TENDER SPECIFICATION BHEL PSSR SCT 2032

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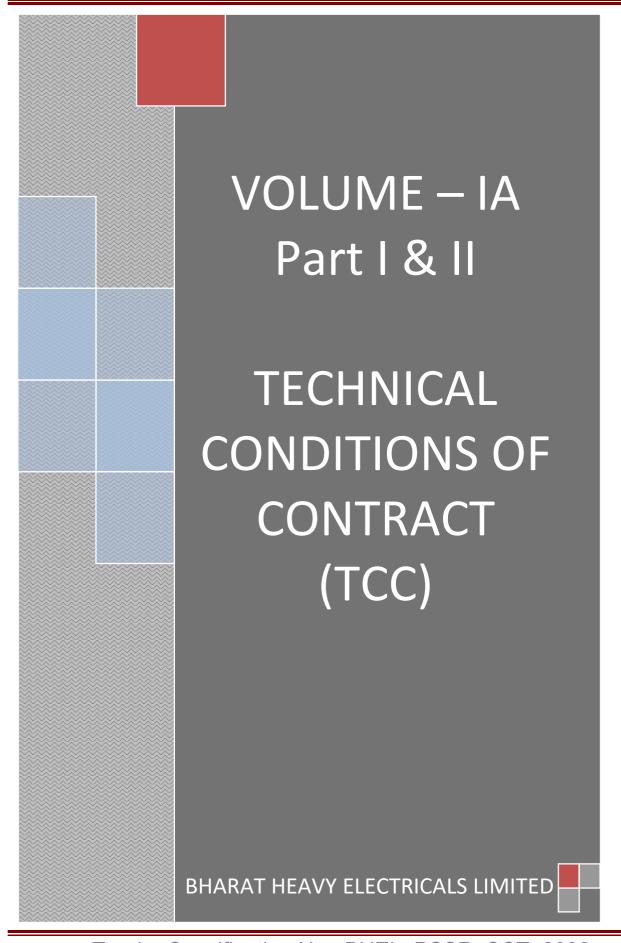
FRAMEWORK AGREEMENT FOR OPERATION AND MAINTENANCE OF CRANES AT VARIOUS SITES OF BHEL PSSR

VOLUME - I BOOK - I



BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)
Power Sector – Southern Region
Tek Towers, 11 Rajiv Gandhi Salai, Thuraipakkam
Chennai – 600 097.



Tender Specification No.: BHEL: PSSR: SCT: 2032

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VOLUME IA PART I CHAPTER I PROJECT INFORMATION

1.1.1 Presently PSSR has presence in the states of Tamil Nadu, Andhra Pradesh, Telangana, Karnataka & Orissa. List of present sites is as under: -

SI. No.	State	Name Of Project Site
1	Tamil Nadu	2X660MW Ennore SEZ
2	Tamil Nadu	1X800MW North Chennai Stage-III
3	Tamil Nadu	2X500MW New Neyveli
4	Tamil Nadu	2X800MW Uppur
5	Tamil Nadu	2X660MW Udangudi
6	Tamil Nadu	1X525MW MEIL Tuticorin
7	Tamil Nadu	2X500MW NTPL Tuticorin
8	Tamil Nadu	2X1000MWe Kudankulam NPP
9	Andhra Pradesh	1X800MW Krishnapatnam
10	Andhra Pradesh	1X800MW Vijayawada
11	Telangana	1X800MW Kothagudem
12	Telangana	5X800MW Yadadri
13	Karnataka	2X800MW Yeramarus
14	Karnataka	1X370MW Yelahanka
15	Orissa	2X800MW NTPC Darlipalli
16	Orissa	18.5MW NALCO Damanjodi

VOLUME IA PART I CHAPTER II SCOPE OF WORKS

- 1.2.1 Intent of this tender is to finalize a framework agreement for providing services of **Regular Operation**, **Routine Maintenance**, **Preventive Maintenance**, **Minor Breakdown Maintenance**, **Minor Repairs & Servicing** as detailed below or elsewhere in this tender specification for cranes owned by BHEL and also for cranes that will be owned by BHEL in future at various ongoing and forth-coming power projects of BHEL Power Sector Southern Region.
- 1.2.2 Classification and Details of the BHEL Own Cranes currently available with BHEL-PSSR are as below.

Г	are as below.					
	CATEGORY	-I : CRANES C	F CAPACIT	Y BELOW	100MT	
SL NO	DESCRIPTION	CAPACITY	MAKE	MODEL	MANU FACTU RER SL NO	CURRENT LOCATION
1	CRAWLER CRANE 75T	75T	TATA TELCO	955 ALC	T 9476	YADADRI
2	CRAWLER CRANE 75T	75T	TATA TELCO	955 ALC	T 9479	UDANGUDI
3	CRAWLER CRANE 75T	75T	TATA TELCO	955 ALC	T 9541	ENNORE SEZ
4	CRAWLER CRANE 75T	75T	TATA TELCO	955 ALC	T 9558	NTPL TUTICORI N FGD
5	CRAWLER CRANE 75T	75T	TATA TELCO	955 ALC	T 9594	YADADRI
6	CRAWLER CRANE 75T	75T	TATA TELCO	955 ALC	T 9830	KOTHAGU DAM
7	CRAWLER CRANE 75T	75T	TATA TELCO	TFC 280	T 022	VIJAYAWA DA
8	CRAWLER CRANE 75T	75T	TATA TELCO	TFC 280	F01- 0176- 1065	YADADRI
9	CRAWLER CRANE 75T	75T	TATA TELCO	TFC 280	F01- 1128	UPPUR
10	CRAWLER CRANE 75T	75T	TATA TELCO	TFC 280	280C- 1135	YADADRI
11	CRAWLER CRANE 75T	75T	TATA TELCO	TFC 280	280C- 1138- 174	NORTH CHENNAI- III
12	CRAWLER CRANE 80T	80T	FUSHUN	QUY- 80B	1033	NEW NEYVELI

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13	CRAWLER CRANE 80T	80T	FUSHUN	QUY- 80B	1034	NEW NEYVELI
14	CRAWLER CRANE 80T	80T	FUSHUN	QUY- 80B	1035	KRISHNAP ATANAM
15	CRAWLER CRANE 80T	80T	FUSHUN	QUY- 80B	1036	UDANGUDI
	CATEGORY-II: CRAN	ES OF CAPAC	TY 100MT &	ABOVE (B	ELOW 200	MT)
SL NO	DESCRIPTION	CAPACITY	MAKE	MODEL	MANU FACTU RER SL NO	CURRENT LOCATION
1	CRAWLER CRANE 100T	100T	TATA TELCO	KH500	500C- 0021	YADADRI
2	CRAWLER CRANE 100T	100T	ZOOMLIO N	QUY- 100	31	UPPUR
3	CRAWLER CRANE 100T	100T	ZOOMLIO N	QUY- 100	32	UDANGUDI
4	CRAWLER CRANE 100T	100T	ZOOMLIO N	QUY- 100	33	NEW NEYVELI
5	CRAWLER CRANE 100T	100T	ZOOMLIO N	QUY- 100	34	ENNORE SEZ
6	CRAWLER CRANE 135T	135T	KOBELC O	CKE- 1350	GN02- 01056	UDANGUDI
7	CRAWLER CRANE 150T	150T	SUMITOM O	LS 528S	41	KOTHAGU DAM
	CATEGORY-III: CRAN	ES OF CAPAC	ITY 200MT 8	ABOVE (E		OMT)
SL NO	DESCRIPTION	CAPACITY	MAKE	MODEL	MANU FACTU RER SL NO	CURRENT LOCATION
1	CRAWLER CRANE 226T	226T	FMC	LINK BELT LS-718	32H-4- 197	UPPUR
2	CRAWLER CRANE 226T	226T	FMC	LINK BELT LS-718	3216- 3624	UDANGUDI
3	CRAWLEER CRANE 250T	250T	KOBELC O	CKE- 2500-II	JD04- 02298	ENNORE SEZ
4	CRAWLEER CRANE 250T	250T	KOBELC O	CKE- 2500-II	JD04- 02330	YADADRI
5	CRAWLEER CRANE 250T	250T	KOBELC O	CKE- 2500-II	JD04- 02414	YADADRI
6	CRAWLEER CRANE 250T	250T	KOBELC O	CKE- 2500-II	JD04- 02426	YADADRI

