

SCOPE OF WORK & SPECIAL CONDITIONS OF CONTRACT

1. **Name of Work:** Comprehensive Annual Maintenance Contract (CAMC) for Safe load indicator system (SLI) Mechanica (MSTS9000) of 140T Cowans Sheldon old design crane of Jabalpur division/WCR for a period of 36 months with OEM.
2. **Arrangement For Permits/ License:** Arrangement for permits and license for materials will not be made by the Railway or any assistance given. The contractor will have to make his own arrangement. Also, no import license shall be arranged by the Railway for this work.
3. **Taxes And Royalties:** All rates quoted in the tender shall be deemed to be inclusive of all taxes, royalty's payable by the contractor(s) to the Government or the public body or local authority and no additional amount will be paid or claim entertained on this account by the Railway. However, any upward or downward revision in GST shall be charged extra / deducted from the bill as per the prevailing rates of GST at the time of bill as per provisions of GST.
4. **Inspection Register:** An inspection register shall be maintained at the site of work by the Railway wherein instructions regarding the working etc. shall be recorded by the Engineer or his executive sub-ordinates. It is expected of the contractor or his representative at the site to note such instructions wherever asked upon to do so and take action accordingly.
5. The contractor shall ensure that his staff while carrying out the said work, carry an identity card on their person, at all times. They shall behave in a disciplined courteous manner, and in no way, indulge in activities in Railway premises, which could cause loss to property or reputation of Railways.
6. The above work will be subject to the General conditions of contract in force on Railway in addition to the Special terms and conditions as laid down herein.
7. All the Staff employed by the contractor will be paid by the contractor and it will be the contractor's responsibility for their lodging and boarding etc. Railway also reserves the right to terminate the contract or levy penalty on contractor in case of repeated misbehavior or disobedience immediately.
8. From Railway administration side Sr. Divisional Mechanical Engineer (Frt & EnHM) Jabalpur or his authorized person will be the In-charge for this contract work. However, in case of any dispute Sr. Divisional Mechanical Engineer (Frt & EnHM) Jabalpur's decision will be final.
9. The contractor should note that no compensation due to any loss of life or loss of material or any other account shall be given by the Railway Administration and contractor shall have to pay all compensation in case of any accident, injury to his labour.
10. All notices, communications, reference and complaints made by the Railway or the Engineer or the Engineer's Representative or the Contractor inter-se concerning the works shall be in writing and no notice, communication, reference or complaint not in writing shall be recognized.

11. Payment Terms:

- 11.1 Payment shall be made on 4 months basis for the quantum of the work carried out during that period subject to deductions such as security deposit, conservancy cess or any other statutory deductions. The payment will be done after the bill is submitted by contractor and verified by Sr. Divisional Mechanical Engineer (Frt & EnHM) Jabalpur.
 - 11.2 The firm will raise the invoice for every quadrimester as per schedule. The payment shall be made after successful completion of every 4 months maintenance period in all respect.
 - 11.3 Apart from 3 schedule visits per year, emergency visits, if required, will be free of cost irrespective of no. of such visits. Payment will be made for scheduled visits only.
 - 11.4 The payment will be made as per work executed in accordance with the scope of work. The schedule visit may also be carried out at some other location also. In case the crane is stationed at workshop for POH/MLR etc. firm may be permitted to execute complete retro-fitment of SLI system at Parel & also at Crane site after MLR/POH work against visit to be executed as above.
 - 11.5 Payment will be made by Sr. Divisional Finance Manager, Jabalpur Division.
 - 11.6 Contractor to provide the details of Bank A/C in line with RBI guidelines for the same. These details will include Bank Name, Branch Name & Address, Account type, Bank A/C No. and Bank & Branch code as appearing in MICR cheque issued by the bank.
 - 11.7 Security deposit shall be released only after 2 months from successful completion and finalization of contract.
 - 11.8 No interest shall be payable on any amount which is payable to contractor for delayed payment or any other cause.
 - 11.9 Railway shall not pay any additional expenses except the contracted price. Any expenses in the form of statutory levies, toll tax, road tax, cost for safe transit of railway material or any other incidental expenditure shall have to borne by the contractor. However, any upward or downward revision in GST shall be charged extra / deducted from the bill as per the prevailing rates of GST at the time of bill as per provisions of GST.
 - 11.10 No Octroi charges shall be payable as the material for transportation belongs to Railways (Government of India) and is exempted from local levies. A certificate to this effect shall be issued by Railway authorities if so required, so as to claim exemption during transit.
12. All the records on the basis of which the bills are claimed shall be checked and countersigned by the Railway representative.

