by powered vehicle they shall be secured in a vertical position.

11.3.4 DEMOLITION WORK

Before any demolition work is commenced and also during the process of the work the following shall be ensured:

- All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- No electric cable or apparatus which is liable to be a source of danger nor a cable or an apparatus used by the operator shall remain electrically charged.
- All practical steps shall be taken to prevent danger to persons employed from the risks of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render them unsafe.

11.3.5 T&Ps

All T&Ps/ MMEs should be of reputed brand/appropriate quality & must have valid test/calibration certificates bearing endorsement from competent authority of BHEL...Subcontractor to also submit monthly reports of T&Ps deployed and validity test certificates to BHEL safety Officer as per the format/procedure of BHEL.

11.3.6 CHEMICAL HANDLING

Displaying safe handling procedures for all chemicals such as lube oil, acid, alkali, sealing compounds etc , at work place. Where it is necessary to provide and/or store petroleum products or petroleum mixture & explosives, the subcontractor shall be responsible for carrying out such provision / storage in accordance with the rules & regulations laid down in the relevant petroleum act, explosive act and petroleum and carbide of calcium manual, published by the chief inspector of explosives of India. All such storage shall have prior approval if necessary from the chief inspector of explosives or any other statutory authority. The subcontractor shall be responsible for obtaining the same.

11.3.7 ELECTRICAL SAFETY

- Providing adequate no. of 24 V sources and ensure that no hand lamps are operating at voltage level above 24 Volts.
- Fulfilling safety requirements at all power tapping points.
- High/ Low pressure welders to be identified with separate colour clothings. No welders will be deployed without passing appropriate tests and holding valid welding certificates. Approved welding procedure should be displayed at work place.
- The subcontractor shall not use any hand lamp energized by Electric power with supply voltage of more than 24 volts in confined spaces like inside water boxes, turbine casings, condensers etc.
- All portable electric tools used by the subcontractor shall have safe plugging system to source of power and be appropriately earthed. Only electricians licensed by appropriate statutory authority shall be employed by the subcontractor to carry out all types of electrical works. Details of earth resource ad their test date to be given to BHEL safety officer as per the prescribed formats of BHEL
- The subcontractor shall use only properly insulated and armored cables which conform to the requirement of Indian Electricity Act and Rules for all wiring, electrical applications at site.



SITE OPERATION by SUBCONTRACTORS REV: 01

> Date: 20.01.2020 POWER SECTOR

Doc no.: HSEP: 14

Page: **22** of **43**

BHEL reserves the right to replace any unsafe electrical installations, wiring, cabling etc. at the cost of the subcontractor.

- All electrical appliances used in the work shall be in good working condition and shall be properly earthed.
- No maintenance work shall be carried out on live equipment.
- The subcontractor shall maintain adequate number of qualified electricians to maintain his temporary electrical installations.
- Area wise Electrical safety inspection is to be carried out on monthly basis as per "Electrical Safety Inspection checklist' and the report is to be submitted to BHEL safety officer
- Adequate precautions shall be taken to prevent danger for electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public
- The subcontractor shall carefully follow the safety requirement of BHEL/ the purchaser with the regard to voltages used in critical areas.

11.3.8 FIRE SAFETY

- Providing appropriate fire fighting equipment at designated work place and nominate a fire officer/warden adequately trained for his job.
- Subcontractor shall provide enough fire protecting equipment of the types and numbers at his office, stores, temporary structure in labor colony etc. Such fire protection equipment shall be easy and kept open at all times.
- The fire extinguishers shall be properly refilled and kept ready which should be certified at periodic intervals. The date of changing should be marked on the Cylinders.
- All other fire safety measures as laid down in the "codes for fire safety at construction site" issued by safety coordinator of BHEL shall be followed.
- Non-compliance of the above requirement under fire protection shall in no way relieve the subcontractor of any of his responsibility and liabilities to fire incident occurring either to his materials or equipment or those of others.
- Emergency contacts nos must be displayed at prominent locations
- Tarpaulin being inflammable should not be used (instead, only non-infusible covering materials shall be used) as protective cover while preheating, welding, stress relieving etc. at site.

11.3.9 SCAFFOLDING

- Suitable scaffolds shall be provided for workman for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration of work which can be done safely from ladders.
- When a ladder is used, it shall be of rigid construction made of steel. The steps shall have a minimum width of 45 cm and a maximum rise of 30 cm. Suitable handholds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper then 1/4 horizontal and 1 vertical.
- Scaffolding or staging more than 3.6 m above the ground floor, swung or suspended from an overhead support or erected with stationery support shall have a guard rail properly bolted, braced or otherwise secured, at least 90 cm above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from saver, from swaying, from the building or structure.

11.3.10 **WORK AT HEIGHT**:

Guardrails and toe-board/barricades and sound platform conforming to IS:4912-1978 should be provided.



REV: 01

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **23** of **43**

POWER SECTOR

- Wherever necessary, life-line (pp or metallic) and fall arrestor along with Polyamide rope or Retractable lifeline should be provided.
- Safety Net as per IS:11057:1984 should be used extensively for prevention/ arrest of men and materials falling from height. The safety nets shall be fire resistant, duly tested and shall be of ISI marked and the nets shall be located as per site requirements to arrest or to reduce the consequences of a possible fall of persons working at different heights.
- Reaching beyond barricaded area without lifeline support, moving with support of bracings, walking on beams without support, jumping from one level to another, throwing objects and taking shortcut must be discouraged.
- Use of Rebar steel for making Jhoola and monkey-ladder (Rods welded to vertical or inclined structural members), temporary platform etc. must be avoided.
- Monkey Ladder should be properly made and fitted with cages.
- Jhoola should be made with angles and flats and tested like any lifting tools before use.
- Lanyard must be anchored always and in case of double lanyard, each should be anchored separately.
- In case of pipe-rack, persons should not walk on pipes and walk on platforms only.
- In case of roof work, walking ladder/ platform should be provided along with lifeline and/ or fall arrestor.
- Empty drums must not be used.
- For chimney or structure painting, both hanging platform and men should be anchored separately to a firm structure along with separate fall arrestor. Rope ladder should be discouraged.

11.3.11 WORKING PLATFORM

Working platforms, gangways and stairways shall be so constructed that they do not sag unduly or unequally and if the height of the platform gangways provided is more than 3.6 m above ground level or floor level, they shall be closely boarded and shall have adequate width which shall not be less than 750 mm and be suitably fenced as described above. Every opening in the floor or a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 90 cm.

11.3.12 EXCAVATION

Wherever there are open excavation in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations.

11.3.13 LADDER SAFETY

Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m in the length while the width between side rails in rung ladder shall in no case be less than app. 29.2 cm for ladder upto and including 3 m in length. For longer ladders this width shall be increased at least ¼" for each additional foot of length.

A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer obtained prior to Construction.

11.3.14 LIFTING SAFETY

• It will be the responsibility of the subcontractor to ensure safe lifting of the equipment, taking due precaution to avoid any incident and damage to other equipment and personnel.



SITE OPERATION by SUBCONTRACTORS REV:

> 20.01.2020 Date: POWER SECTOR

Doc no.: HSEP: 14

01

Page: 24 of 43

All requisite tests and inspection of handling equipment, tools & tackle shall be periodically done by the subcontractor by engaging only the Competent Persons as per law.

- Defective equipment or uncertified shall be removed from service.
- Any equipment shall not be loaded in excess of its recommended safe working load.

11.3.15 HOISTING APPLIANCE

- Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safe guards.
- Hoisting appliance should be provided with such means as will reduce to the minimum the risk of any part of a suspended load becoming incidentally displaced.
- When workers employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided.
- The worker should not wear any rings, watches and carry keys or other materials which are good conductor of electricity.

11.4 **ENVIRONMENTAL CONTROL**

Environment protection has always been given prime importance by BHEL. Environmental damage is a major concern of the principal subcontractor and every effort shall be made, to have effective control measures in place to avoid pollution of Air, Water and Land and associated life. Chlorofluorocarbons such as carbon tetrachloride and trichloroethylene shall not be used. Waste disposal shall be done in accordance with the guidelines laid down in the project specification.

Any chemical including solvents and paints, required for construction shall be stored in designated bonded areas around the site as per Material Safety Data Sheet (MSDS).

In the event of any spillage, the principle is to recover as much material as possible before it enters drainage system and to take all possible action to prevent spilled materials from running off the site. The subcontractor shall use appropriate MSDS for clean-up technique

All subcontractors shall be responsible for the cleanliness of their own areas.

The subcontractors shall ensure that noise levels generated by plant or machinery are as low as reasonably practicable. Where the subcontractor anticipates the generation of excessive noise levels from his operations the subcontractor shall inform to Construction Manager of BHEL accordingly so that reasonable &practicable precautions can be taken to protect other persons who may be affected.

It is imperative on the part of the subcontractor to join and effectively contribute in joint measures such as tree plantation, environment protection, contributing towards social upliftment, conversion of packing woods to school furniture, keeping good relation with local populace etc.

The subcontractor shall carry out periodic air and water quality check and illumination level checking in his area of work place and take suitable control measure.

11.5 **HOUSEKEEPING**

Keeping the work area clean/free from debris, removed scaffoldings, scraps, insulation/sheeting wastage/cut pieces, temporary structures, packing woods etc. will be in the scope of the subcontractor. Such cleanings has to be done by



REV: 01

12.

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **25** of **43**

POWER SECTOR

subcontractor within quoted rate, on daily basis by an identified group. If such activity is not carried out by subcontractor / BHEL is not satisfied, then BHEL may get it done by other agency and actual cost along with BHEL overheads will be deducted from contractor's bill. Such decisions of BHEL shall be binding on the subcontractor

- Proper housekeeping to be maintained at work place and the following are to be taken care of on daily basis.
- All surplus earth and debris are removed/disposed off from the working areas to identified locations.
- Unused/Surplus cables, steel items and steel scrap lying scattered at different places/elevation within the working areas are removed to identified locations.
- All wooden scrap, empty wooden cable drums and other combustible packing materials, shall be removed from workplace to identified locations. Sufficient waste bins shall be provided at
- Different work places for easy collection of scrap/waste. Scrap chute shall be installed to remove scrap from high location.
- Access and egress (stair case, gangways, ladders etc.) path should be free from all scrap and other hindrances.
- Workmen shall be educated through tool box talk about the importance of housekeeping and encourage not to litter.
- Labour camp area shall be kept clear and materials like pipes, steel, sand, concrete, chips and bricks, etc. shall not be allowed in the camp to obstruct free movement of men and machineries.
- Fabricated steel structures, pipes & piping materials shall be stacked properly.
- No parking of trucks/trolleys, cranes and trailers etc. shall be allowed in the camp, which may obstruct the traffic movement as well as below LT/HT power line.
- Utmost care shall be taken to ensure over all cleanliness and proper upkeep of the working areas

11.6 WASTE MANAGEMENT

Take suitable measures for waste management and environment related laws/legislation as a part of normal construction activities. Compliance with the legal requirements on storage/ disposal of paint drums (including the empty ones), Lubricant containers, Chemical Containers, and transportation and storage of hazardous chemicals will be strictly maintained.

11.6.1 BINS AT WORK PLACE

- Sufficient rubbish bins shall be provided close to workplaces.
- Bins should be painted yellow and numbered.
- Sufficient nos. of drip trays shall be provided to collect oil and grease.
- Sufficient qty. of broomsticks with handle shall be provided.
- Adequate strength of employees should be deployed to ensure daily monitoring and service for waste management.