7	CRAWLEER CRANE 250T	250T	KOBELC O	CKE- 2500-II	JD04- 02447	YADADRI
8	CRAWLEER CRANE 250T	250T	KOBELC O	CKE- 2500-II	JD04- 02440	ENNORE SEZ
	CATEGORY-I	V: CRANES O	F CAPACITY	350MT & A	BOVE	
SL NO	DESCRIPTION	CAPACITY	MAKE	MODEL	MANU FACTU RER SL NO	CURRENT LOCATION
1	CRAWLER CRANE 350T	350T	LIEBHER R	LR- 1350/1	74115	UDANGUDI
2	CRAWLER CRANE 350T	350T	LIEBHER R	LR- 1350/1	74120	ENNORE SEZ
3	CRAWLER CRANE 600T	600T	TEREX DEMAG	CC2800- 1	62359	UDANGUDI
4	CRAWLER CRANE 600T	600T	TEREX DEMAG	CC2800- 1	62363	YADADRI

NOTE:

- 1.2.2.1 The current locations mentioned in the list are only indicative and locations of these cranes are subject to change. Further, it may be noted that some cranes may be added or deleted from the given list as and when required. If any new crane is added to the list given below, then the same shall also be suitably classified into one of the categories based on the capacity and the price quoted against that category of crane shall be applicable till the validity of the contract. Sub-work order for O&M will be placed by BHEL as per the actual requirement at site.
- 1.2.3 **BROAD SCOPE OF WORKS** under this contract includes but not limited to the following:
- 1.2.3.1 Providing competent manpower of **Crane Operator, Maintenance Personnel and Helper** for BHEL Own Cranes at various PSSR sites as per the clauses detailed below.
- 1.2.3.2 Regular Operation of BHEL Own Cranes on daily basis
- 1.2.3.3 Carrying out Day-To-Day Routine Maintenance (Fuel, Lubricants Top-up, etc.) & Periodic Preventive Maintenance (Replacement of Filters, Lubricants, etc.), Running as well as Minor Break-down Maintenance, Minor Repairs & Servicing of BHEL Own Cranes as per Operation & Maintenance Manual of respective cranes, as per crane check sheet formats enclosed as Annexures A to E and as directed by BHEL Site Engineer, through deployment of Category-wise specified competent manpower, based on actual site requirement. Check Sheets (Annexures A to E) must be submitted to BHEL Site Engineer on daily, weekly, monthly, quarterly, half yearly and yearly basis i.e. as per frequency of check sheets.
- 1.2.3.4 Brief Schedule of activities under Daily / Routine Checking and Preventive Maintenance of Each Crane as follows:

- i) Daily Routine Checking of Oil/Lubricants/Water/Coolant/Electricals/Electronics etc. and Cleaning of Cranes.
- ii) Checking and filling/topping up of Lubricants, Fuel, Brake Oil, Water, Coolants etc. as and when required.
- iii) Periodic Greasing & Application of Cardium compound as per Lubrication Schedule.
- iv) Checking & replacement of Engine Oil & Air Filters, Roto-Seals etc.
- v) Minor Maintenance Works for Checking & Replacement of Brake cylinders Kits, other small spares.
- vi) Monitoring of defects in Cranes for identification of Spares & Services requirement.
- vii) Continuous Surveillance of Cranes during running & troubleshooting works.
- viii) Providing all assistance as directed by site in regard to cranes and spares, storing etc.
- ix) Extending/reducing/changing Boom & Jib lengths or combinations of the cranes at site as and when required.
- x) Any other servicing/maintenance works as per attached format (Annexures A to E) and OEMs' Manuals.
- 1.2.3.5 Providing necessary support / assistance for Extension & Reduction of Crane Boom / Jib Segments, as and when required, as per the instruction of BHEL Engineer.
- 1.2.3.6 Providing necessary support / assistance for Dismantling / Loading / Unloading / Assembly of cranes, as and when required, as per the instruction of BHEL Engineer.
- 1.2.3.7 **Proper Handing-Over/Taking-Over of crane and its spares & accessories**. Listing and packing of spares & accessories at the time of Handing over of crane. Contractor is liable to be charged for any discrepancy in spares & accessories at the time of Handing over of crane.
- 1.2.3.8 Any other **small repairs** to prevent any deterioration of condition of equipment like Touchup Painting at peeled off / rusted portion of boom/ Jib inserts after thorough cleaning of the affected area etc. shall be in the scope of bidder.
- 1.2.3.9 **Troubleshooting of all minor hydraulic, electrical and mechanical breakdowns** and attending the problems as per requirement.
- 1.2.3.10 **Minor repair works** (if any) on crane shall be carried out by the O&M agency.
- 1.2.3.11 Purchase of minor spares in case of any emergency/requirement/ urgency, on consultation/approval of BHEL Engineer is included in the scope of bidder. Minor spares/items net costing less than or equal to Rs.20,000/- (Twenty Thousand only) excluding GST shall be arranged by bidder and supplied to site with original bills. The payment for the supplied spares/items shall be done based on the certification from BHEL Site Engineer at actual procurement cost plus 5% service charges and applicable courier charges, if any, on production of bill, duly certified by Site BHEL Engineer. The payment shall be released within 30 days from the submission of bill by vender.
- 1.2.3.12 If any minor repair work [costing less than or equal to Rs.20,000/- (Twenty Thousand only) excluding GST] on small item/component, which can be carried by hand, is required to be

carried out in workshop outside plant premises within 100 km distance from site, then the same shall be carried out by the contractor and expenditure shall be reimbursed, at actual plus 5% service charge, on production of valid documents for the expenditure incurred, duly certified by Site BHEL Engineer. For heavier items/component, which cannot be carried by hand, transportation shall be arranged by BHEL site and 5% service charges over & above the actual expenditure shall not be paid.

- 1.2.3.13 Jobs requiring assistance such as OEM Service Engineer / expert supervision must be intimated to BHEL by the bidder well in advance.
- 1.2.3.14 This maintenance contract does not cover major jobs such as major repair and servicing/over hauling, major breakdown maintenance.

1.2.4 **MONTHLY REPORTS:**

Contractor shall maintain records in consultation with Site Engineer and submit following documents to Site Engineer with copies (in soft) to PSSR-HQ FEX, Chennai on monthly basis.