13. The Railway reserves the right to terminate the contract on the risk and cost of the contractor at any stage during the operation of the contract if unsuccessful execution of the work noticed repeatedly and in case repeated penalties are being imposed.
14. All direct or indirect costs and obligations pertaining to employment of specialized manpower and equipment shall be borne by contractor.
15. The contractor should take utmost care to ensure that no damage to any railway property is done during execution of work and should indemnify railway for such damages.
16. The work shall be carried out without affecting the Railway working and in consultation with Sr. Divisional Mechanical Engineer (Frt & EnHM) Jabalpur or his authorized representative.
17. Firm will have to use its own tools, equipment for performing the above contract.
18. **No price variation (PVC) will be admissible in this contract work and the rates shall remain firm during the currency of the contract.**
19. A CAMC schedule register kept with the Sr. DME/Frt & EnHM/JBP or his authorized representative will be jointly signed by the service engineer and Sr. DME/Frt & EnHM/JBP or his authorized representative during each schedule visit and emergency visit if any.
20. If time taken for schedule maintenance at site exceeds the stipulated period no additional charges shall be paid for extra time taken beyond the stipulated time.
21. Railway will not be responsible any lodging or boarding of service engineer of the firm.
22. Before start of the maintenance work contractor should submit the details of persons being engaged for maintenance.
23. Railway Administration shall not be liable to pay any compensation, whatsoever for the employees of the Contractor involved in any accident at site at any time should such eventuality takes place.
24. Railway Administration shall not be responsible for any accident involving the Contractor or his representative during the contractual period of the contract.
25. Sr. Divisional Mechanical Engineer (Frt & EnHM) Jabalpur shall have discretion to settle any dispute arising out of this work and his decision in this regard will be final and binding on the contractor.
26. **Place of Work:** The work shall be carried out at New Katni Junction of Jabalpur division of West Central Railway. In case of any changes in location, same need to be jointly agreed to by contractor and Sr. DME/Frt & EnHM/JBP.
27. **Scope of Work:** The scope of work for Comprehensive AMC (CAMC) of SLI for 140T Crane of ART– NKJ shall be as per following details:
 - 27.1 Comprehensive AMC (CAMC) includes Schedule maintenance/repair or

replacement of SLI parts/SLI components.

27.2 It relieves Consignee from tendering or arranging payment of any replaced/defective SLI spares, as and when it fails during active CAMC period or gets damaged beyond repair, due to any manufacturing defect.

27.3 Smooth functioning of whole SLI System (Model: MST9000) & all associated SLI components including all sensors, electronic cards, cabling & application specific control software shall be ensured during CAMC.

27.4 It is mandatory to complete 03 (Three) scheduled Visits in a Year. First CAMC visit will be made at mutually agreed date and a schedule for subsequent visits will be prepared during first CAMC visit with reference to the date of first CAMC visit. Besides scheduled visits, additional emergency visits including breakdown of SLI if required by Railways at no additional cost.

27.5 Scope of work during scheduled visits:

SN	Description
1	General cleaning of the system as required
2	Checking of all SLI components of system like Touch Screen Display, Snap in Main Board, Panel, Power Supply board, along with internal wiring between them
3	Checking & setting of All SLI sensors over super structure & under carriage
4	During checking and setting, if any adjustments are required in the electronic cards that will be carried out to the extent provided in the boards. The result of the calibration will be recorded.
5	Checking and setting of Main & Aux. Hook shear pin load cell & its amplifier cards. (adjust if necessary to the extent provided)
6	Checking and setting of Slew angle sensor.
7	Checking and setting of Derrick/ boom angle sensor. Note :- Since radius of the lifted load is measured through this sensor and as Radius plays a vital role in the moment calculation the calibration of the sensor and the radius processing channels will be checked (adjust if necessary to the extent provided) for correct measuring of the radius. Physical radius of the main hook will be compared with the measured radius and tabulated in the format.
8	Checking and setting of cant & Gradient sensor as per firm's standard calibration procedure.
9	Checking and setting crow bar sensors.