11.6.2 STORAGE AND COLLECTION

- Different types of rubbish/waste should be collected and stored separately.
- Paper, oily rags, smoking material, flammable, metal pieces should be collected in separate bins with close fitting
 lide.
- Rubbish should not be left or allowed to accumulate on construction and other work places.
- Do not burn construction rubbish near working site.



SITE OPERATION by SUBCONTRACTORS REV:

> Date: 20.01.2020

> > Page: **26** of **43**

Doc no.: HSEP: 14

01

POWER SECTOR

11.6.3 SEGREGATION

- Earmark the scrap area for different types of waste.
- Store wastes away from building.
- Oil spill absorbed by non-combustible absorbent should be kept in separate bin.
- Clinical and first aid waste stored and incinerated separately.

11.6.4 DISPOSAL

- Sufficient containers and scrap disposal area should be allocated.
- All scrap bin and containers should be conveniently located.
- Provide self-closing containers for flammable/spontaneously combustible material.
- Keep drainage channels free from choking.
- Make schedule for collection and disposal of waste.

11.6.5 WARNING AND SIGNS

- Appropriate sign to be displayed at scrap storage area
- No toxic, corrosive or flammable substance to be discarded into public sewage system.
- Waste disposal shall be in accordance with best practice.
- Comply with all the requirements of Pollution Control Board (PCB) for storage and disposal of hazardous waste.

11.7 TRAFFIC MANAGEMENT SYSTEM

11.7.1 SAFE WORKPLACE TRANSPORT SYSTEM

- Traffic routes in a work place shall be suitable for the persons or vehicles using them. This shall be sufficient in number and of sufficient size. This shall reflect the suitability of traffic routes for vehicles and pedestrians.
- Where vehicles and pedestrians use the same traffic routes there shall be sufficient space between them. Where necessary all traffic routes must be suitably indicated. Pedestrians or vehicles must be able to use traffic routes without endangering those at work. There must be sufficient separation of traffic routes from doors, gates and pedestrian traffic routes.
- For internal traffic, lines marked on roads / access routes and between buildings shall clearly indicate where vehicles are to pass.
- Temporary obstacles shall be brought to the attention of drivers by warning signs or hazard cones.
- Speed limits shall be clearly displayed. Speed ramps preceded by a warning signs or marker are necessary.
- The traffic route should be wide enough to allow vehicles to pass and re-pass oncoming or parked traffic and it may be advisable to introduce on-way system or parking restrictions.
- Safest route shall be provided between places where vehicles have to call or deliver.
- Avoid vulnerable areas/items such as fuel or chemicals tanks or pipes, open or unprotected edges and structures likely to collapse



REV: 01

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **27** of **43**

POWER SECTOR

- Safe areas shall be provided for loading and unloading.
- Avoid sharp or blind bends. If this is not possible hazards should be indicated e.g. blind corner.
- Ensure road crossings are minimum and clearly signed.
- Entrance and gateways shall be wide enough to accommodate a second vehicle without causing obstruction.
- Set sensible speed limits which are clearly sign posted.
- Where necessary ramps should be used to retard speed. This shall be preceded by a warning sign or mark on the road.
- Forklift trucks shall not pass over road hump unless of a type capable of doing so.
- Overhead electric cable, pipes containing flammable hazardous chemical shall be shielded by using goal posts height gauge posts or barriers.
- Road traffic signs shall be provided on prominent locations for prevention of incidents and hazards and for quick
 guidance and warning to employees and public. Safety signs shall be displayed as per the project working
 requirement and guideline of the state in which project is done. Vehicles hired or used shall not be parked within
 the 15m radius of any working area. Any vehicle, that is required to be at the immediate/near the vicinity, shall be
 approved by the person in-charge of the site.

11.7.2 TRAFFIC ROUTE FOR PEDESTRIANS

- Where traffic routes are used by both pedestrians and vehicles road shall be wide enough to allow vehicles and pedestrians safely.
- Separate routes shall be provided for pedestrians to keep them away from vehicles. Provide suitable barriers/guard at entrances/exit and the corners or buildings.
- Where pedestrian and vehicle routes cross, appropriate crossing shall be provided.
- Where crowd is likely to use roadway e.g. at the end of shift, stop vehicles from using them at such times.
- Provide high visibility clothing for people permitted in delivery area.

11.7.3 WORK VEHICLE

Work vehicle shall be as safe stable efficient and roadworthy as private vehicles on public roads. Site management shall ensure that drivers are suitably trained. All vehicle e.g. heavy motor vehicle forklift trucks dump trucks mobile cranes shall ensure that the work equipment conforms to the following:

- o A high level of stability.
- o A safe means of access/egress.
- o Suitable and effective service and parking brakes.
- o Windscreens with wipers and external mirrors giving optimum all round visibility.
- o Provision of horn, vehicle lights, reflectors, reversing lights, reversing alarms.
- Provision of seat belts.
- Guards on dangerous parts.
- o Driver protection to prevent injury from overturning and from falling objects/materials.
- Driver protection from adverse weather.
- No vehicle shall be parked below HT/LT power lines.
- Valid Pollution Under Control certification for all vehicles



SITE OPERATION by SUBCONTRACTORS REV:

> Date: 20.01.2020 POWER SECTOR

Doc no.: HSEP: 14

01

Page: 28 of 43

11.7.4 **DAILY CHECK BY DRIVER**

There should also be daily safety checks containing below mentioned points by the driver before the vehicle is

- 0 Brakes.
- Tires. 0
- Steering. 0
- Mirrors.
- Windscreen waters.
- 0 Wipers.
- Warning signals.
- Specific safety system i.e. control interlocks
- Management should ensure that drivers carry out these checks.

11.7.5 TRANSPORTATION OF PERSONNEL AND MATERIALS BY VEHICLES

- All drivers shall hold a valid driving License for the class of vehicle to be driven and be registered as an authorized BHEL driver with the Administration Department.
- Securing of the load shall be by established and approved methods, i.e. chains with patented tightening equipment for steel/heavy loads. Sharp corners on loads shall be avoided when employing ropes for securing.
- All overhangs shall be made clearly visible and restricted to acceptable limits
- Load shall be checked before moving off and after traveling a suitable distance.
- On no account is construction site to be blocked by parked vehicles Drivers of vehicles shall only stop or park in the areas designate by the stringing foreman.
- Warning signs shall be displayed during transportation of material. All vehicles used by BHEL shall be in worthy condition and in conformance to the Land Transport requirement.

11.7.6 **MAINTENANCE**

All Vehicles used for transportation of man and material shall undergo scheduled inspections on frequent intervals to secure safe operation. Such inspections shall be conducted in particular for steering, brakes, lights, horn, doors etc. Site management shall ensure that work equipment is maintained in an efficient, working order and in good repair. Inspections and services carried out at regular intervals of time and or mileage. No maintenance shall be carried below HT/LT power lines.

EMERGENCY PREPAREDNESS AND RESPONSE 11.8

- Emergency preparedness and response capability of site shall be developed as per Emergency Preparedness and Response plan issued by Regional HQ
- Availability of adequate number of first aiders and fire warden shall be ensured with BHEL and its subcontractors
- All the subcontractor's supervisory personnel and sufficient number of workers shall be trained for fire protection systems. Enough number of such trained personnel must be available during the tenure of contract. Subcontractor should nominate his supervisor to coordinate and implement the safety measures.
- Assembly point shall be earmarked and access to the same from different location shall be shown
- Fire exit shall be identified and pathway shall be clear for emergency escape.



REV: 01

Date: 20.01.2020

Dale. 20.01.2

Doc no.: HSEP: 14

POWER SECTOR

Page: 29 of 43

- Appropriate type and number of fire extinguisher shall be deployed as per Fire extinguisher deployment plan and validity shall be ensured periodically through inspection
- Adequate number of first aid boxes shall be strategically placed at different work places to cater emergency
 need. Holder of the first aid box shall be identified on the box itself who will have the responsibility to maintain the
 same
- First aid center shall be developed at site with trained medical personnel and ambulance
- Emergency contact numbers (format given in EPRP) of the site shall be displayed at prominent locations.
- Tie up with fire brigade shall be done in case customer is not having fire station.
- Tie up with hospital shall be done in case customer is not having hospital.
- Disaster Management group shall be formed at site
- Mock drill shall be arranged at regular intervals. Monthly report of the above to be given to BHEL safety Officer as per prescribed BHEL formats
- Mock drill shall be conducted on different emergencies periodically to find out gaps in emergency preparedness and taking necessary corrective action

12.0 HSE INSPECTION

Inspection on HSE for different activities being carried out at site shall be done to ensure compliance to HSEMS requirements. The subcontractor shall maintain and ensure necessary safety measures as required for inspection and tests HV test, Pneumatic test, Hydraulic test, Spring test, Bend test etc. as applicable, to enable inspection agency for performing Inspection. If any test equipment is found not complying with proper safety requirements then the Inspection Agency may withhold inspection, till such time the desired safety requirements are met.

12.1 DAILY HSE CHECKS

Both the Site Supervisors and safety officer of Subcontractor are to conduct daily site Safety inspection around work activities and premises to ensure that work methods and the sites are maintained to an acceptable standard. The following are to form the common subjects of a daily safety inspection:

- Personal Safety wears & gear compliance.
- Complying with site safety rules and permit-to-work (PTW).
- Positions and postures of workers.
- Use of tools and equipment etc. by the workers.

The inspection should be carried out just when work starts in beginning of the day, during peak activities period of the day and just before the day's work ends.

12.2 INSPECTION OF PPE

- PPEs shall be inspected by HSE officer at random once in a week as per format no. HSEP:14-F06 for its compliance to standard and compliance to use and any adverse observation shall be recorded in the PPE register.
- The applicable PPEs for carrying out particular activities are listed below.



SITE OPERATION by SUBCONTRACTORS REV:

> Date: 20.01.2020

> > Page: **30** of **43**

Doc no.: HSEP: 14

01

POWER SECTOR

12.3 **INSPECTION OF T&Ps**

- A master list of T&Ps shall be maintained by each subcontractor.
- All T&Ps being used at site shall be inspected by HSE officer once in a month as per format no. HSEP:14-F07 for its healthiness and maintenance.
- The T&Ps which require third party inspection shall be checked for its validity during inspection. The third party test certificate should be accompanied with a copy of the concerned competent person's valid qualification record.
- The validity of T&P shall be monitored as per "Status of T&Ps" format no. HSEP:14-F08

12.4 **INSPECTION OF CRANES AND WINCHES**

- Cranes and winches shall be inspected by the operator through a daily checklist for its safe condition (as provided by the equipment manufacturer) before first use of the day.
- Cranes and Winches shall be inspected by HSE officer once in a month as per format no. HSEP:14-F09 for healthiness, maintenance and validity of third party inspection.
- The date of third party inspection and next due date shall be painted on cranes and winches.
- The operators/drivers shall be authorized by sub-contractor based on their competency and experience and shall carry the I-card.
- The operator should be above 18 years of age and should be in possession of driving license of HMV man & goods), vision test certificate and should have minimum qualification so that he can read the instructions and check list.

INSPECTION ON HEIGHT WORKING 12.5

- Inspection on height working shall be conducted daily by supervisors before start of work to ensure safe working condition including provision of
 - Fall arrestor
 - Lifelines
 - Safety nets
 - Fencing and barricading
 - Warning signage
 - Covering of opening
 - Proper scaffolding with access and egress.
 - Illumination
- Inspection on height working shall be conducted once in a week by HSE officer as per format no. HSEP:14-F10.
- Medical fitness of height worker shall be ensured.
- Height working shall not be allowed during adverse weather.