- a) Spares availability / Consumption / Requirement Report on monthly basis (As per Annexure I).
- b) Daily Crane Utilization Log sheet of each crane (As per Annexure II Format No: QMS/SR/12-F33).
- c) Monthly Crane Utilization Report (As per Annexure III Format No: QMS/SR/12-F34).
- d) Monthly Crane Maintenance Report (As per format Annexure IV).
- e) Monthly Consolidated Report (As per format Annexure –V).

1.2.5 MANPOWER REQUIREMENT, EXPERIENCE & AGE CRITERIA

1.2.5.1 **General Requirement**

- 1.2.5.1.1 Bidder shall provide one operator, one maintenance personnel and one helper for regular operation and routine maintenance of each crane (as per the actual site requirement) under the awarded category. If the services are to be provided by an agency for more than one crane under same category at a particular site, then the requirement of Maintenance Personnel alone will be limited to only one number for the operation and maintenance of up to three cranes.
- 1.2.5.1.2 The contractor's crew shall report to the BHEL Site Engineer nominated by Site-In-Charge on a daily basis at site.
- 1.2.5.1.3 Power of attorney in original is to be submitted for RA bill submission, signing on M-book and receipt of material from BHEL, etc.
- 1.2.5.1.4 Contractor shall also nominate a person reporting to PSSR-HQ / FEX, Chennai and shall update all the activities in progress at all sites.

- 1.2.5.1.5 The crew member should take prior permission from engineer in- charge of site for taking leave.
- 1.2.5.1.6 During leave of any regular person, necessary competent personnel is to be arranged by the contractor, after taking prior permission from BHEL, without any additional cost to BHEL, so that the work is not hampered at site. In case the replacement is not arranged, deductions of payment on pro-rata per man-day basis will be deducted as PENALTY, and BHEL shall reserve the right to hire such services from other agencies at the Risk and Cost of the contractor. If the alternate arrangement is made by BHEL, then deductions at actual with applicable overhead charges will be applicable.
- 1.2.5.1.7 Before vendor replaces/changes any manpower of O&M team of any crane, they must take prior permission from Site / HQ FEX Dept., BHEL Chennai otherwise the payment may be with-held against the same staff.
- 1.2.5.1.8 In case the performance of any member of the crew is found to be unsatisfactory at any site, his services shall be discontinued by BHEL and no payment shall be made against deployment of such unacceptable person from the date his services have been notified as unsatisfactory. Replacement of such persons shall have to be arranged by the contractor within 3 days.
- 1.2.5.1.9 In case any member of the crew is found to be indulged in malpractices, their services will be terminated with immediate effect without giving any notice. Also, in such cases, BHEL shall have right to decide to release/ not to release payment for services provided by such person. Replacement of such persons will have to be arranged by the contractor within 3 days.
- 1.2.5.2 **Experience Requirement** for the subject works shall be as under:

1.2.5.2.1 CRANE OPERATOR:

- a) Must be capable of independently operating Hydraulic/Mechanical crawler/ Tyre Mounted cranes of capacity as specified in Clause No. 1.2.5.2.1(c) against each category.
- b) Must have minimum 2 years' experience in Operation of Hydraulic/Mechanical crawler/ Tyre Mounted cranes of capacity as specified in Clause No. 1.2.5.2.1(c) against each category & hold valid HMV / TRANS license.
- c) CRANE CATEGOTY-WISE EXPERIENCE REQUIREMENT:

CATEGORY	CATEGORY DESCRIPTION	EXPERIENCE REQUIRED in
Category - I	Cranes of Capacity Below 100MT	Cranes of capacity 75MT or above
Category - II	Cranes of Capacity 100MT & Above (Below 200MT)	Cranes of capacity 100MT or above
Category - III	Cranes of Capacity 200MT & Above (Below 350MT)	Cranes of capacity 200MT or above

Category - IV	Cranes of Capacity 350MT & Above	Cranes above	of	capacity	350MT	or	
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- d) Should be capable of attending periodic servicing, minor breakdown/repair, dismantling & assembly and should have high proficiency in supervision of all maintenance activities of Hydraulic/Mechanical crawler/ Tyre Mounted cranes of capacity as specified in Clause No. 1.2.5.2.1(c) against each category
- e) Should be able to read and interpret the operation & maintenance manual, Load Charts, Safe Load Indicator (SLI) / Load Moment Indicator (LMI) and other indicating devices.
- f) Operator shall have latest Physician's certification for their physical fitness in vision with/without Lenses & adequate hearing with or without hearing aid.

1.2.5.2.2 **MAINTENANCE PERSONNEL:**

Crane Maintenance Personnel must have minimum 2 years of experience and skills in attending periodic servicing, breakdown / repair maintenance, dismantling & assembly and should have high proficiency in supervision of all maintenance activities of cranes of capacity as specified in Clause No. 1.2.5.2.1(c) against each category. Apart from mechanical works, he shall be able to troubleshoot electrical / electronic faults and repair, wherever possible.

1.2.5.2.3 **HELPER**:

Crane Helper should have experience of working in power / process plant. He shall remain associated with hydraulic/mechanical crawler crane operator for proper cleaning and up-keepment of crane during operation, servicing and maintenance works on day to day basis and assist operator and / or Maintenance Personnel during troubleshooting activities of the cranes as per requirement.

- 1.2.5.3 **Age Criteria:** The minimum age for helpers is 21 years and that for Operator/Maintenance Personnel is 23 years.
- 1.2.5.4 Necessary documents supporting the qualification requirement of operators and maintenance personnel as laid out in Clauses1.2.5.2 & 1.2.5.3 shall be produced by the bidder for verification before engaging the crew for operation of cranes at site.

1.2.6 **Performance of the vendor:**

Performance of the vendor shall be measured as per attached Annexure-VI. Quarterly reports shall be received from site and if the performance of the vendor is found below par, the services of that vendor shall be withdrawn from that site and may be from other sites.

VOLUME IA PART I CHAPTER III FACILITIES / T&Ps / MMEs / CONSUMABLES IN THE SCOPE OF CONTRACTOR

- 1.3.1 Small tools and plants such as spanners, grease gun, etc., shall be arranged by the O&M agency.
- 1.3.2 The bidder has to make their own arrangements for accommodation, transport and other amenities including local conveyance for their crew at site.

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VOLUME IA PART I CHAPTER IV FACILITIES / T&Ps / MMEs / CONSUMABLES IN THE SCOPE OF BHEL

- 1.4.1 BHEL shall provide following **free of cost** to the contractor to render identified services.
- 1.4.1.1 All the identified spares required for operation of the crane.
- 1.4.1.2 All consumables like filters, lubricants, grease, hydraulic oil, gear oil, engine oil, coolant, Bituminous (Cardium) compound, diesel (fuel) and cleaning consumables (cotton waste, cloth, jute, emery paper, rustolin, kerosene etc.) for day to day usage as well as maintenance will be provided by BHEL on free of cost. However, consumables requirement shall be intimated by bidder one month in advance for planning and procurement.
- 1.4.1.3 All major tools and plants such as crane, Hydraulic jacks, welding machine, etc., and special tools and plants that are supplied by the OEM of cranes shall be provided by BHEL free of charges.
- 1.4.1.4 Space of adequate size for storing of required hand tools, spares, slings, consumables etc. as necessary shall be provided to the contractor by BHEL at free of cost basis.
- 1.4.1.5 Wooden / Concrete sleepers for placing the crane assemblies.
- 1.4.1.6 Required load for load testing of the crane.
- 1.4.1.7 Extra manpower required, for assembly, dismantling, extension and retraction of Boom / Jib assembly.