10	Checking and setting Draw wire sensors.
11	Checking and setting prop. Position proximity sensors.
12	Checking and setting of all proximity sensors for counter weight & ballast sensing.
13	Checking, fault finding & solving of the specific problem related with SLI system.
14	Inform the fault of crane electricals, which doesn't pertain to firm's SLI system/electronics and possible help in overcoming same.
15	Checking all inter connections from firm's system to crane electrical, GPS module.
16	Checking and setting of Hysteresis compensation sensor/ Rope Direction Sensor.
17	The SIM card is available in SLI System. In case SIM is not functioning, then alternate arrangement will be provided by the contractor to demonstrate the data down loading to net. Firm has to pay the cost of GPRS+ GPS data, cost of extending validity and any other costs required for SIM per month/year during the CAMC period.
18	<p>Checking of adherence of system to the load charts.</p> <p>Note: Known load will be lifted by the crane. The counter weights or any other approximately known load available at the site e.g. Relieving Bogie or 32 Ton counter Weight may be considered as known loads. The radius at which the system has cut off will be recorded for at least 05 different cases involving various duties i.e. counter weights, different props and high and low slew positions. In each case, the actual cut-off radius will be recorded.</p>
19	Fitting/Repairing/Replacement of any of the components during schedule / emergency visits as per requirement.
20	Setting of SLI System after all checks and calibration.
21	<p>Fitting and commissioning of any new/ serviceable components if required.</p> <p>Note: Firm has to keep spare stock of all components may require during schedule maintenance. Any component, if found defective and beyond repair during check, it will be replaced during visit by arranging it from their store in 72 hours.</p>

27.6 Scope of Work during emergency visit:

27.6.1 Attending specific problems for which emergency visit has been called for related to SLI.

27.6.2 Attending any other problem detected during the visit.

27.6.3 Fitment/replacement of SLI system components if required after all the checking and to put SLI in working condition.

27.7 **SLI Components Covered Under Comprehensive AMC (CAMC):** The following components are covered under CAMC for Old Design 140T Cowan Sheldon Crane:

SN	Description	Mechanica: OEM Part No.	Quantity per crane
1.	Load Pin /Shear Sensor for Main Hook	MS-TS -01-MH-LP/SS	01 no.
2.	Shear pin Amplifier card-MH	MS-TS -01-MH-LP-AC	01 no.
3.	MH-LOAD CELL CABLE	MS-TS -01-MH-CBL	01 no.
4.	Junction Box J1	MS-TS -01-J1-CB	01 no.
5.	Long Main shear pin load cell Cable	MS-TS -01-MH-longCBL	01 no.
6.	Load Pin/Shear Sensor for Aux hook	MS-TS -02-AH-LP/SS	01 no.
7.	Shear pin Amplifier card-AH	MS-TS -02-AH-LP-AC	01 no.
8.	AH-LOAD CELL CABLE	MS-TS -01-AH-CBL	01 no.
9.	Junction Box J2	MS-TS -01-J2	01 no.
10.	Boom Angle Sensor	MS-TS-03- BAS	01 no.
11.	Boom CABLE WITH CONNECTOR	MS-TS-03- BAS-CBL	01 no.
12.	Slew Angle Sensor	MS –TS-04- SAS	01 no.
13.	CABLE	MS –TS-04- SAS-CBL	01 no.
14.	10.4"Touch screen Display (HMI)	MS-TS-05-HMI	01 no.
15.	Main Board snap in module	MS-TS-05-MB/HMI	01 no.
16.	Power supply -24V D.C.	MS-TS-PS-PNL-SS	01 no.
17.	Panel Box –S/S with TB	MS-TS-PB-S/S	01 no.