INSPECTION ON WELDING AND GAS CUTTING OPERATION 12.6

- Supervisor shall ensure that no flammable items are available in near vicinity during welding and gas cutting activity.
- Gas cylinders shall be kept upright.
- Use of Flash back arrestor shall be ensured at both ends.



SITE OPERATION by SUBCONTRACTORS REV:

01

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **31** of **43**

POWER SECTOR

- Inspection during welding and gas cutting operations shall be carried out by HSE officer once a month as per format no. HSEP:14-F11.
- Use of fire blanket to be ensured to avoid falling of splatters during welding or gas cutting operation at height.
- Availability of fire extinguisher at vicinity shall be ensured.

12.7 INSPECTION ON ELECTRICAL INSTALLATION / APPLIANCES

- Ensure proper earthing in electrical installation
- Use ELCB at electrical booth
- Electrical installation shall be properly covered at top where required
- Use appropriate PPEs while working
- Use portable electrical light < 24 V in confined space and potentially wet area.
- Monthly inspection shall be carried out as per format no. HSEP:14-F12.

12.8 **INSPECTION OF ELEVATOR**

- Elevators shall be inspected by concerned supervisors once in a week as per format no. HSEP:14-F13.
- All elevators shall be inspected by competent person and validity shall be ensured.
- The date of third party inspection and next due date shall be painted on elevator.

12.9 **INSPECTION OF EXCAVATION**

Excavation activities shall be inspected as per Format HSEP:14-F13A

13.0 **HSE PERFORMANCE**

- Contractor shall be assessed on monthly basis for HSE Compliance by BHEL Safety In-charge at site. The HSE compliance shall be based on Online HSE Evaluation System of BHEL as per Format No. HSEP:14-
- BHEL shall reserve the right to use this assessment for evaluating bidder's capacity for future tenders
- Suitable HSE reward system shall be developed at site level to promote HSE compliance amongst workmen by the subcontractor.
 - To decide HSE reward, performance towards HSE shall be evaluated for workmen and it shall be awarded regularly in public gathering.
- If safety record of the subcontractor in execution of the awarded job is to the satisfaction of safety department of BHEL, issue of an appropriate certificate to recognize the safety performance of the subcontractor may be considered by BHEL after completion of the job.



REV:

Date: 20.01.2020

Page: **32** of **43**

Doc no.: HSEP: 14

01

POWER SECTOR

14.0 HSE PENALTIES

- As per contractual provision HSE penalties shall be imposed on subcontractors for non- compliance on HSE requirement as per format no. HSEP:14-F14. The list in the format is only indicative. For any other violation, not listed in the format, the minimum penalty amount is to be decided as per BOCW act.
- If principal customer/statutory and regulatory bodies impose some penalty on HSE due to the non-compliance of the subcontractor the same shall be passed on to them.
- The penalty amount shall be recovered by Site Finance department from subcontractors from the RA/Final bill.

15.0 OTHER REQUIREMENTS

- In case of any delay in completion of a job due to mishaps attributable to lapses by the subcontractor, BHEL shall have the right to recover cost of such delay from the payments due to the subcontractor, after notifying the subcontractor suitably.
- If the subcontractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given reasonable opportunity to do so and/or if the subcontractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instruction regarding safety issued by BHEL, BHEL shall have the right to take corrective steps at the risk and cost of the subcontractor after giving a notice of not less than 7 days indicating the steps that would be taken by BHEL.
- If the subcontractor succeeds in carrying out its job in time without any fatal or disabling injury incident and without any damage to property BHEL may, at its sole discretion, favorably consider to reward the subcontractor suitably for the performance.
- In case of any damage to property due to lapses by the subcontractor, BHEL shall have the right to recover the cost of such damages from the subcontractor after holding an appropriate enquiry.
- The subcontractor shall take all measures at the sites of the work to protect all persons from incidents and shall be bound to bear the expenses of defense of every suit, action or other proceeding of law that may be brought by any persons for injury sustained or death owing to neglect of the above precautions and to pay any such persons such compensation or which may with the consent of the subcontractor be paid to compromise any claim by any such person, should such claim proceeding be filed against BHEL, the subcontractor hereby agrees to indemnify BHEL against the same.
- The subcontractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, overalls shall be supplied by the subcontractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.
- The subcontractor shall notify BHEL of his intention to bring to site any equipment or material which may create hazard.
- BHEL shall have the right to prescribe the conditions under which such equipment or materials may be handled and the subcontractor shall adhere to such instructions.



REV: 01

20.01.2020 Date:

Doc no.: HSEP: 14

Page: **33** of **43**

POWER SECTOR

BHEL may prohibit the use of any construction machinery, which according to the organization is unsafe. No claim for compensation due to such prohibition will be entertained by BHEL.

16. NON COMPLIANCE

NONCONFORMITY OF SAFETY RULES AND SAFETY APPLIANCES WILL BE VIEWED SERIOUSLY AND BHEL HAS RIGHT TO IMPOSE FINES ON THE SUBCONTRACTOR AS UNDER FOR EVERY INSTANCE OF VIOLATION NOTICED:

SN	Violation of Safety Norms	Fine (in Rs)
01	Not Wearing Safety Helmet	200/- *
02.	Not wearing Safety Belt or not anchoring life line	500/-*
03	Not wearing safety shoe	200/-*
04	Not keeping gas cylinders vertically	200/-
05	Not using flash back arrestors	100/-
06	Not wearing gloves	50/- *
07.	Grinding Without Goggles	50/- *
08.	Not using 24 V Supply For Internal Work	500/-
09.	Electrical Plugs Not used for hand Machine	100/-
10.	Not Slinging properly	200/-
11.	Using Damaged Sling	200/-
12.	Lifting Cylinders Without Cage	500/-
13.	Not Using Proper Welding Cable With Lot of Joints And Not	200/-
	Insulated Property.	
14.	Not Removing Small Scrap From Platforms	500/-
15.	Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting	500/-
16.	Not Maintaining Electric Winches Which are Operated Dangerously	500/-
17.	Improper Earthing Of Electrical T&P	500/-
18	No or improper barricading	500/-
19.	Activity carried out without Safety work permit (Height work, Lifting activity, Hot work-each person/case)	1000/-
20.	Incident Resulting in Partial Loss in Earning Capacity	25,000/- per victim
21.	Fatal Incident Resulting in total loss in Earning Capacity	1,00,000/- per victim for first instance #

#: or as deducted by customer, whichever is higher. For repeated fatal incident in the same Unit incremental penalty to be imposed. The subcontractor will pay 2 times the penalty compared to previously paid in case there are repeated cases of fatal incidents under the same subcontractor for the same package in the same unit.

Any other non-conformity noticed not listed above will also be fined as deemed fit by BHEL. The decision of BHEL engineer is final on the above. The amount will be deducted from running bills of the subcontractor. The amount collected above will be utilized for giving award to the employees who could avoid incident by following safety rules. Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.

^{*:} per head. For repeated violation by the same person, the penalty would be double of the previous penalty. Date of "Repeated violation" will be counted from subsequent days.



SITE OPERATION by SUBCONTRACTORS REV:

> 20.01.2020 Date:

> > Page: **34** of **43**

Doc no.: HSEP: 14

01

POWER SECTOR

17.0 **HSE AUDIT/INSPECTION**

- Regular HSE Audit/inspection shall be carried out by Subcontractor as per Site HSE audit calendar.
- HSE checklist (Annexure 02) shall be used for carrying out audit/inspection and report shall be submitted to BHEL site management
- All non-conformities and observations on HSE identified during internal or external HSE audit shall be disposed off by site in a time bound manner and reported back the implementation status
- Corrective action and Preventive action on HSE issues raised by certification body issued by Regional HQs shall be implemented by site and reported to Site management.

18.0 MONTHLY HSE REVIEW MEETING

- Site shall hold HSE review meeting every month to discuss and resolve HSE issues of site and improve HSE performance. It will also discuss the incidents occurred since previous meeting, its root cause and Corrective action and Preventive action. The agenda is given below:
 - Implementation of earlier MOM
 - **HSE** performance
 - **HSE** inspection 0
 - HSE audit and CAPA 0
 - **HSE** training
 - Health check-up camp
 - HSE planning for the erection and commissioning and installation activities in the coming month
 - HSE reward and promotional activities
- The meeting shall be chaired by Construction Manager, convened by HSE coordinator and attended by all HOS, Site Incharge of Subcontractors and HSE officer of Subcontractors.
- MOM on the discussion will be circulated to the concerned for implementation.

FORMATS USED (Details available in Annexure-04)

SL. No.	Format Name	Format No.	Rev No.
01	Inspection of First Aid Box	HSEP:14-F01	00
02	Health Check Up	HSEP:14-F02	00
03	HSE Induction Training	HSEP:14-F03	00
04	Tool Box Talk	HSEP:14-F04	00
05	Monthly Site HSE Report	As specified by BHEL	00
06	Inspection of PPE	HSEP:14-F06	00



Doc no.: HSEP: 14

REV: 01

Date: 20.01.2020

Page: **35** of **43**

POWER SECTOR

07	Inspection of T&Ps	HSEP:14-F07	00
08	Status of T&Ps	HSEP:14-F08	00
09	Inspection of Cranes and Winches	HSEP:14-F09	00
10	Inspection on Height Working	HSEP:14-F10	00
11	Inspection on Welding & Gas Cutting	HSEP:14-F11	00
12	Inspection on Electrical Installation	HSEP:14-F12	00
13	Inspection on Elevator	HSEP:14-F13	00
14	HSE Penalty	HSEP:14-F14	00
15	Accident /incident / property damage /fire incident report	HSEP:14-F15	00
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SITE OPERATION by SUBCONTRACTORS

POWER SECTOR

Doc no.: HSEP: 14

REV: 01

20.01.2020 Date:

Page: **36** of **43**

20.0 **ANNEXURES**

ANNEXURE 01

As per Contract Labour (Regulation & Abolition Act), Central Rules, 1971,

(1) The first-aid box shall be distinctively marked with a Red Cross on a white background and shall contain the following items, namely:

(a) For establishments in which the number of contract labour employed does not exceed fifty, each first aid box shall contain the following equipment:

(i)	6 small sterilized dressings
(ii)	3 medium size sterilized dressings
(iii)	3 large size sterilized dressings
(iv)	6 pieces of sterilized eye pads in separate sealed packets.
(v)	6 roller bandages 10 cm wide.
(vi)	6 roller bandages 5 cm wide.
(vii)	One tourniquet
(viii)	A supply of suitable splints
(ix)	Three packets of safety pins.
(x)	Kidney tray.
(xi)	3 large sterilized burn dressings.
(xii)	1 (30ml) bottle containing a two percent alcoholic solution of iodine
(xiii)	1 (30 ml) bottle containing Sal volatile having the dose and mode of administration
	indicated on the label
(xiv)	1 snake bite lancet
(xv)	1 (30gms) bottle of potassium permanganate crystals.
(xvi)	1 pair scissors
(xvii)	1 copy of the First-Aid leaflet issued by the Director General, Factory Advice Service and
	Labour Institutes, Government of India.
(xviii)	A bottle containing 100 tablets (each of 5 grains) of aspirin
(xix)	Ointment for burns
(xx)	A bottle of suitable surgical anti-septic solution

(b) For establishment in which the number of contract labour exceeds fifty each first-aid box shall contain the following equipment:

(i)	12 small sterilized dressings
(ii)	6 medium size sterilized dressings
(iii)	6 large size sterilized dressings.
(iv)	6 large size sterilized burn dressings
(v)	6 (15 grams) packets sterilized cotton wool
(vi)	12 pieces of sterilized eye pads in separate sealed packets.