VOLUME IA PART I CHAPTER V TIME SCHEDULE

1.5.1 **PERIOD OF CONTRACT**:

- 1.5.1.1 This contract shall be valid for a period of 2 years from the date of award of contract / LOI. However, BHEL shall reserve the right to extend the contract period for a further period of **3 (Three)** months or less under the same terms and conditions. However, such extension is subjected to Contractor's satisfactory performance rendered at BHEL site. Awarded Service Charge % and all the terms & conditions shall remain FIRM throughout the tenure of the contract period, including extension, if any.
- 1.5.1.2 BHEL at any time can terminate the service contract by giving three months' prior notice in case service provided is not satisfactory. Work order for each crane for availing the manpower services of O&M agency will be issued at respective site and the agency has to mobilise the manpower within 7 days from the date of issue of work order at site. For termination of work order issued at site, 15 days' prior notice shall be given to the contractor.
- 1.5.1.3 Guarantee period is not applicable for the subject work.

1.5.2 **WORKING HOURS AND HOLIDAYS**

- 1.5.2.1 Operator, Maintenance Personnel & Helper shall have to work eight hours a day excluding One-hour lunch break. Working hour shall be decided by BHEL site in charge as per site convenience. Payment for the extended hours of work beyond normal working hours will be made proportionately at the accepted service charges per day.
- 1.5.2.2 The operator, Maintenance Personnel and helper should be available for service at site on all the working days excluding Sundays or Weekly holidays. Timings shall be fixed by sites as per the operational convenience.
- 1.5.2.3 Allotment of weekly holidays for operator and his crew is at the discretion of BHEL and will be decided by respective site. Only holidays as declared by BHEL apart from weekly holidays have to be followed. This may have to be adjusted by crane operator and his crew to suit the requirement of site. If necessary, operator with his crew shall be available for the operation of crane at site on weekly/ holidays in exigency. Holiday working and extended hour working shall be at the discretion of BHEL site in charge.
- 1.5.2.4 If required, at the discretion of Site in charge, the Operator and his crew will be engaged for over time on regular working days and holidays. Over time charges for regular working days and holidays will be paid on pro rata basis.
- 1.5.2.5 Working on holidays shall be paid extra at pro-rata basis. On holidays working less than 4 hours will be treated as ½ (half) day and more than 4 hours to 8 hours will be treated as full day. Beyond 8 hours working will be treated as over time.

 Calculation for the same is as follows:

Rate per day = Rate per Month / 26
Rate per hour = Rate per day / 8

- 1.5.2.6 The CONTRACTOR will be paid normal operation charges for the day of scheduled maintenance (even if scheduled maintenance is on Sunday / BHEL declared holiday). However, any schedule maintenance shall be decided by the EIC and his decision shall be final and binding on the CONTRACTOR.
- 1.5.2.7 If BHEL informs for round the clock operation of particular equipment in advance, then the Bidder will arrange additional Operation team for second shift. Payment for the second shift will also be as per normal rates as applicable.
- 1.5.2.8 All BHEL declared holidays as per labour laws shall be treated as paid holidays. Working on holiday shall be paid on Pro-rata basis.

VOLUME IA PART I CHAPTER VI TERMS OF PAYMENT

- 1.6.1 Payment of monthly charges as per the terms and conditions of this contract will be made once in a month at respective site as certified by the BHEL Engineer-In-charge at site.
- 1.6.2 GST as applicable will be paid extra by BHEL.
- 1.6.3 The contractor shall submit Certificate / Documentary evidence for P.F. (Provident Fund) deposition of earlier month along with the bill /invoice of the subsequent month for the certification of the bill.

VOLUME IA PART I CHAPTER VII TAXES AND DUTIES

- 1.7.1 Goods and Service Tax (GST) & Cess
- 1.7.1.1 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.
- 1.7.1.2 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.
- 1.7.1.3 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

- 1.7.1.4 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.
- 1.7.1.5 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.
- 1.7.1.6 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.
- 1.7.1.7 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.
- 1.7.1.8 TDS under GST (if/ as & when applicable) shall be deducted at prevailing rates on gross invoice value from the running bills.

- 1.7.1.9 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.
- 1.7.1.10 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.

1.7.2 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.

1.7.3 **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.

1.7.4 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.

1.7.5 **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.

VOLUME IA PART I CHAPTER VIII SAFETY CONDITIONS

- 1.8.1 The contractor to follow all safety norms as per present norms indicated in GCC and as per revised norms from time to time.
- 1.8.2 The contractor to provide all safety appliances like dust masks, safety belt, ladder, safety shoes, helmet, hand gloves, safety goggles, Personal protective equipment (PPE), rain gears, Overalls etc. to their personnel working inside the plant complex at his cost and must adhere to safety codes as given in GCC.
- 1.8.3 Contractor also must adhere to customer specific HSE Requirement as per instructions of BHEL.
- 1.8.4 The contractor shall ensure timely compliance of Annual Load Test, Safety Inspection of equipment, keep updated records and shall give intimation to BHEL Engineer In-Charge (EIC) at least one month in advance.
- 1.8.5 The contractor shall carry out job as per site engineer's specific requirement by considering the safety measures like wind speed, work area surroundings, etc. Wherever there is a requirement of SWP (Safety Work Permit) before carrying out any activity relating to O&M of equipment, contractor shall comply with such requirements.
- 1.8.6 The contractor must ensure that Crane operators should study and understand the risk involved at the site and on the equipment/vehicle with respect to work in executing the job and if any complication perceived, it should be brought to the notice of EIC/ site construction manager before starting the job.
- 1.8.7 Any loss or damage to BHEL or Customer's properties due to negligence of the crew employed by the contractor is attributable to the contractor.
- 1.8.8 BHEL shall not be responsible for any accident / injury to the contractor's crew / staff during operation or otherwise.
- 1.8.9 The contractor has to assume full responsibility for the safety of their crew / staff and to comply with all statutory /safety regulations / security requirements of BHEL and customer.
- 1.8.10 It is the responsibility of the rate contract agency to arrange passes or entry permit as per BHEL / CUSTOMER procedure followed in the plant premises through BHEL site office.
- 1.8.11 The contractor shall ensure that all newly recruited staff should undergo safety training and awareness of risk involvement in equipment operation before they are assigned the job in the field. Record for the same shall be submitted regularly to Site Engineer.
- 1.8.12 The contractor shall ensure that their operator / drivers should possess valid license and SDP (safe driving permit) and should comply with any other instructions of Site Engineer regarding safe operation of equipment.
- 1.8.13 The contractor shall ensure that only authorized operator occupy operator seat and operate the equipment.