18.	Hooter/Alarm	MS-TS-HTR-75	01 no.
19.	By-Pass switch	MS-TS-BPSW-90	01 no.
20.	GPS +GPRS Modem	MS-TS-GPRS-MOD-95	01 no.
21.	CABLE for GPS+GPRS	MS-TS-PB-CBL	01 no.
22.	Ballast Sensor 12+32Ton: S/S	MS-TS-06BS S/S	01 no.
23.	Ballast Sensor 12+32Ton CABLE	MS-TS-06BS S/S-CBL	01 no.
24.	U/C Metal Panel Box U/C with TB	MS-TS-PB-U/B/u/s	01 no.
25.	Under carriage controller with Graphic LCD Display	MS-TS-UCCGD-LCD	01 no.
26.	Power supply -24V D.C.	MS-TS-PS-PNL-SS	01 no.
27.	8-Ch. Signal conditioning Card	MS-TS-8CH-SCC	01 set
28.	Ballast Sensor 12 Ton: U/C	MS-TS-07-BS:U/C	01 no.
29.	Cable for Ballast Sensor	MS-TS-07-BS:U/C-CBL	01 no.
30.	Cant & Grad Sensor	MS-TS-08-C&GS	01 no.
31.	Cable with connector	MS-TS-08-C&GS/CBL	01 no.
32.	Cable Communication Cable WITH RJ 45 connector	MS-TS-08-C&GS-CC CBL	01 no.
33.	Crow Bar Sensor	MS-TS-CRBR-SEN-1111	04 no.
34.	Fixture & Magnet assy.	MS-TS-CRBR-FIX-1104	04 no.
35.	Draw Wire Sensor for Front Right Hand with Cable & mounting fixture	MS-TS -09-DWS-FRH With cable & mounting fixture	01 no.
36.	Draw Wire Sensor for Front Left Hand with cable & mounting fixture	MS-TS -09-DWS-FLH With cable & mounting fixture	01 no.
37.	Draw Wire Sensor for Centre Left Hand with cable & mounting fixture	MS-TS -09-DWS-CLH With cable & mounting	01 no.

		fixture	
38.	Draw Wire Sensor for Centre Right Hand with cable & mounting fixture	MS-TS -09-DWS-CRH With cable & mounting fixture	01 no.
39.	Draw Wire Sensor for Rear Left Hand with cable & mounting fixture	MS-TS -09-DWS-RLH With cable & mounting fixture	01 no.
40.	Draw Wire Sensor for Rear Right Hand with cable & mounting fixture	MS-TS -09-DWS-RRH With cable & mounting fixture	01 no.
41.	Rope Direction Sensor for Main hook	MS-TS-MH-RDS-100	01 no.
42.	Fixture with wheel	MS-TS-MH-RDS-101-FIX	01 no.
43.	Cable set with MS connector for rope direction sensor	MS -TS – MH-RDS-CBL-50	01 no.
<p>Note:</p> <p>1. Any other component required for maintenance of SLI not covered in above list has to be provided by firm without additional cost.</p> <p>2. Any upgradation if required will also be covered under running contract of AMC without any additional cost.</p>			

27.8 Repair / Replacement of Components: The repair/ replacement of components will be dealt in the following manner:

27.8.1 The service engineer will report to site within 72 hours of reporting by the consignee either telephonically or through email.

27.8.2 **Repair/servicing at site:** If any one of the SLI components found defective, it will be checked jointly by Service engineer and consignee, at site, to assess the nature and extent of defect. If it can be repaired at site, it will be repaired by the service engineer.

27.8.3 **Repair/servicing at Firm's works:** If the component cannot be repaired at site due to unavailability of required factory set-up & test jigs or the nature of defect cannot be ascertained at site, but same can be repaired at Factory/works then that components can be taken to firm's works. Meanwhile the substitute service component will be provided for smooth functioning of the SLI system within 72 hours of period. After repair of the said component in factory, it will be replaced in next due schedule visit of CAMC & service component fitted earlier as substitute will be taken back by the firm. The

necessary manpower to execute the Mechanical work / assembly + disassembly if needed at site, will be arranged by crane in-charge. The component required to be shipped to factory for repair work will be handed over on plain returnable gate pass/DC by respective SSE/Crane in charge.

27.8.4 Replacement of defective component, beyond repair: If the original/earlier fitted, SLI component cannot be repaired at site or at factory and the component is found beyond repair or the nature of defect cannot be ascertained, it will be replaced by another new component. Joint report will be made to this effect.

27.8.5 If original/existing SLI system component found to be defective beyond repair, needing replacement, then the same defective component will not be returned back to Railway. The same will be retained by firm to study/understand its failure.

27.9 No. of Visits (per Year):

27.9.1 The service personnel will make first CAMC visit on mutually agreeable date.

27.9.2 After completion of the first CAMC visit, a schedule for subsequent visits with reference to the first CAMC visit may be signed by both contractor and authorized railway representative. This schedule must be adhered to ± 03 days window.