REV: 01

nev. u

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **37** of **43**

POWER SECTOR

(vii)	12 roller bandages 10 cm wide.	
(viii)	12 roller bandages 5 cm wide.	
(ix)	One tourniquet.	
(x)	A supply of suitable splints.	
(xi)	Three packets of safety pins.	
(xii)	Kidney tray.	
(xiii)	Sufficient number of eye washes bottles filled with distilled water or suitable liquid clearly indicated by a distinctive sign which shall be visible at all times.	
(xiv)	4 per cent Xylocaine eye drops, and boric acid eye drops and soda by carbonate eye drops.	
(xv)	1 (60ml) bottle containing a two percent alcoholic solution of iodine	
(xvi)	One (two hundred ml) bottle of mercurochrome (2 per cent) solution in water.	
(xvii)	1 (120ml) bottle containing Sal volatile having the dose and mode of administration indicated on the label.	
(xviii)	1 roll of adhesive plaster (6 cmX1 meter)	
(xix)	2 rolls of adhesive plaster (2 cmX1 meter)	
(xx)	A snake bite lancet.	
(xxi)	1 (30 grams) bottle of potassium permanganate crystals.	
(xxii)	1 pair scissors	
(xxiii)	1 copy of the First-Aid leaflet issued by the Director-General, Factory Advice service and labour Institutes, Government of India.	
(xxiv)	a bottle containing 100 tablets (each of 5 grains) of aspirin	
(xxv)	Ointment for burns	
(xxvi)	A bottle of a suitable surgical anti septic solution.	

(2) Adequate arrangement shall be made for immediate recoupment of the equipment when necessary.



POWER SECTOR

Doc no.: HSEP: 14

REV: 01

20.01.2020 Date:

Page: **38** of **43**

ANNEXURE 02

HSE AUDIT/INSPECTION CHECKLIST CUM COMPLIANCE REPORT				
PROJECT:	DJECT:SUBCONTRACTOR:			
DATE :	OWNER :			
INSPECTION BY:				
Note: write 'NA' wherever the items is not applicable				
Item	Υ	N	Remarks	Action
	е	0		
HOUSEKEEPING	S			
Waste containers provided and used				
Passageways and walkways clear				
General neatness of working area				
Other				
PERSONNELPROTECTIVEEQUIPTMENTS				
Goggles; shields				
Face protection				
Hearing protection				
Respiratory masks etc.				
Safety belts				
Other				
EXCAVATIONS / OPENINGS				
Openings properly covered or barricaded				
Excavations shored				
Excavations barricaded				
Overnight lighting provided				
Other				
WELDING, CUTTING				
Gas cylinders chained upright				
Cable and hoses not obstructing				
Fire extinguisher (s) accessible				
Others				
SCAFFOLDING				
Fully decked platforms				
Guard and intermediate rails in place		ļ		
Toe boards in place		ļ		
Adequate shoring				
Adequate access				
Others		ļ		
LADDER		ļ		
Extension side rails 1 m above				
Top of landing		ļ		
Properly secured				



Doc no.: HSEP: 14

REV: 01

Date: 20.01.2020

Page: **39** of **43**

POWER SECTOR

Angle + 70 ^o from horizontal		
Other	+	
HOISTS, CRANES AND DERRICKS		
Condition of cables and sheaf OK		
Condition of slings, chains, hooks OK		
Inspection & maintenance log maintained		
Outriggers used		
Signals observed and understood		
Qualified operators		
Others		
MACHINERY, TOOLS & EQUIPMENT		
Proper instruction		
Safety devices		
Proper cords		
Inspection and maintenance		
Other		
VEHICLE AND TRAFFIC		
Rules and regulations observed		
Inspection and maintenance		
Licensed drivers	+ +	
Other	+ + + + + + + + + + + + + + + + + + + +	
TEMPORARY FACILITIES		
Emergency instructions posted		
Fire extinguishers provided		
Fire-aid equipment available	+ +	
General neatness	+ +	
Others		
FIRE PREVENTION		
Personnel instructed		
Fire extinguishers checked		
No smoking in prohibited areas.		
Hydrants		
Clearance		
Others		
ELECTRICAL		
Proper wiring		
ELCB's provided		
•		
Ground fault circuit interrupters		
Protection against damage		
Prevention of tripping hazards		
Other		
HANDLING & STORAGE OF MATERIALS		
Drawayly atayad ay ataalyad	+ + + + + + + + + + + + + + + + + + + +	
Properly stored or stacked		
Passageways clear		
Other		
FLAMMABLE GASES AND LIQUIDS		
Containers clearly identified	1	
Proper storage		
Fire extinguisher nearby	+ +	



POWER SECTOR

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REV: 01

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **40** of **43**

		T	
Other			
WORKING AT HEIGHT			
Safety nets			
Safety belts			
Safety helmets			
Anchoring of safety belt to the life line rope			
ENVIRONMENT			
Lubricant waste/engine oils properly dispose.			
Waste from Canteen, offices, sanitation etc. disposed properly.			
Disposal of surplus earth, stripping materials, expired batteries, oily rags and combustible materials done properly.			
HEALTH CHECKS			
Hygienic conditions at labor camps O.K.			
Availability of first-aid facilities			
Proper sanitation at site, office & labor camps.			
Arrangement of medical facilities.			
Measures for dealing with illness.			
Availability of potable drinking water for workmen & staff.			
Provision of crèches for children.			



REV: 01

Date: 20.01.2020

Doc no.: HSEP: 14

Page: **41** of **43**

POWER SECTOR

ANNEXURE 03

REFERENCES

- Contract documents
- Relevant legislations
- HSEMSM
- Relevant Indian standards as listed below (illustrative only):

SL	CODE NAME	TITLE		
NO				
(1)	IS : 818-1888	Code of Practice for safety and health requirements in		
	(Reaffirmed 2003)	Electric and Gas Welding and Cutting operations.		
(2)	IS: 1179-1967	Specification for Equipment for Eye & Face protection during		
	(Reaffirmed 2003)	welding.		
(3)	IS: 1989 (Part 2):1986	Specification for Leather Safety Boots & Shoes		
	(Reaffirmed 1997)			
(4)	IS:2925 – 1984	Specification for Industrial Safety Helmets		
	(Reaffirmed 2010)			
(5)	IS:3521 : 1999	Industrial Safety Belts & Harnesses-Specification		
	(Reaffirmed 2002)			
(6)	IS:3646(Part II) - 1966	Code of Practice for Interior Illumination		
	(Reaffirmed 2003)			
(7)	IS:3696 (Part I) - 1987	Safety Code for Scaffolds and Ladders		
	(Reaffirmed 2002)			
(8)	IS: 3696(Part 2) : 1991	Scaffolds and Ladders-Code of Safety		
	(Reaffirmed 2002)			
(9)	IS:3786 – 1983	Method for Computation of Frequency and Severity Rates for		
	(Reaffirmed 2002)	Industrial Injuries and Classification of Industrial Incidents		
(10)	IS:4770 : 1991	Rubber Gloves – Electricals purposes-Specification		
	(Reaffirmed 2006)			
(11)	IS:4912 : 1978	Safety Requirements for Floor and Wall Openings, Railings		
	(Reaffirmed 2002)	and Toe Boards		
(12)	IS: 5983 – 1980	Specification for Eye-Protectors		
	(Reaffirmed 2002)			
(13)	IS:6519 – 1971	Code of Practice for Selection, Care and Repair of Safety		
	(Reaffirmed 1997)	Footwear		
(14)	IS:9167:1979	Specification for Ear-Protectors		
(15)	IS:6994(Part I)-1973	Specification for Industrial Safety Gloves		
	(Re affirmed 1996)	Leather and Cotton Gloves		
(16)	IS:8519 – 1977	Guide for Selection of Industrial Safety Equipment for Body		
	(Reaffirmed 1983)	Protection.		
(17)	IS 11006 : 2011	Flash Back(Flame Arrestor) Specification		



REV: 01

20.01.2020 Date:

Doc no.: HSEP: 14

Page: **42** of **43**

POWER SECTOR

(18)	IS:8520 – 1977	Guide for Selection of Industrial Safety Equipment for Eye,		
	(Reaffirmed 2002)	Face and Ear Protection.		
(19)	IS:9473:2002	Respiratory Protective Devices-Filtering Half Masks to protect		
		against Particles-Specification.		
(20)	IS:9944:1992	Natural and Man-made Fiber Rope Slings-Recommendations		
	(Reaffirmed 2003)	on Safe working loads.		
(21)	IS:11057 – 1884	Specification for Industrial Safety Nets		
	(Reaffirmed 2001)			
(22)	IS:12254:1993	Polyvinyl Chloride (PVC) Industrial Boots-Specification		
	(Reaffirmed 2002)			
(23)	IS:13367(Part 1):1992	Safe Use of Cranes-Code of Practice		
	(Reaffirmed 20030			
(24)	IS:14166:1994	Respiratory Protective Devices-Full Face Masks Specification		
	(Reaffirmed 2002)			
(25)	IS:14746 : 1999	Respiratory Protective Devices-Half Masks and Quarter		
	(Reaffirmed 2003)	Masks - Specification		
(26)	IS : 15397 :2003	Portable Extinguisher Mechanical Foam Type(Stored		
	(Reaffirmed 2008)	Pressure)-Specification		
(27)	IS: 19011:2002	Guidelines for Quality and/or Environmental Management		
		Systems Auditing		



POWER SECTOR

Doc no.: HSEP: 14

REV: 01

Date: 20.01.2020

Page: **43** of **43**

ANNEXURE 04 : SAFETY FORMATS

& ANNEXURE 05 : WORK PERMIT FORMATS



POWER SECTOR

INSPECTION OF FIRST AID BOX

FORMAT NO: HSEP:14-F01

REV NO.: 00 PAGE NO. 01 OF 02

Name of Site :	
Name of Sub-Contractor :	
Inspected by :	
Date of Inspection :	

Number of employees on the site: -_____

Sl.No.	Item	No.	Remarks
		Available	
1	No. of small sterilized dressings		
2	No of medium sized sterilized dressings		
3	No of large sized sterilized dressings.		
4	No of large sized sterilized burn dressings		
5	No of (15 grams) packets sterilized cotton wool		
6	No of pieces of sterilized eye pads in separate sealed packets.		
7	No of roller bandages 10 cm wide.		
8	No of roller bandages 5 cm wide.		
9	Whether tourniquet available		
10	Whether supply of Suitable splints available.		
11	No of packets of safety pins.		
12	Whether kidney tray available		
13	Whether sufficient number of eye wash bottles, filled with distilled water or suitable liquid, clearly indicated by a distinctive sign which shall be visible at all times, available.		
14	Whether 4%-xylocaine eye drops, and boric acid eye drops and soda by carbonate eye drops available.		
15	Whether (60ml) bottle containing a two percent alcoholic solution of iodine available		
16	Whether (two hundred ml) bottle of mercurochrome (2 per cent) solution in water available.		