VOLUME IA PART I CHAPTER IX STATUTORY REQUIREMENTS

- 1.9.1 All statutory requirements as per labour laws like Labor License ESI, PF etc., have to be arranged by the tenderer. Necessary insurance (covering WC act) for the workmen engaged by the tenderer has to be taken at his cost and the copy of the same should be submitted before commencement of the work.
- 1.9.2 A copy of the policy covering the staff to be engaged for a period of two years should be submitted within 10 days after the receipt of the work order or Necessary insurance policy for the work men engaged shall be taken at the respective site before starting the work at site.
- 1.9.3 <u>The contractor shall ensure the payments of minimum labour wages to the workmen</u> under him as per the rules applicable from time to time in different state(s).
- 1.9.4 Vendors' supervisor should visit to site for ensuring compliance of all statutory requirement (Submission of EPF challan, GST return document, ESIC (as applicable), etc.) and timely submission of monthly RA bill along with all supporting documents as suggested by respective sites. Empowerment of the above mentioned Personnel must be reflected in the Organisation Chart of the Bidders.

1.9.5 **Indemnity Bond:**

An Indemnity bond to be furnished by the Vendor stating that all expenditure caused due to failure of statutory obligations on the part of the tender shall be borne by the Vendor.

VOLUME IA PART I CHAPTER X PRICE BID EVALUATION & MODE OF AWARD OF CONTRACT

- 1.10.1 Bidders may choose to quote against any category or all the categories of cranes. However, quoting for a particular category shall mean bidder's acceptance to provide services for cranes of all the capacities within that particular category.
- 1.10.2 Evaluation shall be done separately for each category based on the **Percentage** (%) value of Service Charge quoted by bidders for the respective category in the Excel File in Volume II, Price Bid.
- 1.10.3 Successful bidder(s) in any category shall also be considered for other categories subject to fulfilment of Pre-Qualification Criteria.
- 1.10.4 In each category, The bidder who has quoted the lowest **Percentage (%) value of Service Charge** is termed as L1 bidder and second lowest is termed as L2 bidder and so on for that category.
- 1.10.5 BHEL shall counter offer the Percentage (%) value of Service Charge of the L1 Bidder, as finalized and accepted by BHEL to other bidders (i.e. L2, L3 and so on, in the order / sequence of their ranking, until finding one more bidder matching L1 bidder) in the respective category with an intention to award the cranes under each category to maximum of 2 agencies, termed as A1 & A2 for the purpose of earmarking of cranes, under each category separately.
- 1.10.6 If none of the bidder matches BHEL accepted Percentage (%) value of Service Charge of L1 Bidder, then all the cranes under the specific category shall be awarded to L1 bidder (Agency A1).
- 1.10.7 In case of awarding of contract to 2 agencies in a category, efforts will be made to split the work approximately in the ratio of 60:40 between L-1 bidder (A1) and other bidder(A2), based on number of cranes, rounded off to next higher value for A1. Accordingly, the tentative earmarking of available cranes listed under Cl.1.2.2 has been indicated in table, 1.10.12.
- 1.10.8 Even though all the cranes mentioned under Cl.no.1.2.2 are earmarked to agencies A1 / A2, only based on the actual site requirement, separate sub-work order shall be issued from BHEL-PSSR Site (where the particular crane is present) based on this Framework Agreement finalised from PSSR-HQ.
- 1.10.9 If any crane/cranes is/are added to the list provided under cl.no.1.2.2, the same shall be classified into particular category based on the capacity, and will be earmarked and offered to A1 and then to A2, in round-robin fashion, in the order of their selection.
- 1.10.10 In case of agencies, either A1 or A2, not willing to provide O&M services to the crane earmarked against him, then BHEL shall reserve the right to award O&M

- of the subject crane to the other agency A2 or A1, as the case may be, to meet the site requirement.
- 1.10.11 Even though, BHEL intents for smooth execution of the contract without any manual intervention in future / to enable transparency in splitting of works, as detailed above, in case of any discrepancies regarding splitting / allocation of work, the decision of BHEL shall be final and binding on the agencies.
- 1.10.12 Ear-marking of cranes to Successful Bidders A1 / A2:

	C	ATEGOR	Y-I: CRANE	S OF CAPAC	ITY BELOW 100M	T	
SL NO	DESCRIPTION	CAPAC ITY	MAKE	MODEL	MANUFACTURER SL NO	CURRENT LOCATION	AGEN CY
1	CRAWLER CRANE 75T	75T	TATA TELCO	955 ALC	T 9476	YADADRI	A1
2	CRAWLER CRANE 75T	75T	TATA TELCO	955 ALC	T 9594	YADADRI	A1
3	CRAWLER CRANE 75T	75T	TATA TELCO	TFC 280	F01-0176-1065	YADADRI	A1
4	CRAWLER CRANE 75T	75T	TATA TELCO	TFC 280	280C-1135	YADADRI	A1
5	CRAWLER CRANE 75T	75T	TATA TELCO	955 ALC	T 9830	KOTHAGUDAM	A1
6	CRAWLER CRANE 80T	80T	FUSHUN	QUY-80B	1033	NEW NEYVELI	A1
7	CRAWLER CRANE 80T	80T	FUSHUN	QUY-80B	1034	NEW NEYVELI	A1
8	CRAWLER CRANE 75T	75T	TATA TELCO	TFC 280	280C-1138-174	NORTH CHENNAI-III	A1
9	CRAWLER CRANE 75T	75T	TATA TELCO	TFC 280	T 022	VIJAYAWADA	A1
10	CRAWLER CRANE 75T	75T	TATA TELCO	955 ALC	T 9479	UDANGUDI	A2
11	CRAWLER CRANE 80T	80T	FUSHUN	QUY-80B	1036	UDANGUDI	A2
12	CRAWLER CRANE 80T	80T	FUSHUN	QUY-80B	1035	KRISHNAPATA NAM	A2
13	CRAWLER CRANE 75T	75T	TATA TELCO	955 ALC	T 9541	ENNORE SEZ	A2
14	CRAWLER CRANE 75T	75T	TATA TELCO	TFC 280	F01-1128	UPPUR	A2
15	CRAWLER CRANE 75T	75T	TATA TELCO	955 ALC	T 9558	MEIL TUTICORIN	A2
	CATEGOR		NES OF CAI	PACITY 100M	T & ABOVE (BELO		
SL NO	DESCRIPTION	CAPAC ITY	MAKE	MODEL	MANUFACTURER SL NO	CURRENT LOCATION	AGEN CY
1	CRAWLER CRANE 100T	100T	ZOOMLION	QUY-100	32	UDANGUDI	A1
2	CRAWLER CRANE 135T	135T	KOBELCO	CKE-1350	GN02-01056	UDANGUDI	A1
3	CRAWLER CRANE 100T	100T	ZOOMLION	QUY-100	31	UPPUR	A1
4	CRAWLER CRANE 100T	100T	ZOOMLION	QUY-100	33	NEW NEYVELI	A1
5	CRAWLER CRANE 100T	100T	ZOOMLION	QUY-100	34	ENNORE SEZ	A1