27.9.3 If the crane could not be offered by the railways due to any reason as per schedule, then the due visit should be rescheduled to the earliest possible date by mutual agreement and a new schedule for subsequent visits with reference to the delayed visit may be signed by both contractor and authorized railway representative duly extending the contract period.

27.9.4 If crane would not be available at respective depot & under repair for POH/ MLR/Special repair/Accidental repair, during CAMC period, the firm's engineers may visit Parel Workshop or respective workshops during final commissioning and will execute complete retro fitment & calibration of the existing SLI System if required by Railways. In this case, visit at other location will be treated as scheduled visit.

27.10 Emergency Visit:

27.10.1 Emergency visit will be arranged when there is any breakdown / emergency / contingency related to SLI system & components. Apart from three scheduled visits, additional emergency visits required if any, will be executed at no additional cost irrespective of the number of such visits.

27.10.2 Response Time: In case of emergency call, service engineer will report within 72 hours at crane's site.

27.11 Duration of the Visit:

27.11.1 The normal duration visit will be for 2 days. However, if the problem persists and found to be tough, the firm's service engineer will work in additional days to bring the system in satisfactory working condition. Similarly, if the work gets completed before 2 days, the firm's service engineer will be relieved after signing of final visit report.

27.11.2 The necessary block to execute CAMC work will be arranged prior to the service engineer's visit.

27.11.3 The required staff & crane in operational mode will be arranged on both days before 9.00 AM. All support required for operation & handling of crane will be provided efficiently.

27.11.4 The required permissions from Head Quarters/CME/DRM will be taken in advance to work over crane. The required power & arrangements to prop crane at particular test area will be arranged on the 1st day of CAMC visit.

27.11.5 The required man power to execute the work at crane site must be planned and must be kept till completion of CAMC work.

27.12 Joint CAMC Report: The joint report shall be made regarding the work executed. The CAMC work must be executed to the best of satisfaction of Sr.DME/Frt & EnHM/JBP or his authorized representative and his decision as to the quality of work shall be final and binding on the contractor.

27.13 The firm shall be completely responsible for any repair arising within the scope of work during the CAMC period. Railways shall not incur any expenditure for any breakdown within the scope of work during CAMC period. No any rider of any nature put up by the firm regarding the monetary escalation of CAMC cost once agreed upon will be acceptable.

27.14 Inspection:

27.14.1 The inspection and testing will be carried out by Sr.DME/Frt & EnHM/JBP or his authorized representative who will be present during testing/maintenance/servicing of the crane. The inspection report must be signed jointly after the completion of work.

27.14.2 The methodology to check the main parameters i.e. Main Hook load, AUX. Hook Load, Radius & slew will be as para 27.16. The firm has set up to test, set & calibrate all the main parameters of the SLI system.

27.14.3 Checking /setting of main & aux. hook load indication accuracy at site.

27.14.4 The firm shall ensure complete maintenance of SLI to the best satisfaction of Sr.DME/Frt/JBP or his authorized representative during the contract period and no additional cost of any sort for any reason whatsoever will be acceptable to Railway Administration.

- 27.15 **Background:** Individually, the Main & Aux. hook shear pin load sensors are found to be accurate within $\pm 0.30\%$ of FSD over master test bench during calibration at factory. The calibration is carried out in static mode over hydraulic testing machine, where precise load in steps are applied and indicated readings are recorded.

But at site, the steady load indication is not possible due to many Dynamic factors affecting the actual load indication accuracy during handling of especially heavy load. In dynamic condition, the indicated load will vary in line with external forces acting over it, during handling of load. The rope pulley friction, acceleration of load, derricking out/in, swing, oscillation of weight, jerky operation during derricking out/ in, hysteresis etc are main factors affect load indication accuracy.

The shear pin sensor of both the hooks faithfully senses all sorts of dynamic Load being experienced over hook & promptly displays all variations over touch screen display. It truly indicates actual load being experienced during operation. The selected load chart derived by OEM takes care of dynamic load variation as far as safety & stability is concerned.

The display warns & even trips the hydraulics to avoid over loading of crane in selected load chart.

27.16 **Methodology:**

- 27.16.1 **To access the accuracy of Main & Aux Hook load indication:** The load indication accuracy must be accessed at any selected particular radius (say 10 meters or so) & during hoisting mode/operation only. The radius may be selected depending upon the magnitude of load & load chart selected. User may select any suitable radius.