INSPECTION OF FIRST AID BOX

FORMAT NO: HSEP:14-F01

REV NO.: 00 PAGE NO. 02 OF 02

Sl.No.	Item	No. Available	Remarks
17	Whether 120ml bottle containing Sal volatile having the dose and mode of administration indicated on the label, available.		
18	Whether roll of adhesive plaster (6 cmX1 meter) available		
19	No of rolls of adhesive plaster (2 cmX1 meter)		
20	Whether snake bite lancet available.		
21	Whether (30 grams) bottle of potassium permanganate crystals available.		
22	Whether a pair scissors available		
23	Whether copy of the First-Aid leaflet issued by the Director-General, Factory Advice service and labour Institutes, Government of India available.		
24	Whether bottle containing 100 tablets (each of 5 grains) of aspirin available		
25	Whether Ointment for burns available		
26	Whether bottle of a suitable surgical anti-septic solution available		

Signature of Subcontractor's Site I/C:



HEALTH CHECK UP

FORMAT NO: HSEP:14-F02

REV NO.: 00 PAGE NO. 1 OF 02

Name of Site :				
Name of Sub-Contractor				
Name of Employee :				
NAME:				
History Of Past Illness	H/O Epilepsy			
	H/O Drug Allergy			
	H/O Diabetics/ Hyper			
	H/O Unconsciousnes	S		
Personal History				
EXAMINATION	ON	OBSER	RVATION	
General Physical Examination	<u>n</u>			
Height	:			
Weight	:			
ВМІ	:			
Built And nourishment	:			
Pallor	:			
Temperature	:			
Chest Expansion	: Inspirati	on	Expansion	
Lymph Node Enlargement	:			
Ear, Nose, Throat	:			
Ear	:			
Nose	:			
Throat	:			



HEALTH CHECK UP

FORMAT NO: HSEP:14-F02

REV NO.: 00 PAGE NO. 2 OF 02

EXAMINATION			OBSERVATION	
Cardiovascular System Examination	on :			
Inspection	:			
Palpation	:	Pulse	ВР	
Auscultation (Heart Sounds)	:			
Respiratory System	<u>:</u>			
Inspection	:	Respiratory Rate		
Palpation:	:			
Percussion	:			
Auscultation (Breath Sounds)	:			
Examination of Abdomen	:			
Inspection	:			
Palpation	:			
Auscultation (Bowel Sounds)	:			
Any Other	:			
Clinical Impression				

Signature of the examining doctor



HSE INDUCTION TRAINING

FORMAT NO: HSEP:14-F03

REV NO.: 00 PAGE NO. 01 OF 01

Name of Site :	
Name of Sub-Contractor	
:	
Date :	
Name of Training	
Co-ordinator	

SI	Name	Designation	Organisation	Signature
No.				

Signature of Training co-ordinator :



Name of Site:

POWER SECTOR

TOOL-BOX TALK

FORMAT NO: HSEP:14-F04

REV NO.: 00

PAGE NO. 01 OF 01

Sub-Contractors Na	ame :		
Date :			
Topic	Name of person	No. of Participants	Remarks
	delivered Tool Box	attended	
	Talk		

Signature of Site I/C of Subcontractor:



PERSONAL PROTECTIVE EQUIPMENTS

FORMAT NO: HSEP:14-F06

REV NO.: 00

PAGE NO. 01 OF 01

Name of Site:			
Name of Sub-Contractor:	r		
Inspected by :			
Date of Inspection :			
Item	Issued this Month	Nos. Issued up to	Percentage of usage
		the Month	at site
Safety Helmet			
Safety Shoes			
Full Body Harness			
Fall Arrestor			
Safety Nets			
Other PPEs.			

Signature of Site I/C of Subcontractor:



INSPECTION OF T&Ps

FORMAT NO: HSEP:14-F07

REV NO.: 00 PAGE NO. 01 OF 01

Name of	Site:		
Name of	Sub-Contractor		
Date of	Inspection :		
Sl.No.	Description	Remarks	
1.0	Name of equipment		
2.0	Basic Information of equipment		
2.1	Specification		
2.2	Sr. No. of equipment		
2.3	Make		
2.4	Year of manufacture		
3.0	Major repairs / overhauls(Furnish details of work	carried out)	Date(s) of major
			repair/overhaul
3.1			
3.2			
3.3	Repairs carried out at site		
4.0	Any performance test conducted	Yes/No	
5.0	Document Submitted	Yes/No	
6.0	Manufacturer's test / guarantee certificate	Available/	Not available
7.0	Performance test	Done/ Not	Done
8.0	Acceptance Norms		
9.0	Committee Observations		
10.0	Date of next review (if accepted)		

Signature-Site Safety Officer (BHEL)

Signature-Subcontractor/ Subcontractor's Safety Officer



STATUS OF T&Ps

FORMAT NO: HSEP:14-F08

REV NO.: 00 PAGE NO. 01 OF 01

Name of Site	
Name of Sub-Contractor	
Date of Inspection	

Item	Nos. Deployed	Identification No.	Nos. Tested by competent person	Validity of Test Certificate
Winches				
Chain Blocks				
Wire Rope				
Slings				
Man Cages				
D-Shackles				
Air				
Compressors				
Crawler				
Cranes				
Mobile Cranes				
Hydra Cranes				
Others				

Signature of Site I/C of subcontractor:

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miller
HIJEL

INSPECTION OF CRANES AND WINCHES

FORMAT NO: HSEP:14-F09

REV NO.: 00

		PAGE NO. 01 OF 03	
Name of Site:			
Name of Sub-Con:	tractor		
Inspected by :			
Date of Inspection	n:		
Crane Reg. No (M Name of Driver/O			

Sl.no.	Description	Observation	Measures
1	Valid Driving license		
2	Hook & Hook Latch		
3	Over Hoist limit switch		
4	Boom limit switch		
5	Boom Angle Indicator		
6	Boom limit cutoff switch		
7	Condition of Boom		
8	Condition of ropes		
9	Number of load lines		
10	Size and condition of the slings		
11	Stability of the cranes		
12	Soil Condition		
13	Swing Break And Lock		
14	Proper Break And Lock		
15	Hoist Break And Lock		
16	Boom Break And Lock		
17	Main Clutch		
18	Leakage in Hydraulic Cylinders		
19	Out riggers filly extendable		
20	Tyre pressure		
21	Condition of Battery And Lamps		



INSPECTION OF CRANES AND WINCHES

FORMAT NO: HSEP:14-F09

REV NO.: 00 PAGE NO. 2 OF 03

Sl.no.	Description	Observation	Measures
22	Guards of moving and rotating parts		
23	Load chart provided		
24	Number and position of pedant ropes		
25	Reverse Horn		
26	Load Test Details		
27	Operator's fitness		
28	Pollution under control certificate		
29	Fire extinguisher of appropriate type.		
30	Training of the operator		

WINCH

SI.	Donatation.	YES	NO	NA	Remarks
No.	Description				
1	Has the copy of Third Party Inspection				
	certificate been provided in winch machine shed?				
2	Is winch machine operator experienced				
	enough to operate the winch machine?				
3	Is the winch machine operated by				
	someone other than the winch machine				
	operator?				
4	Is there guard provided in all moving parts				
	like wheel and motor's shaft?				
5	Will it protect against unforeseen				
	operational contingencies?				
6	Are brakes, clutch and locking				
	arrangement working properly?				
7	Has it been ensured that the guard does				
	not constitute a hazard by itself?				
8	Are the cranks and the connecting rods				
	protected by guardrails?				
9	Is there provision for fully covered shed				
	with wooden plank roof?				



INSPECTION OF CRANES AND WINCHES

FORMAT NO: HSEP:14-F09

REV NO.: 00 PAGE NO. 3 OF 03

SI.	Description	YES	NO	NA	Remarks
No.	Description				
10	Is wire rope free from any kind of damage				
	or wear and tear?				
11	Is split pin provided for the protection of				
	clutch and brake locking arrangement?				
12	Is pulley inspected by competent person				
	and certified before use?				
13	Is pulley free from any wear and tear				
	visually?				
14	Is winch rope barricaded with clipsheet for				
	the protection of rope and person?				
15	Is the wire rope lubricated by cardium oil?				
16	Is there any friction in wire rope which				
	may damage the wire rope rather than the				
	rolling parts?				
17	Is there any oil leakage in the hydraulic				
	system of the winch machine?				
18	Has it been ensured that the guard will not				
	cause discomfort or inconvenience to				
	operator?				
	Total Number of NO:	,			
	Total Number of NA:				
	% Compliance :				

Signature of Site I/C of subcontractor:



INSPECTION OF HEIGHT WORKING

FORMAT NO: HSEP:14-F10

REV NO.: 00

PAGE	NO.	01	OF	02

Name of Site :	
Name of Sub-Contractor	
:	
Inspected by :	
Date of Inspection:	

Sl. No.	Descriptions	Observation	Remarks
		(Yes/No)	
1	All the workers have been explained safe work method?		
2	An established communication system has been		
	established and explained to the workers.		
3	Adequate illumination has been ensured.		
4	Work area inspected prior to the start of the work.		
5	Area below the work place barricaded, particularly below		
	hot work.		
6	Workers provided with bags /box to carry bolts, nuts and		
	hand tools		
7	Arrangement for fastening hand tools made.		
8	All work platforms ensured to be of adequate strength		
	and ergonomically suitable.		
9	Fabricated makeshift arrangements are checked for		
	quality and type of material welding, anchoring etc.		
10.	Work at more than one elevation at the same segment is		
	restricted.		
	ACCESS/EGRESS		
1	Walkways provided with handrail, mid-rail and toe		
	guard?		
2	All checkered plates, gratings properly welded/ bolted?		
3	Are ladders inspected and they are in good condition?		
4	Are ladders spliced?		
5	Are ladders properly secured to prevent slipping, sliding		
	or falling?		
6	Do side rails extend 36" above top landing?		
7	Are built up ladders constructed of sound materials?		



INSPECTION OF HEIGHT WORKING

FORMAT NO: HSEP:14-F10

REV NO.: 00

PAGE NO. 02 OF 02

SI. No.	Descriptions	Observation (Yes/No)	Remarks
8	Are rugs and cleats not over 12" on center?		
9	Metal ladders not used around electrical hazards.		
10	Proper maintenance and storage.		
11	Ladders placed at right slope.		
12	Ladders / staircases welded/ bolted properly.		
13	Any obstruction in the stairs.		
14	Are landing provided with handrails, knee rails, toe		
	boards etc.?		
15	Whether ramp is provided with proper slope.		
16	Proper hand rails / guards provided in ramps.		
	Housekeeping		
1	Walkways, aisles & all overhead workplaces cleared of loose material.		
2	Flammable materials, if any, are cleared.		
3	All the de shuttering materials are removed after de shuttering is done.		
4	Platforms and walkways free from oil/grease or other slippery material.		
5	Collected scrap are brought down or lowered down and not dropped from height.		
	PPE And Safety Devices		
1	Use of safety helmet, safety belts ensured for all workers		
2	Anchoring points provided at all places of work.		
3	Common lifeline provided wherever linear movement at height is required.		
4	Safety nets are use wherever required.		
5	Proper fall arrest system is deployed at critical workplaces.		
6	Crawler boards/Safety system or works on fragile roof are used.		