6	CRAWLER CRANE	100T	TATA TELCO	KH500	500C-0021	YADADRI	A2
7	CRAWLER CRANE 150T	150T	SUMITOMO	LS 528S	41	KOTHAGUDAM	A2
	CATEGORY	│ ′-III: CRA	NES OF CAI	PACITY 200M	│ T & ABOVE (BEL0	DW 350MT)	
SL NO	DESCRIPTION	CAPAC	MAKE	MODEL	MANUFACTURER SL NO	CURRENT LOCATION	AGEN CY
1	CRAWLEER CRANE 250T	250T	KOBELCO	CKE-2500-II	JD04-02330	YADADRI	A1
2	CRAWLEER CRANE 250T	250T	KOBELCO	CKE-2500-II	JD04-02414	YADADRI	A1
3	CRAWLEER CRANE 250T	250T	KOBELCO	CKE-2500-II	JD04-02426	YADADRI	A1
4	CRAWLER CRANE 226T	226T	FMC	LINK BELT LS-718	3216-3624	UDANGUDI	A1
5	CRAWLER CRANE 226T	226T	FMC	LINK BELT LS-718	32H-4-197	UPPUR	A1
6	CRAWLEER CRANE 250T	250T	KOBELCO	CKE-2500-II	JD04-02298	ENNORE SEZ	A2
7	CRAWLEER CRANE 250T	250T	KOBELCO	CKE-2500-II	JD04-02440	ENNORE SEZ	A2
8	CRAWLEER CRANE 250T	250T	KOBELCO	CKE-2500-II	JD04-02447	YADADRI	A2
	CA	TEGORY	-IV: CRANE	S OF CAPACI	ITY 350MT & ABO	VE	
SL NO	DESCRIPTION	CAPAC ITY	MAKE	MODEL	MANUFACTURER SL NO	CURRENT LOCATION	AGEN CY
1	CRAWLER CRANE 350T	350T	LIEBHERR	LR-1350/1	74115	UDANGUDI	A1
2	CRAWLER CRANE 600T	600T	TEREX DEMAG	CC2800-1	62359	UDANGUDI	A1
3	CRAWLER CRANE 600T	600T	TEREX DEMAG	CC2800-1	62363	YADADRI	A1
4	CRAWLER CRANE 350T	350T	LIEBHERR	LR-1350/1	74120	ENNORE SEZ	A2

VOLUME IA PART I CHAPTER XI

GENERAL

The scope of the work will comprise of but not limited to the following:

(All the works mentioned hereunder shall be carried out within the accepted rate unless otherwise specified.)

- **1.7.1** Contractors are requested to furnish the following documents 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.
- **1.7.2** Contractors are requested to furnish the proof of documents for the following at PSSR- Site, as applicable
 - (i) Provident Fund Registration Number.
 - (ii) Labour License Number.
 - (iii) Workmen Insurance Policy Number.
- 1.7.3 In addition to the clause 2.8 of General Conditions of Contract (Volume-IC of Book-II) the contractor shall comply with the following.

1.7.3.1 BOCW Act & BOCW Welfare Cess Act

- 1.7.3.1.1 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.
- 1.7.3.1.2 The Contractor should comply with the provisions of BOCW Welfare Cess Act 1996 in respect of the work awarded to them by BHEL.
- 1.7.3.1.3 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.
- 1.7.3.1.4 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.

- 1.7.3.1.5 Contractor shall make remittance of the BOCW cess as per the 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, fees paid towards registration of Beneficiaries and contribution of Beneficiaries remitted.
- 1.7.3.1.6 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.

1.7.3.2 **PROVIDENT FUND**

- 1.7.3.2.1 The contractor is required to extent the benefit of Provident Fund to the labour employed by you in connection with this contract as per the Employees Provident Fund and Miscellaneous Provisions Act 1952. For due implementation of the same, you are hereby required to get yourself registered with the Provident Fund authorities for the purpose of reconciliation of PF dues and furnish to us the code number allotted to you by the Provident Fund authorities within one month from the date of issue of this letter of intent. In case you are exempted from such remittance an attested copy of authority for such exemption is to be furnished. Please note that in the event of your failure to comply with the provisions of said Act, if recoveries therefore are enforced from payments due to us by the customer or paid to statutory authorities by us, such amount will be recovered from payments due to you.
- 1.7.3.2.2 The final bill amount would be released only on production of clearance certificate from PF / ESI and labour authorities as applicable.

1.7.3.3 OTHER STATUTORY REQUIREMENTS (AS APPLICABLE)

- 1.7.3.3.1 The Contractor shall submit a copy of Labour License obtained from the Licensing Officer (Form VI) u/r25 read with u/s 12 of Contract Labour (R&A) Act 1970 & rules and Valid WC Insurance copy or ESI Code (if applicable) and PF code no. along with the first running bill.
- 1.7.3.3.2 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, copies of monthly return of PF contribution with remittance Challans under Employees Provident Fund Act 1952 and copy of renewed WC Insurance policy or copies of monthly return of ESI contribution with Challans under ESI Act 1948 (if applicable) in respect of the workmen engaged by them.
- 1.7.3.3.3 The Contractor should ensure compliance of Sec 21 of Contract Labour (R&A) Act 1970 regarding responsibility for payment of Wages. In case of "Non-

compliance of Sec 21 or non-payment of wages" to the workmen before the expiry of wage period by the contactor, BHEL will reserve its right to pay the workmen under the orders of Appropriate authority at the risk and cost of the Contractor.

- 1.7.3.3.4 The Contractor shall submit copies of Final Settlement statement of disbursal of retrenchment benefits on retrenchment of each workmen under I D Act 1948, copies of Form 6-A (Annual Return of PF Contribution) along with copies of PF Contribution Card of each member under PF Act and copies of monthly return on ESI Contribution Form 6 under ESI Act 1948 (if applicable) to BHEL along with the Final Bill.
- 1.7.3.3.5 In case of any dispute pending before the appropriate authority under ID 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.
- 1.7.3.3.6 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.

1.10.3.4 DEPLOYMENT OF SKILLED / SEMI-SKILLED TRADESMEN

The following clause is applicable in case the contract value / contract price is Rs. Five crores and above.

The contractor shall, at all stages of work deploy skilled / semi-skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute / Industrial Training. Institute / National Institute of Construction Management and Research (NICMAR), National Academy of Construction, CIDC or any similar reputed and recognized Institute managed / certified by State / Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled / semi-skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer-in-Charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs. 100 per such tradesman per day. Decision of Engineer-in-Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

VOLUME-IA PART- II CHAPTERS 1-7

Chapter 1 to 7 in next 12 pages are as below

SI No	Description	Chapter	No. of Pages
VOL IA	PART-II: Technical Specifications		
1	Crane Maintenance Checklist Formats (ANNEXURE-A, B, C, D & E)	Chapter-1	05
2	Spares Availabilty/ Consumption/ Requirement Report (Annexure-I)	Chapter-2	01
3	Daily Crane Utilization Log Sheet (Annexure-II)	Chapter-3	01
4	Monthly Crane Utilization Report (Annexure-III)	Chapter-4	01
5	Monthly Crane Maintenance Report (Annexure-IV)	Chapter-5	01
6	Monthly Consolidated Report (Annexure-V)	Chapter-6	01
7	Format For Vendor Performance Feedback & Quarterly Evaluation Of Vendor Performance (Annexure-VI)	Chapter-7	02