27.16.1.1 Service engineer will set the load indication display by lifting std. /known dead weight after proper leveling of crane. The cant & gradient Sensors fitted over crane will display the level over display. It should be within ± 1 degree in both planes.

27.16.1.2 The available 32 ton counter weight in hoisting operation must be lifted gradually & should be brought in standstill condition/rock steady, avoiding swing & oscillations. The wind speed must be less than 5km/hr.

27.16.1.3 The indicated load over touch screen display after making the load rock steady must be recorded (A) against pre-calibrated dead load/counter weight of 32T (B) i.e. known counter weight available at site.

27.16.1.4 The % error of load indication accuracy $\{(A-B)/B\} \times 100\}$ in static condition & during hoisting operation should be within ± 5 to 8% of rated capacity of hook.

27.16.1.5 The assessment of load in any dynamic condition must be

avoided.

27.16.1.6 The same procedure may be followed to Main & Aux. Hook.

Note: The SLI system is not Weigh Bridge to measure load & its actual load indication accuracy may vary due to above mentioned parameters.

27.16.2 To access the Indication accuracy of Radius for main & aux. hook.

Service engineer will set the radius indication display by measuring actual radius from crane center by steel measuring tape. Once set, the same can be checked at 5 different radius selected between buffer to max. radius of Main & Aux. Hooks. The say should be accurate within $\pm 300\text{mm}$ or a foot.

27.16.3 To access the Indication accuracy of slew angle. Service engineer will set the slew indication display at zero & 360 degree positions.

The slew angle is set from its initial slew lock (zero position) & its return back again to zero after 360 degrees of rotation.

The intermediate values at 90, 180, 270 & again 360 are checked practically after setting initial zero. The indicted slew angle should be $\pm 1\%$ of FSD.

27.16.4 To check the complete SLI system functioning. Various overloading conditions from different load chart will be selected & the radius at which the system has cut off will be recorded for at least 10 different cases involving various counter weights, different props and high & low slew positions. In each case, the actual cut off radius will be recorded.

Note: Especially when one wants to check actual weight of any lifted item, then item should be lifted gradually at one particular radius only, without derricking or slewing action.

The indicated actual weight will be valid at that particular radius only. If one wants to check it at any other radius, then operator must lower the load over the ground initially, till it display reads zero and lift it again at selected Radius. It will show the actual weight of the object being lifted at that radius.

It has been taken care in software to show actual weight in dynamic condition also, but due to vibration, jerk, friction and oscillations the actual weight will vary in line with dynamic load condition.

Hence it is advised to read it in static condition i.e. load being lifted at particular radius as it clears the ground without boom movement or swing.

27.17 Supply of new components during Comprehensive Maintenance Contract:

27.17.1 All the repairs and replacement of the components will be covered under this contract.

27.17.2 Supply of new components for replacement shall be free of cost including fitment & commissioning.

27.17.3 If any component is found to be unserviceable & beyond repair, new component shall be provided and old unserviceable component shall be taken back by the firm.

27.17.4 In case damage to any component occurs due to mishandling, negligence, willful attempt to damage SLI components, attempt to repair by third party, not following safety instructions, over loading, welding over crane without taking proper care like using crane as earthing link which may damage sensors and display due to heavy current passing through it, accident of crane or any event as per force majeure clause, payment for any component which is found to be unserviceable & beyond repair shall be made separately by introducing a new Non-Schedule item, new component shall be provided by the firm and in this case old unserviceable component shall be retained by the railways.

27.18 Cost of SIM card: Firm has to pay the cost of GPRS+ GPS data and other costs required for SIM per month/year during the CAMC period.

28. Date of commencement: Firm has to start the work within 15 days from the date of issue of letter of acceptance or after completion of existing CAMC contract.

29. Contract Completion Period:

29.1 The contract completion period for the work shall be 03 calendar years from the date of start of work. Completion of work shall be certified when the work of Comprehensive Annual Maintenance Contract (CAMC) for Safe Load Indicator System (SLI) make Mechanica Model - MST59000 of 140 T Cowan Sheldon Old Design Crane as per terms & conditions attached to tender documents is successfully done.

29.2 If crane is under POH/MLR/Special repair/Accidental repair or for any other reasons during CAMC contract period at any other location over Indian Railways, firm will provide services for complete retro-fitment / repair / maintenance services for existing SLI system at such location.