Signature of Site I/C of subcontractor :



INSPECTION OF WELDING AND GAS CUTTING

FORMAT NO: HSEP:14-F11 REV NO.: 00 PAGE NO. 1 OF 02

Name of Site	
Name of Sub-Contractor	
Inspected by	
Date of Inspection	

Weldin	g			
Sl.no.	Description	Υ	N	Remarks
		е	0	
		S		
1	Is electric connection given through			
	30 mA ELCB/RCCB to welding m/c?			
2	Is electric cable fitted properly in			
	junction box on m/c?			
3	Is electrical cable free from joints?			
4	Are the joints attached firmly &			
	insulated with tape?			
5	Is double earthing given to body of			
	m/c?			
6	Is the physical condition of the m/c			
	good?			
7	Is ON/OFF switch connected to the			
	m/c is working and in good			
	condition?			
8	Are indication lamps on m/c			
	working?			
9	Is the electrode holder in good			
	condition?			
10	Are the cables of the welding m/c			
	lugged & tight properly?			
11	Are return lead connected properly			
	(Rod, Angle, Channels shall not be			
	used)			
	Total No of NO			
	Total No of YES			



INSPECTION OF WELDING AND GAS CUTTING

FORMAT NO: HSEP:14-F11

REV NO.: 00 PAGE NO. 2 OF 02

Gas Cutt	ing			
SI. no	Description	Yes	No	Remarks
1	Are Cylinders kept on trolleys?			
2	Physical condition of Gas cylinders Good?			
3	Is there Oil/Grease on valve of the cylinder?			
4	Are pressure regulators in good condition?			
5	Condition of hose pipe OK?			
6	Are hose pipe clamped with hose clip?			
7	Is flash back arrestor & NRV fitted on torch both for O2 and LPG cylinder?			
8	Is nozzle of the torch cleaned?			
	Total Number of NO			
	Total No of YES			
	% Compliance			

Signature of Site I/C of subcontractor:



INSPECTION OF ELECTRICAL INSTALLATION

FORMAT NO: HSEP:14-F12

REV NO.: 00

PAGE NO. 01 OF 02

Name of Site	
Name of Sub-Contractor	
Inspected by	
Date of Inspection:	

Sr.	Contents	Yes/No	Remarks
No.			
Α	Cable		
1.	Whether the condition of cable is checked?		
2.	Are cables received from other sites checked for		
	insulation resistance before putting them into use?		
3.	Are all main cables taken either underground / overhead?		
4.	Are welding cables routed properly above the ground?		
5.	Are welding and electrical cables overlapping?		
6.	Is any improper joining of cables/wires prevailing at site?		
В	DBs/SDBs		
1.	Is earth conductor continued up to DB / SDB?		
2.	Whether DBs and extension boards are protected from rain / water?		
3.	Is there any overloading of DBs / SDBs?		
4.	Are correct / proper fuses & CBs provided at main boards and sub-boards?		
5.	Is energized wiring in junction boxes, CB panels & similar places covered all times?		
С	ELCB		
1.	Whether the connections are routed through ELCB?		
2.	Is ELCB sensitivity maintained at 30 mA?		



INSPECTION OF ELECTRICAL INSTALLATION

FORMAT NO: HSEP:14-F12

REV NO.: 00 PAGE NO. 02 OF 02

Sr.	Contents	Yes/No	Remarks
No.			
3.	Are the ELCB numbered and tested periodically & test		
	results recorded in a logbook countersigned by a		
	competent person?		
D	Grounding		
1.	Is natural earthing ensured at the source of power		
	(main DB at Generator or Transformer)?		
2.	Whether the continuity and tightness of the earth		
	conductor are checked?		
3.	Mention the gauge of the earth conductor used at the		
	site.		
4.	Mention the value of Earth Resistance.		
E	Electrically operated Machines or Accessories.		
1.	Whether the plug top is provided everywhere.		
2.	Are all metal parts of electrical equipment and light		
	fittings / accessories grounded?		
3.	Is there any shed or cover for welding machines?		
4.	Are halogen lamps fixed at proper places?		
5.	Are portable power tools maintained as per norms?		
6.	Any other information:		

Signature of Site I/C of subcontractor:



INSPECTION OF ELEVATOR

FORMAT NO: HSEP:14-F13

REV NO.: 00

PAGE NO. 01 OF 01

Name o	of Site		
Name o	of Sub-Contractor		
Inspecto	ed by		
Date of	Inspection		
Sr.	Description	Remarks	

	Description	Remarks			
No.					
1.0	Name of equipment				
2.0	Basic Information of equipment				
2.1	Specification				
2.2	Sr. No. of equipment				
2.3	Make				
2.4	Year of manufacture				
3.0	Major repairs/overhauls(Furnish details of v	Major repairs/overhauls(Furnish details of work carried out)			
3.1					
3.2					
3.3	Repairs carried out at site				
4.0	Any performance test conducted	Yes/No			
5.0	Document Submitted	Yes/No			
6.0	Manufacturer's test / guarantee certificate		/ Not available		
7.0	Performance test	Done/ No	ot Done		
8.0	Acceptance Norms				
9.0	Committee Observations				
	Date of next review (if accepted)				

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Inspection of Excavation

FORMAT NO: HSEP:14-F13E REV NO.: 00 PAGE NO. 01 OF 01

Name of Site :		
Name of S	ub-Contractor :	
Inspected	by:	
Date of Ins	spection :	

Sl.no.	Description	Yes	No	Remarks
1	Precautions taken for Underground Electrical Cable			
2	Precautions taken for Under / Above ground sewer/ Drinking Water Line			
3	Precautions taken for Underground Telecommunication Line			
4	Precautions taken for Underground Product/Utility Line			
5	Precautions taken for Underground Fire Water Line			
6	Shoring / Shuttering / Sheet piling done to prevent collapse of excavation walls. Strength of Excavation wall ensured at all times			
7	Slope Cutting / Angle Maintained			
8	Hard Barricading & Edge Protection provided			
9	Separate Safe Access for Man and Vehicle			
10	Lighting arrangement			
11	Banksman Provided			
12	Required basic PPEs provided			
13	Excavated soil / Construction Material / equipment kept away from the edge.			
14	First aid in attendance.			
15	Other:			
	Total No of YES			



HSE PENALTY

FORMAT NO: HSEP:14-F14

REV NO.: 00 PAGE NO. 1 OF 02

Sub: MEMO for Penalty for non-compliances in Safety

Following lapse (tick marked) was observed and penalty is imposed as stated at the bottom of this memo. It is requested that such occurrences be please avoided in future.

Safety Area

SN	Violation of Safety Norms	Fine (in Rs)
01	Not Wearing Safety Helmet	200/- *
02.	Not wearing Safety Belt or not anchoring life line	500/-*
03	Not wearing safety shoe	200/-*
04	Not keeping gas cylinders vertically	200/-
05	Not using flash back arrestors	100/-
06	Not wearing gloves	50/- *
07.	Grinding Without Goggles	50/- *
08.	Not using 24 V Supply For Internal Work	500/-
09.	Electrical Plugs Not used for hand Machine	100/-
10.	Not Slinging properly	200/-
11.	Using Damaged Sling	200/-
12.	Lifting Cylinders Without Cage	500/-
13.	Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property.	200/-
14.	Not Removing Small Scrap From Platforms	500/-
15.	Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting	500/-
16.	Not Maintaining Electric Winches Which are Operated Dangerously	500/-
17.	Improper Earthing Of Electrical T&P	500/-
18	No or improper barricading	500/-
19.	Activity carried out without Safety work permit (Height work, Lifting activity, Hot work-each person/case)	1000/-
20.	Incident Resulting in Partial Loss in Earning Capacity	25,000/- per victim
21.	Fatal Incident Resulting in total loss in Earning Capacity	1,00,000/- per victim for first instance #

Legend: -

#: or as deducted by customer, whichever is higher. For repeated fatal incident in the same Unit incremental penalty to be imposed. The subcontractor will pay 2 times the penalty compared to previously paid in case there are repeated cases of fatal incidents under the same subcontractor for the same package in the same unit.

^{*:} per head. For repeated violation by the same person, the penalty would be double of the previous penalty. Date of "Repeated violation" will be counted from subsequent days.



HSE PENALTY

FORMAT NO: HSEP:14-F14

REV NO.: 00 PAGE NO. 2 OF 02

Details (if any) related to non-compliance (Name of persons, Nature of deficiency, etc.)

Penalty imposed:
1, Rate as per above chart
2. No. of Persons/ machine/ event/ labour
3. Total Penalty= 1. X 2. =
Signature:
Witnessed by: (Sub- Contractor representative) (BHEL Personnel)
Name Name
Distribution: 1 Copy: to Sub- contractor, 1 Copy to Site Construction Manager (BHEL)



Incident Report

(To be submitted within 24 hours of time of incident)

FORMAT NO: HSEP:14-F15

REV NO.: 00

PAGE NO. 01 OF 01

Type of incident: Fatal/Major/ Minor/Fire/Property Damage/Near-miss

1	NAME OF SITE			3	ACTIVITY AREA	
2	SCOPE OF WORK		4	NAME OF CONTRACTOR		
				5	NAME & DESIGNATION OF BHEL ACTIVITY I/C	
6	DATE & TIME OF ACCIDENT			7	DATE RESUMED	
8	NO. OF WORK-DAYS LOST BY VICTIM (If duty not resumed, give estimated figure)					
9	NO. OF MANHOURS	LOST BY O	THERS			
10	PERSONAL DETAILS	OF INJURE	D AND / OR DETAILS O	F M	ATERIALS / EQUIPMENT / PROPI	RTY DAMAGED
NAME	=			N.	AME OF MATERIAL / EQUIPMENT	/ PROPERTY
PERIO	OD OF EMPLOYMENT					
AGE	YRS	SEX	MALE/ FEMALE		ESTIMATED COST	ACTUAL COST
MARI	TAL STATUS	SIN	GLE / MARRIED			
occi	JPATION				NATURE OF DAM	IAGE
PART	OF BODY INJURED					
NATU	IRE OF INJURY					
	AGENCY (OBJECT / EQUIPMENT / SUBSTANCE) MOST RESPONSIBLE FOR CAUSING ACCIDENT / INJURY / DAMAGE					
12	PERSON (NAME & DESIGNATION) WITH MOST CONTROL OVER AGENCY (OBJECT / EQUIPMENT / SUBSTANCE) CAUSING ACCIDENT INJURY / DAMAGE					
13	DESCRIBE CLEARLY	Y HOW THE	ACCIDENT OCCURRED	(USI	E ADDITIONAL SHEET, IF REQUI	RED
	voie.					
ANAL	.YSIS					
14	WHAT ACTS AND / OR CONDITIONS CONTRIBUTED MOST DIRECTLY TO THIS ACCIDENT					
15	WHAT ARE THE BASIC REASON FOR THE EXISTENCE OF THESE ACTS AND / OR CONDITION ?					
16	WHAT CORRECTIVE ACTIONS HAVE BEEN TAKEN TO PREVENT ACCIDENT RECURRENCE ?					
	DATE :				SIGNATURE OF SIT	E HSE COORDINATOR
17	COMMENTS OF HEA	AD / SOX				
	DATE:				s	IGNATURE OF HEAD/SOX