Tender Specification No.: BHEL: PSSR: SCT: 2032

					FNIAM	Sin A Maria	1																	ANNEXURE-A
			SCHED	SCHEDULE OF DAILY ROUTINE CHECKING (CRANE WISE)	DAILY	ROUT	NE CH	ECKIN	G (CR/	NE W	(ISE)													
ū					-							MO	MONTH:	-	=	-	-		-		-	-		
Š Š	IDENTIFICATION	СНЕСК ІТЕМ	CHECKING METHOD	1 2	3 4	5 6	7	6 8	10 11	12	13 14	15	16 17	18	19 20	21	22 23	24	25 26	27	28 2	29 30	31	REMARKS
-	Fuel and Hydraulic System	Damage or Leakage, Supply Fuel If Required in Fuel Tank	Visual Check																					
2	Engine	-le	starting , Check by Hearing																					
က	Radiator (<u>+</u>	Visual Check - Both Radiator Tank and Sub Tank																					
4	Hydraulic oil Tank		Visual Check																					
2	Hose , Piping , Connector (Oil Leak	Visual Check																					
9		Effectiveness	Operation when the swing brake is engaged, swinging is impossible.																					
7	Swing Lock																							
			Operation , Visual Check																					
6	Gantry, MAST	Deformation, Crack	Visual Check- Inspect		\mathbb{H}				Н		H						H		H					
10			Operation -Normally by Switch Operate, Visual Check																					
Ξ			Visual Check- Use the Indicator to determine.																					
12		Damage, Falling off ,Looseness	Visual Check																					
13	Hook Overhoist Preventive F Device	Performance	Operation																					
14	eventive		Operation																					
15	Load Safety Device		Operation																					
16			Operation- Check in operating cab drum lock function																					
17	Window Glass , Steps, Handle & Guard	Damage, Falling off, crack	Visual Check- Immediately remove any grease & oil.																					
18	dicator	Fillament is gone	Operation , Visual Check																					
19	Drum Brake Free Fall ndicator Lamp (Wherever applicable)	Fillament is gone	Visual Check - FFIL light up when a drum brake selector switch is shifted to free fall position after the engine starts.																					
20	Drum Brake Disc	Wear	Visual Check - with Indicator																					
21	Seave , Frame	Deformation, Crack,Wear	Visual Check						L															
22	Hook, Wire Lock	Damage, Looseness	Visual Check - Inspect Sheave, Bearing and Hook Latch of Hook Block for damage.																					
23	Cable Roller	Damage, Deformation, Wear	Visual Check - For insert boom & upper boom.																					
		Signature of Operator:		H	H		Ħ		Н	耳	Н		H				H		H			Н		

ANNEXURE-B

MAINTENANCE CHECK LIST

	SCHEDULE OF WEEKLY ROUTINE CHECKING (CRANE WISE)									
CRAN	E MODEL:-		DATE:-							
SL. NO.	IDENTIFICATION	CHECK ITEM	CHECKING METHOD	REMARKS						
1	Fuel Pre Filter	Water Level	Visual Check-Drain Water From Fuel Pre Filter							
2	Drum Lock (Front,Rear, Third, Boom Drums)	Greasing	Apply Extreme Pressure Grease (EPG)							
3	Hydraulic Oil Tank	Drain	Drain the Hydraulic Oil Tank							
4	Slewing Ring Bearing	Grease	Apply Extreme Pressure Grease (EPG)							
5	Slewing Ring gear	Grease	Apply molybdenum Disulphide Grease (MDG)							
6	Lower Roller, Idler Roller	Check Oil Level	Apply Gear Oil							
7	Upper Roller	Check oil level	Apply Gear Oil							
8	Lower Spreader Frame, Hook Sheave, Hook Bearing, Ball Hook Bearing, Luffing Jib Drum Lock, Guide Sheave	Grease	Apply Extreme Pressure Grease (EPG)							

Signature of Operator

MAINTENANCE CHECK LIST

	SCHEDULE OF MONTHLY ROUTINE CHECKING (CRANE WISE)								
CRA	NE MODEL:-			DATE:-					
SL. NO.	IDENTIFICATION	CHECK ITEM	CHECKING METHOD	REMARKS					
1	Fan Belt	Looseness , Damage	Visual Check- Push with Finger, Defle -ction of 10 to 15 mm						
2	Engine Mounting Bolt, Rubber Mount	Looseness, damage	Visual Check, Test Hammer						
3	Radiator, Oil Cooler	Oil Leak, damage	Visual Check- Clean the Radiator Core						
4	Power Divider Hydraulic motor, Reduction unit	Oil Leak, Unusual noise	Visual Check, Check by hearing						
5	Hydraulic Pump	Oil Leak, Unusual Sound	Visual Check, Check by hearing						
6	Valve etc.	Oil Leak	Visual Check						
7	Gantry Cylinder, mast Arm Cylinder, Drum Lock	Oil Leak , Damage ,any wear	Visual Check						
8	Fuel Supply Pump & hose	Proformance & Damage	Operation Should be normal, Visual Check the damage						
9	Swing Alarm Lamp	Alarm Sound , Filament is gone	Operation, Visual Check - Flasher fuction properly or not						
10	Swivel Joint	Oil Leak	Visual Check						
11	Slewing Ring Bearing	unusual Noise	Check by Hearing						
12	Crawler shoe	Extension , Damage, Wear	Visual Check- Slackening of 10 to 20 mm						
13	Main Hoist Wire Rope, Auxilliary hoist,luffing Jib Hoist, (All Wire Ropes), Boom Guy Line, Luffing Jib Guy Line, Jib Guy Line.	All to be Lubricate	Apply Extreme EPG- Pressure Multipurpose grese (Lithium Base Grease or Cardium compound as applicable.)						

Signature of Operator

	ANNEXURE-D									
	MAINTENANCE CHECK LIST									
	SCHEDULE OF QUARTERLY ROUTINE CHECKING (CRANE WISE)									
CRANE	MODEL:-			DATE:-						
SL. NO.	IDENTIFICATION	CHECK ITEM	CHECKING METHOD	REMARKS						
1	Drive Sprocket, Crawler Idler, Upper & Lower Rollers	Oil Leak, Damage	Visual Check-Inspect Oil leak & Damage							
2	Slewing ring Bearing Mounting Bolt	Looseness, Fallimg Off	Visual Check-Any Missing / damage, Clean and Secure							
3	Winch Reduction Unit (Front, Rear, Boom)	Check Oil Level	If Oil Level is below the red mark add with lub oil Gear Oil # 90 (GO)							
4	Engine	Replace oil	Replace with Engine Oil SAE # 30(MO) - Change the Oil Filter also.							
5	Battery inspection	Check up Charge Condition	Check Battery Electrolyte Level. Add If Required.							