30. Crane user's responsibility:

30.1 Sr.DME/Frt & EnHM/JBP or his authorized representative will remain present with service engineer during servicing / maintenance period.

30.2 The concerned ART staff will assist the firm's service engineer during his visit.

30.3 The consignee will arrange required known load as a dead weight at least 01 day prior to visit of firm's engineer.

30.4 The responsibility for the safe operation of the crane shall remain with the crane operator/crane in charge who shall ensure that all warnings and instructions supplied are fully understood and observed. The SLI display will only aid the operator and it is essential that proper load capacity chart is selected and no safety interlock is bypassed.

31. Special repair/POH/MLR: If crane would not be available at respective depot & under repair for POH/ MLR/Special repair/Accidental repair, during CAMC period, the firm's engineers will visit Parel Workshop or respective workshops during final commissioning and will execute complete retro fitment & calibration of the existing SLI System if required by Railways. In this case, visit at other location will be treated as scheduled visit.

32. Penalty Clause:

32.1 For delay in attending the scheduled visits (as per mutually signed schedule of visits) with a grace period of ± 03 days, a penalty of ₹3000/- per day (24 hours) or part thereof beyond that period will be imposed and recovered from the contractor's bill. However, this penalty shall not be imposed if the crane could not be offered for maintenance by the railways for any reason as per agreed schedule.

32.2 In case of emergencies, the service engineer shall report within 72 hours of being intimated for the same. For delay in attending the emergency visit, a penalty of ₹ 3000/- per day or part thereof will be imposed and recovered from the contractor's bill.

32.3 For delay in completion of the work in each schedule visit and emergency visit as specified a penalty of ₹ 2000/- per day or part thereof beyond that period will be imposed and recovered from the contractor's bill. The duration of each visit, schedule or emergency will of 02 (Two) days.

32.4 Any component, if found defective and beyond repair during check, it will be replaced during visit by arranging it from their store in 72 hours. If contractor fails to do the same, a penalty of ₹ 1000/- per item per day shall be imposed.

33. The essence of this contract work is to completely maintain the SLI system in working condition throughout the CAMC contract period.

34. The contractor shall carry out the work including civil, electrical, mechanical engineering with specialized material / equipment if required for the Comprehensive Annual Maintenance Contract (CAMC) for Safe Load Indicator System (SLI) make Mechanica Model - MST59000 of 140 T Cowans Sheldon Old Design Crane as per specifications supplied along with tender document for guidance of the tenderer. However, the tenderer is advised to survey the site and understand the detailed requirements for deciding the system for carrying out the work.

35. After completion of work, the site is to be cleared of all material, excavated material and any other un-wanted things and dispose the same outside railway premises or at a nominated place within railway premises as decided by the coordinating official of railways.

36. For carrying out the work, Railways will not provide concomitant accessories if required for the Comprehensive Annual Maintenance Contract (CAMC) for Safe Load Indicator System (SLI) make Mechanica Model - MST59000 of 140 T Cowans Sheldon Old Design Crane.
37. The work shall include all activities related to Comprehensive Annual Maintenance Contract (CAMC) for Safe Load Indicator System (SLI) make Mechanica Model - MST59000 of 140 T Cowans Sheldon Old Design Crane.
38. Comprehensive Annual Maintenance Contract (CAMC) for Safe Load Indicator System (SLI) make Mechanica Model - MST59000 of 140 T Cowans Sheldon Old Design Crane work shall be deemed to be completed only when a work done report is issued by the Sr. DME/Frt & EnHM/JBP or his authorized representative.
39. The quantities for the above items are approximate and are variable. The contractor will have no claim due to variation / deletion of items.
40. Contractor has to deploy sufficient manpower to carry out the work as directed by the site in charge.
41. Work will be carried out as per Railway's & IS specification and as per relevant RDSO drawing/ CE drawing or drawing supplied by Railway if required.
42. Any wastage of labors and materials due to the site conditions will be on contractor's account and nothing extra will be paid on this account.
43. Work should be carried in such a manner by the contractor that no inconvenience is caused to the other persons.
44. Electrical energy & water, if required for execution of the work will be permitted free of cost to the contractor if required at site. If electricity is not available at site, contractor will arrange him self. Work should not be hampered due to lack of electricity.
45. **GCC Work issued in April 2022 by Railway Board with all amendments thereof shall be applicable for this contract.**