Format for Monthly HSE Planning & Review

FORMAT NO: HSEP:14-F30

REV NO.: 00 PAGE NO. 01 OF 3

Name	of the Site		Name of the Subcontractor	
Scope of Work		Date		
PART	- A: PLAN OF HSE ACTIVITIES	FOR THE MONTH OF		PART-B: REVIEW ON
SN.	Description of HSE Activity 8		Plan & Targets for the month	Review
1	•	Required Places and Inspection thereof as	Areas 1	
2	Health check-up as per Forma	t: F02	Health check-up for Nos 1. New inductees 2. Drivers & Operators 3. Workers in following high risk areas: a	
3	Induction training of newly join	ned workers as per Format: Fo3	Minimum No. of workers:	
4	Toolbox talks (TBT) conducted before start of work as per Format: Fo4		Locations of TBTs & No. of workers 1	
5	PPE usage and issue as per Foi	rmat: Fo6		
5	Inspection of T&Ps as per Forn	nat: Fo7	List of T&Ps to be inspected 1.	
7	Identification & Inspection Sta	tus of T&Ps as per Format: Fo8		
3	Inspection of Cranes & Winche	s as per Format: Fog	List of Cranes & Winches & Nos. 1	
)	Inspection of Height Working	as per Format: F10	Areas: 1	
LO	Inspection of Welding & Gas C	utting operations as per Format: F11	Areas: 1	
1	Inspection of Electrical Installa	tions as per Format: F12	Locations: 1	
L2	Inspection of Elevators (as app	licable) as per Format: F13	Locations: 1	
13	Inspection of Excavation as pe	r Format: F13E	Locations: 1	



Format for Monthly HSE Planning & Review

FORMAT NO: HSEP:14-F30

REV NO.: 00 PAGE NO. 02 OF 3

SN.	Description of HSE Activity & Formats	Plan & Targets for the month	Review
14	Job Safety Analysis as per Format F32B	Activities:	
15	Regular Job Specific Training (Re-training) for workers involved in hazardous activities	Topics/ Hazards & No. of workers 1	
16	Mass housekeeping (HK) drive in work areas	Areas 1.	
17	Vertigo Test of Height workers	Minimum No. of workers:	
18	Deployment of qualified HSE Officers as per contract	Location(s) & Nos. 1	
19	Deployment of qualified HSE Stewards as per contract	Location(s) & Nos. 1	
20	Deployment of Safety tools & Equipment (Safety Nets, Lifelines, Fall arrestors, Man-cages, flashback arrestors, scaffolding etc.)	Tool/ Equipment & Location 1	
21	Safety Walks by site in charge of agency (4 -Weekly once)	Dates:	
22	Safety walks by departmental head (8-Weekly twice)	Dates:	
23	Availability/ deployment of Safety posters/ placards/ signage at strategic locations	Locations: Nos.	
24	Provision of clean drinking water sources for workers	Locations: Nos.	
25	Provision of toilets for workers (separate for male & female workers)	Locations: Nos.	
26	Rest sheds for workers during lunchtime, rain, dust storm etc.	Locations: Nos.	
27	Availability of following in Labor colony	 Clean drinking water Toilets Cleanliness & Hygiene Grass cutting, Fogging Electrical Inspection 	



Format for Monthly HSE Planning & Review

FORMAT NO: HSEP:14-F30

REV NO.: 00 PAGE NO. 03 OF 3

SN.	Description of HSE Activity & Formats	Plan & Targets for the month	Review
28	Availability of dust/ waste bins at various locations	Locations:	
29	Availability of Ambulance (individual/ joint) in each shift	Ambulance No.	
30	Availability of emergency vehicle in each shift	Emergency vehicle	
31	Deployment/ Availability of tested Fire Extinguishers	Locations & Nos. 1	
32	Tree plantation	Locations & Nos. 1	
33	Waste disposal & Scrap Bins	Locations 1	
34	Illumination checks	Locations 1	
35	Safety award function: 1. Display of good practices Award presentation	Minimum 1 per month	
36	Submission of Daily Reports as per Format No.F31A	Daily Reports (Night & Day Shifts)	

<u>PLAN</u>			REVIEW				
<u>Agency</u>	<u>BHEL</u>	Agency	BHEL				
Name:	Name:	Name:	Name:				
Sign:	Sign:	Sign:	Sign:				
Date:	Date:	Date:	Date:				



Format for Daily HSE Reporting

FORMAT NO: **HSEP:14-F31** A REV NO.: oo

REV NO.: 00 PAGE NO. 01 OF 1

Note: Following format to be submitted (preferably) in excel/ soft copy by subcontractor daily at the end of each shift. Any photographs/ records to be attached

Site														Subo	ontra	ctor												
Year		T						ı	Mon	th					ı			1		Day								
SHIFT	Submitted By	Work Area(s)	Staff	Man-Power	Safety Officers	Safety Stewards	Tool Box (Topics and No. of Participants)	Induction Training (No. of Participants)	Vertigo Test (Numbers Tested)	On-the-Job Training (Topic & participants)	Work Permits	Job Safety Analyses conducted	Height Work Inspection	Other Hazardous Activities Inspection	T&P Inspection (Names & Nos. Inspected)	Safety Walk (Designation, Areas)	HSE Meeting	Safety Reward (Details)	Housekeeping/ Dust Suppression/ Tree Plantation Activities (Locations/ Details)	Lost time Accident	Restricted Work Case	Medical Treatment Case	First Aid Case	Near miss	Property Damage/ Fire	Non-Compliances Submitted by BHEL	Complied by Agency	Any other Remarks/Inputs
Day																												
Night															NA		NA	NA	NA									



Job Safety Analysis Format

FORMAT NO: HSEP:14-F32B

REV NO.: 00 PAGE NO. 01 OF 1

Name of the Site)			
Name of the Sul	ocontractor			
Activity, Area				
		HAZARDS		PRECAUTIONS
	r			
(Name)	mitted By	Reviewed By	Approved By	
(Age	ency HSE)	(BHEL	(BHEL HSE)	
(Date)	' '	Execution)	, , , , ,	



FORMAT NO: HSEP:14-F33

REV NO.: 00

PAGE NO. 01 OF 3

Checklist for Evaluation of HSE Performance

SL	Parameter for Measurement	M/ O	Wt	Supporting Documents
1a	Induction training for new workers conducted through audio-visual medium & documented ?	М	1	Induction Training Records
1b	Tool box talk conducted regularly as per plan, and documented?	М	1	Toolbox Talk Records
10	Contractor in charge and safety in charge attended safety meetings?	М	2	Minutes of Meeting
1 d	Whether observations in safety meetings are complied before next meeting?	М	2	-do-
1e	Preparation and submission of Monthly HSE report within stipulated time	М	1	Report submission date
ıf	Preparation and submission of Incident/near-miss report and RCA Report (as applicable) within stipulated time	М	1	Incident/ Near Miss Records
1 g	Carrying out Inspections and submission of Inspection reports within stipulated time	М	1	Inspection Records
1h	Regular Job Specific Training ensured for High Risk Workers (through audio-visual medium) as per plan	М	1	Training & Attendance Records
2a	Whether the contractor is registered under BOCW	М	2	BOCW Registration Certificate
2b	Availability of Qualified safety officer (1 for every 500 labour)	М	2	Safety Officer qualification & experience records
20	Availability of Qualified safety supervisor (1 for every 100 labour)	М	2	Safety Officer qualification & experience records
2d	All the workers are provided and using safety helmets and safety shoes/gum boots	М	2	PPE Issue Records, Inspection/ non-conformity records
26	Housekeeping done on regular basis and scrap removal at site	М	1	Housekeeping records, Inspection/ non-conformity records
2f	Usage of Goggles/Face shields and Hand gloves for gas cutter and grinders		1	PPE Issue Records, Inspection/ non-conformity records
2 g	Wall openings & floor openings are guarded?		1	Inspection/ non-conformity records
2h	Adequate illumination provided in all working area?		1	Inspection/ non-conformity records
2i	Safety posters, sign boards and emergency contact numbers in all prominent location are displayed?		1	Inspection/ non-conformity records
2j	Availability of automatic reverse horns, Main horn, hook latches for Vehicles, mobile cranes, Hydras		1	Inspection/ non-conformity records
2k	Ban of carrying mobile phones to work place is implemented for workers		1	Inspection/ non-conformity records
2	Availability of Tags & Inspection Certificates for Cranes of all capacities		1	Master T&P List with internal & external test details
21.2	Availability of Tags & Inspection Certificates for Winches of all capacities		1	Master T&P List with internal & external test details
21.3	Availability of Tags & Inspection Certificates, color coding for Chain pulley blocks		1	Master T&P List with internal & external test details
21.4	Availability of Tags & Inspection Certificates for Vehicles - Trailers, Dozers, Dumpers, Excavators. Mixers etc.		1	Master T&P List with internal & external test details
21.5	Availability of Tags & Inspection Certificates for Welding machines, grinders, Drilling machines, etc.		1	Master T&P List with internal & external test details
21.6	Availability of Tags & Inspection Certificates, colour coding for Wire rope slings etc.		1	Master T&P List with internal & external test details
21.7	Availability of Tags & Inspection Certificates for Batching plants		1	Master T&P List with internal & external test details



FORMAT NO: HSEP:14-F33

REV NO.: 00 PAGE NO. 02 OF 3

Checklist for Evaluation of HSE Performance

SL	Parameter for Measurement	M/ O	Wt	Supporting Documents
2m.1	Use of Lifting Permit as per requirement		1	Permit Records
2m.2	Use of Height Permit as per requirement		1	Permit Records
2m.3	Use of Hot Work Permit as per requirement		1	Permit Records
2m.4	Use of Excavation permit as per requirement		1	Permit Records
2m.5	Use of Confined space work permit as per requirement		1	Permit Records
2m.6	Use of Grating removal and safety net removal permit as per requirement		1	Permit Records
2m.7	Use of Lockout-Tag out permit as per requirement		1	Permit Records
2m.8	Use of Radiography permit as per requirement		1	Permit Records
2m.9	Use of Night/ Holiday Work Permit as per requirement		1	Permit Records
2m.10	Use of Any other Applicable Permit as per requirement		1	Permit Records
3a	Material safety data sheet(MSDS) available for all chemicals and displayed in usage and storage area?		1	Inspection/ non-conformity records
3p	Spillages of oil/concrete and other chemical is controlled and cleaned by proper method in case of spill?		1	Inspection/ non-conformity records
3c	Availability of adequate number of urinals in workplace and in elevations and maintained	М	1	
3d	Availability of rest rooms for workers at site	М	1	
3е	Availability of Drinking water facility at work spot		1	
3f	Hygienic Labour colony is provided for workers.		1	
4a	Is heavy/complex critical lifting permit obtained for heavy, complex materials before handling/erection activity?		1	Work Permit records
4b	Whether area below lifting activities barricaded		1	Inspection/ non-conformity records
4C	Availability of experienced rigging foreman		1	Experience details of rigging foreman
4d	Is agency is following proper storage and handling procedure as per manufacturer standard for all hazardous material?		1	Procedure for storage & handling
4e	Are oxygen and acetylene cylinders are transported to work place from storage area in trolleys		1	
5a	Whether all deep excavation has been protected by barrier		1	Inspection/ non-conformity records
5b	Sloping/benching & shoring provided for excavation as per requirement?		1	-do-
5C	Proper access and egress provided for excavations?		1	-do-
5d	Blasting is done in controlled manner?		2	-do-
6a	Whether Electrical booth is equipped with Co ₂ fire extinguishers and fire buckets filled with sand?		2	Inspection/ non-conformity records
6b	Availability of Illumination lamp in electric booth?		1	-do-
6c	whether Caution Boards have been displayed?		1	-do-
6d	Usage of Metal Plug top for all hand power tools?		1	-do-
6e	Usage of Insulated welding cables.		1	-do-
6f	Electrical Booth/Distribution Board to be covered by proper Canopy.		1	-do-
6g	Availability of functional & individual 30ma ELCB / RCCB and MCB for protection and conducting periodical check-up?		1	-do-
6h	Double earthing for panel boards and all machinery & proper earth pit with regular inspection available?		1	-do-
6i	Whether Electrician is qualified and experienced		1	Qualification & Experience records of electrician
6 <u>j</u>	Availability and usage of Rubber hand gloves by electrician?		1	Inspection/ non-conformity records