Signature of Operator

				ANNEXURE-E
			ENANCE CHECK LIST	
		JLE OF HALF-YLY 8	RYLY ROUTINE CHECKING (
	IE MODEL:- YEARLY			DATE:-
SL	TEARLI	1	T	
NO.	IDENTIFICATION	CHECK ITEM	CHECKING METHOD	REMARKS
1	Accumulator	Oil Leak, Damage	Visual Check-inspect for Oil Leak	
2	Frame	damage & Crack	Visual Check-Inspect Car Body & Crawler Frame for Crack	
3	Fuel Tank	Drain	Loosen the Drain Plug, Drain water & Sediment From Tank	
YEAR	ĹY	•		
SL NO.	IDENTIFICATION	CHECK ITEM	CHECKING METHOD	REMARKS
1	Radiator	Replace Coolant	Drain after cool- replace by Soft Water	
2	Swing reduction Unit	Replace Oil	Replace with Gear Oil #90(GO)	
3	Winch Reduction Unit (Front, Rear, Boom)	Replace Oil	Replace with Gear Oil #90(GO)	
4	Power Divider	Replace Oil	Replace with Gear Oil #90(GO)	
5	Hydraulic Oil Tank	Replace Oil	Replace with Hydraulic Oil #46(HO)	
6	Propel Reduction Unit	Replace Oil	Replace with Gear Oil #90(GO)	
7	Winch Reduction Unit (Luffing jib Drum)	Replace Oil	Replace with Gear Oil #90(GO)	
8	All Sheaves, Mast Poit Sheaves, Cable roller, Auxilliary Sheave, Boom & jib point Sheaves, Guide Sheaves, Guide Roller, Strit Point Sheaves,	All to be Grease	Apply Extreme EPG- Pressure Multipurpose grese (Lithium Base Grease)	
9	Counter Weight Handling Link.	Lubricate	Apply Extreme EPG- Pressure Multipurpose grese (Lithium Base Grease)	

Signature of Operator

ANNEXURE - I

<u> </u>										
PARES AVAILAI	BILTY/ CONSUMPTIO	N/ REQUIREMENT RE	PORT							
		SITE :								
SPARES AVAILABLE AS ON MONTH END										
CRANE MODEL	DEL PART NO. DESCRIPTION									
	DARES CONSUMED DURIN	IC THE MACNITH								
	1		OTV.							
CRANE MODEL	PART NO.	DESCRIPTION	QTY.							
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CRANE MODEL	PART NO.	DESCRIPTION	QTY.							
-										
1										
	CRANE MODEL	SPARES AVAILABILTY/ CONSUMPTION SPARES AVAILABLE AS ON CRANE MODEL PART NO. SPARES CONSUMED DURING CRANE MODEL PART NO. SPARES REQUIRED,	SPARES CONSUMED DURING THE MONTH CRANE MODEL PART NO. DESCRIPTION SPARES CONSUMED DURING THE MONTH CRANE MODEL PART NO. DESCRIPTION SPARES CONSUMED DURING THE MONTH CRANE MODEL PART NO. DESCRIPTION SPARES REQUIRED, IF ANY							

	FORMAT NO. QMS/SR/12-F33/01				REMARKS	BHEL	OIAFF				
	<u> </u>				SIGNATURE	ER OPERATOR	0				
SHEET		MODEL:	SL. NO.:		CHARGEABLE/ SIGNATURE NON-						
CRANE UTILIZATION LOG SHEET		CRANE MODEL:	CRANE SL. NO.:		HMR ISSUED						
UTILIZAT					HMR						
CRANE				CRANE	WORKING	START END					
				JOB	CRIPTION						
	į			AREA							
				SL.NO. DATE AGENCY	·······						
11 H	PS SR	PROJECT:		SL.NO. DA							

FUEL LEFT ON FIRST DAY OF THE MONTH:

FUEL LEFT ON LAST DAY OF THE MONTH:

FORMAT NO. QMS/SR/12-F34/01		%AGE UTILISATION J=100*(E+F)/(A-B-C-D)	
. —		FUEL CONSUMPTI ON PER HOUR	
		%AGE AVAILABILIT Y FOR USE H=100*(A-B- C-D)/A	
		FUEL CONSUMP TION FOR THE MONTH (G)	
G SHEET	H.	ACTUAL WORKING HOURS ENGINE ENGINE OFF ON CONDITION (E) (F)	
CRANE UTILIZATION LOG SHEET	MONTH	ACTUAL WOF ENGINE ON CONDITION (E)	
NE UTILI		OVERHAU LING HRS.	
CRA		BREAKD OWN MAINT. HRS (C)	
		PREVENTI VE MAINT. HRS (B)	
		STANDA RD HOURS PER MONTH (26 DAYS × 8 HRS.) (A)	
		ENGINE HOUR METER READIN G (HMR) AT THE END OF MONTH	
		M/C. SL. NO.	
वी एव ई पत 11	PROJECT:	CRANE DESCRIPTIO N	
		v z o	

ANNEXURE - IV

	MONTHLY CRANE MAINTENANCE REPORT									
	PREVENTIVE MAINTENANCE									
DATE	DATE MAINTENANCE ACTIVITIES CARRIED SPARE PARTS REPLACED, OUT IF ANY									
	BREAKDOWN MAIN	TENANCE								
DATE	MAINTENANCE ACTIVITIES CARRIED OUT	SPARE PARTS REPLACED, IF ANY	REMARKS							

ANNEXURE - V

	MONTHLY CONSOLIDATED REPORT										
MONTH:	MONTH:										
SL.NO.	CRANE MODEL	CRANE SL.NO.	PRESENT SITE	PRESENT HMR AS ON MONTH END		OPERATOR /MECHANIC CONTACT DETAILS	CRANE STATUS (PROBLEMS)	REMARKS			

ANNEXURE-VI

FORMAT FOR QUARTERLY EVALUATION OF VENDOR PERFORMANCE (Sheet No: 1 of 2)

NAME OF PROJECT / SITE :

NAME OF THE VENDOR :

WORK ORDER / SUB-WORK ORDER REFERENCE :

PERFORMANCE FEEDBACK YEAR/QUARTER :

SI No.	Details	PERFORMANCE FEEDBACK SCORE						
		5	4	3	2	1		
01	MANPOWER		1					
1.1	Technical Skill of the crew deployed							
1.2	Job Co-ordination Skill							
2	QUALITY	1	1	1				
2.1	Routine Maintenance							
2.2	Log Reports Maintenance							
2.3	Response to Site Requirement							
2.4	Work as per Customer Satisfaction							
3	OTHERS		•					
3.1	Behavioural Aspect							
3.2	Responsiveness to statutory regulations and compliance level							

(Signature of Site Engineer)

(Signature of Construction Manager/Site-In-Charge)

ANNEXURE-VI

FORMAT FOR QUARTERLY EVALUATION OF VENDOR PERFORMANCE (Sheet No: 2 of 2)

NAME OF PROJECT / SITE :

NAME OF THE VENDOR :

WORK ORDER / SUB-WORK ORDER REFERENCE :

PERFORMANCE FEEDBACK YEAR/QUARTER :

SI No.	CRITERIA	MAX SCORE	WEIGHTAGE	SCORE OBTAINED	WEIGHTED SCORE			
1	MANPOWER	10	2.5	/ Out of 10	/ Out of 25			
2	QUALITY	20	3	/ Out of 20	/ Out of 60			
3	OTHERS	10	1.5	/ Out of 10	/ Out of 15			
			TOTAL WEIG	HTED SCORE	/ Out of 100			
Equipm	Accidents – Fatal, Peri ent		ility, Major dam	nage to				
Minor A	NET WEIGHTED S		deductions indi	cated above)				
Overall	Performance Evalua	tion	Good / Sat	Good / Satisfactory / Unsatisfactory				
Net We	ighted Score							
80% an	d above		Good	Good				
Betwee	n 60% to 80%		Satisfactor	Satisfactory				
60% an	d Below		Unsatisfact	Unsatisfactory				

(Signature of Site Engineer)

(Signature of Construction Manager/Site-In-Charge)