FORMAT NO: HSEP:14-F33

REV NO.: 00 PAGE NO. 03 OF 3

Checklist for Evaluation of HSE Performance

SL	Parameter for Measurement	M/ O	Wt	Supporting Documents
7a	Whether Scaffolding pipes made with steel or aluminum, are being used and checked periodically by experienced/ certified scaffolder?		2	Inspection/ non-conformity records
7b	8mm Stainless Steel wire rope with plastic cladding is provided for life line (Vertical / Horizontal) during height work?		2	-do-
7C	Availability of emergency lighting in case of power failure		1	-do-
7d	Whether all the openings are covered with Safety Nets made of fire proof Nylon?		1	-do-
7e	Whether MS pipe rails around staircases & platforms in usage are provided with top, middle rails and toe guard?		1	-do-
7f	Whether Ladder with vertical life line /Fall arrestor is available to climb?		1	-do-
79	Whether all workers deployed for working at height have been issued height pass after undergoing vertigo test?		1	Height Pass records
7h	Whether all workers deployed for height work / climbing ladder are provided and using Double lanyard safety belt?		1	PPE Issue records, inspection/ non- conformity reports
7 i	Is all hand tools/Small material used by height workers is tied firmly to prevent fall?		1	-do-
8a	Flash back arrestors for all gas cutting sets is available on Torch side and cylinder side		1	Inspection/ non-conformity records
8b	Oxygen/Acetylene/LPG cylinders not in use have caps in place and stored separately?		1	-do-
8c	Availability of Face screen, Hand gloves, and Apron, for welders		1	-do-
8d	Protection from falling hot molten metal during metal cutting / welding at height by providing GI sheet below the cutting area especially in fire prone areas		1	-do-
9a	Pre-employment medical check-up done for all workers and submitted?		1	Medical check records
9b	Availability of first aid center, with MBBS doctor(Own or Sharing basis)	М	2	Attendance records
9с	Availability of Ambulance facility 24 hours (Own or sharing basis)	М	2	-do-
9d	Is First aid trained personnel's are available and their names are displayed at site?	М	1	-do-
9e	Availability of Emergency vehicle at site		1	
9f	Periodical medical check-up is conducted for all the workers and submitted?		1	Medical check records
99	Availability of sufficient number of first aid box as per standard list and maintaining record		1	Inspection records
10a	Availability of Fire extinguishers, buckets at all vulnerable points		2	Fire extinguisher records
10b	Periodic fire mock drill conducted?		1	Fire, Mock drill records
100	Are all flammable materials are stored separately?		1	
10d	Periodic grass cutting is done in material storage area?		1	
10e	Availability of 24V DC lighting in confined space work area		1	
10f	Availability of exhaust fan in confined space work area		1	

Note:

- M: Mandatory; O: Optional. Points other than mandatory can be excluded with appropriate justification (scope etc.) by BHEL
- Additionally: 30 Marks for each Fatal Accident and 10 mark for each major accident shall be deducted.



SAFETY WORK CLEARANCE	Permit no.
Project:	Emergency Contact Nos:
Subcontractor:	

BURNING/WELDING /HOT WORK PERMIT

Area	:	Date:		Time:	
	e of Site Engineer (Permit Requesting Authority):				
Name	e of Work Performing Contractor:				
	e of Package In charge:				
Desc	ription of Work:				
		-			
	Execution Date:				
on th	above signing person(s) will be responsible to ensure a e permit to work.	triat the above described work will be t	done under all the s	saiety precauti	ons memonea
The f	ollowing precautions are to be taken:				
No.	Item			Yes	Not required
1.	Proper Access/Exit available				
2.	Proper ventilation and /or lighting provided.				
3.	Proper and safe scaffolding, platform, ladder provid	led.			
4.	Welding machine located in a clean and dry area.				
5.	Welding machine grounded at the equipment and p provided for welding machine.	proper leakage current protection devic	e (ELCB)		
6.	Emergency STOP buttons are in working condition.	Welder /Helper knows how to operate	e it.		
7.	Welding machine input/output cables, welding holde good condition.	er and weld return clamp (Holder) are	insulated and in		
8.	Welder & Fitter trained to connect ground/work retu welding machine.	rrn clamps (Holder) to work place prior	to energization of		
9.	Gas cylinders are stacked vertically and not below t with cylinder.	the welding / cutting area. Regulator ke	ey is available		
10.	Pressure gauges/Flash back arrestor provided and	in working condition.			
11.	Personal Protective equipment Minimum applicable shoes, leather gloves, long sleeve and nose mask -		ng helmet, safety		
12.	In case of pits, water removed from the pit and woo	d/rubber insulation provided.			
13.	Safety signboards are in place.				
14.	Adequate and Suitable nos. of fire fighting extinguis	sher provided.			
15.	Nearby combustible material removed. Housekeepi	ing done.			
16.	Other				
Nome	of Contractor Colot. Officer	Ciani	De		Time
	e of Contractor Safety Officer:ewed and approved by BHEL Site Engineer (Permi		Da	ile	
	ə:	• • • • • • • • • • • • • • • • • • • •	Date:	Tiı	me:
	e of BHEL Safety Representative:				
I und	erstand the precaution to be taken as described above upervision by following all precaution and Safety Rules	e and as per project requirement and I	_		
Name	e of Work Performing Authority:	Sign:	Date:	Time	e:
Perm	it Cancellation:				
I here	eby declare that the work is complete, all workers unde	er my control have been withdrawn an	d the site restored	to safe tidy cor	ndition.
	e of Work performing Authority:				
Name	e of Site Engr. (Permit Requesting Authority):	Sign:	Date:	Time:	
Name	e of BHEL Site Engr. (Permit Issuing Authority):	Sign:	Date:	Time:	
	(This perm	mit is valid only for the date it is issued)		
Origi	nal at BHEL site Second	Copy – BHEL SAFETY	Third Copy : C	ontractor	



SAFETY WORK CLEARANCE	Permit no.
Project:	Emergency Contact Nos:
Subcontractor:	

LIFTING ACTIVITY PERMIT

Area		Date	I	ime
	e of Site Engineer (Permit Requesting Authority):			Name of Work
	orming Contractor:			
	e of Package In charge: cription of Work:			Date:
Desc	inputor of work.			
Work	Execution Date:Tin	ne Valid from:	to	
	above signing person(s) will be responsible to ensure the autions mentioned on the permit to work.	nat the above described work	will be done unde	r all the safety
The f	following precautions are to be taken:			
No.	Item		Ye	Not required
1.	Crane used for lifting activity tested, certified and approved f	for rated lifting		
2.	All lifting tackles, gears/appliances are tested and certified for	or lifting works.		
3.	Crane operator is trained and competent for lifting operation			
4.	Lifting sling/ belt is protected against sharp edge of the jobs	to be lifted.		
5.	Access and exit marked and without obstruction.			
6.	Lifting arrangement adequate.			
7.	Unwanted rubbish material removed from work platform.			
8.	Minimum 2 guidelines have been provided for balancing and	d guiding jobs to be lifted.		
9.	Periphery area of crane booms as well as lifting job is barrica posted.	aded and unauthorized/no-entry	sign board	
10.	Rigger and signal man is trained and competent for lifting wo	ork.		
11.	No lifting activity to be carried out during lightening, heavy w	rind/rain.		
12.	If scaffolding to be used during lift, scaffolding with valid tag	available for use.		
13.	Double lanyards safety harness/belt checked an in working of	condition.		
14.	Safety shoes (non-slip), helmet with chin strap available with	n employees.		
15.	Others.			
Nam	e of Contractor Safety Officer:	Sign:	Date:	Time:
	ewed and approved by BHEL Site Engineer (Permit			
	e:	•	Date:	Time:
	e of BHEL Safety Representative:			
I una	derstand the precaution to be taken as described above cuted under my supervision by following all precaution a	and as per project requireme		
Nam	e of Work Performing Authority:	Sign:	Date:	Time:
Pern	nit Cancellation:			
I hero	eby declare that the work is complete, all workers under lition.	r my control have been witho	lrawn and the site r	estored to safe tidy
	e of Work performing Authority:			
Nam	e of Site Engr. (Permit Requesting Authority):	Sign:	Date:	Time:
Nam	e of BHEL Site Engr. (Permit Issuing Authority):	Sign:	Date:	Time:

(This permit is valid only for the date it is issued)



SAFETY WORK CLEARANCE	Permit no.
Project:	Emergency Contact Nos:
Subcontractor:	

WORKING AT HEIGHT PERMIT

Area	: <u> </u>	Date:		Time:	
Name of Site Engineer (Permit Requesting Authority):			s	Sign: Name of Work	
Perf	orming Contractor:				
Nam	e of Package In charge:	Sign:		Date:	
Desc	cription of Work:				
	/ Evacution Data	Time Valid from	+0		
	Execution Date: above signing person(s) will be responsible to ensu				
	autions mentioned on the permit to work.	ne that the above described we	on will be done a	macran me	Jaioty
The	following precautions are to be taken:				
No.	Item			Yes	Not required
1.	All workers on job are medically fit for working at height	(Person should not have vertigo)			
2.	Scaffolding with valid tag available for use				
3.	Safety harness with life line support/ fall arrester are ch	ecked and in working condition			
4.	Safety shoes (non-slip), Helmet with chin strip available	e with employees			
5.	Safety nets are provided as per design and provided 25	5 ft. below working area & extending	ig 8 ft beyond.		
6.	Horizontal life lines are provided to cater to design spec	cification of 2300kg per person.			
7.	Ladders have been inspected and provided as per BHE	EL standard/contract.			
8.	All lifting / tightening tools, hand tools/equipment check	ed and in good condition			
9.	Access and exit marked and without obstruction.				
10.	Lighting arrangement adequate.				
11.	Unwanted and rubbish material removed from working	platform.			
12.	Electrical cable, welding Hose/Compressed air hose properly secured and lay down without obstruction.				
13.	Signboards provided on working platforms				
14.	Hazards in the vicinity are identified and communicated	I to the worker.			
15.	Other				
Nom	e of Contractor Safety Officer:	Sign	Do	ıto:	Timo
	ewed and approved by BHEL Site Engineer (Per		Da		111116.
	e:		Date:		Time:
Name of BHEL Safety Representative:					
l und	derstand the precaution to be taken as described ab outed under my supervision by following all precaution	oove and as per project require on and Safety Rules.	ment and hereby	confirm th	at work will be
Name of Work Performing Authority:		Sign:	Date:	Ti	me:
Pern	nit Cancellation:				
	eby declare that the work is complete, all workers u lition.	ınder my control have been wit	hdrawn and the s	site restore	d to safe tidy
Name of Work performing Authority:					
Name of Site Engr. (Permit Requesting Authority):					
Nam	e of BHEL Site Engr. (Permit Issuing Authority):	Sign:	Date	e:	Time:

(This permit is valid only for the date it is issued)



Regd Office: BHEL House, Siri Fort, New Delhi-110049