

- 17.4 The duration of CAMC shall be 5 years from the date of expiry of warranty. Rates for CAMC as quoted by the tenderer on yearly basis, will remain applicable during the duration of CAMC and not subject to any variation except any statutory changes in taxes and duties as compared to quoted rates.
- 17.5 The contractor must provide CAMC services at the consignee location without any precondition. The CAMC should include complete responsibility for the bought out sub- assemblies and components like CNC system, diesel engine, AC unit etc.
- 17.6 The details of preventive maintenance services to be provided under CAMC shall be provided by the tenderer in the following format.

S.No	TYPE OF PREVENTIVE SCHEDULE	PERIODICITY	ITEMS TO BE CHECKED	ITEMS OF REPLACEMENT	EXPECTED PLANT DOWN TIME
------	-----------------------------	-------------	---------------------	----------------------	--------------------------

- 17.7 Preventive maintenance shall preferably be conducted on weekends through mutual agreement with the consignee. Each preventive maintenance schedule normally shall not exceed one day (24 hours). The preventive maintenance regime offered must be aimed at achieving minimum 95% uptime of the plant excluding the plant down time for preventive maintenance schedules.
- 17.8 The tenderer shall ensure that in case a failure is reported by a consignee, qualified service engineer(s) of the contractor shall visit the site within the prescribed response time from the date and time of complaint for the machine. This response time shall be **48 hours for upto only one case per quarter during the period of CAMC & Nil thereafter. 48 hours response time shall be permitted only if 2 successive failures are staggered 3 months apart.** Complaints shall be lodged by consignee by fax, e-mail, whatsapp or per bearer at communication given by the tenderer. The responsibility to keep the failure reporting address details current will rest with the tenderer.
- 17.9 Incase preventive maintenance is carried out along with breakdown maintenance schedule; preventive maintenance time will be deducted from breakdown time of the plant.
- 17.10 **Penalty Clause:** Penalty shall be levied on the contractor for maintaining up time below the limit of 95% calculated on working days basis, after discounting for response time and preventive maintenance period. Penalty shall be calculated as %age of quarterly payment and will be deducted from the respective quarterly payments. Penalty calculation will be done over quarterly payment period.

S.No	Availability Slab	Applicable Penalty
1	96% and above	Nil
2	Below 96%	2.5% for every 1% (or part thereof) reduction in availability of plant below 95%.

- 17.11 For CAMC, a Bank Guarantee (BG) equivalent to 5% of the combined quoted cost of equipment including accessories, shall be deposited by the contractor to the consignee, 90 days before the expiry of warranty. BG will have the validity of 5 years and 6 months. The confirmation for the submission of this BG will be submitted to store for the release of WBG. The CAMC BG will be returned on completion of CAMC period. In case, the contractor fails to provide CAMC services successfully, the CAMC BG will be forfeited. This will be in addition to penalty as per Clause 17.10 above.
- 17.12 Up time of less than 75% for two consecutive quarters will constitute complete failure of contractor to provide the CAMC services successfully and will result in forfeiture of CAMC BG, besides other action like noting adverse performance of the bidder and/or agent for future tenders and their offer in the subsequent tenders will not be considered for placement of any order for next 02 years. This will be in addition to penalty Clause 17.10 above for the period of actual performance.
- 17.13 Since CAMC is part of evaluation of offer, it is the sole responsibility of contractor to stock all spares and materials as required for smoother execution of CAMC in order to achieve up time in

compliance to plant availability as per stipulated requirements.

- 17.14 In case of damage on account of any external factor, viz., floods, earthquake, fire, arson or sabotage, it shall be the responsibility of the Railways for restoration of the plant to the earlier working order prior to the external factor and the entire cost for repair of the plant shall be borne by the railways.
- 17.15 In case of damage to the plant as mentioned in para 17.14, any spare parts and material necessary to restore the plant to proper working order shall be arranged by the contractor and charged on actual basis duly certified by authorized railway official in the next quarterly bills. The rates charged for such spare parts shall be based upon the spare part rate list provided by tenderer and supported by necessary documents.
- 17.16 In all cases of failure except as mentioned in Clause 17.14 any other spare part or material necessary to restore the plant to proper working order will be arranged by the contractor as a part of CAMC.
- 17.17 Normally quarterly payment (@ 1/4th of the annual quoted rates) under CAMC will be made to the contractor within 30 days from the end of that quarter subject to submission of the following documents by the contractor to the paying authority assigned by the consignee:
- Consignee's certificate for work done as per Annexure-G of Section-VI with calculation of down time and penalty applicable.
 - A certificate by consignee that no spare part is due with the contractor as per clause 17.13 above.
 - Bills submitted by the contractor & accepted by consignee.
 - Attested photocopy of the CAMC BG.
- 17.18 In case of failure of the contractor to provide CAMC services as defined in Clause 17.12, the CAMC BG shall be forfeited with levy of other penalties as applicable under advice to the contractor regarding termination of CAMC.
- 17.19 Other general conditions shall be governed by Bid Document as applicable to respective NIT.

18.0 OTHER CONCOMITANT ACCESSORIES MUST BE PROVIDED WITH CRANE.

18.1 CONCOMITANT ACCESSORIES

- One set of Laptop/Desktop computer with B/W printer with accessories.. Detailed specification as below
 - Laptop/Desktop computer
Intel i7/1 TB SSD/16 GB RAM/Screen size 24 inch [Resolution 4K UHD 3840 X 2160] with wired mouse and keyboard. Software : Genuine Windows 11 Pro, Genuine Microsoft Office 2024, Software of all VVVF Drive, along with set up file. Accepted make : DELL or HP only. Comprehensive Warranty : Three Year.
 - Printer
Laser Type ; Black and White ; All in one printer (Print, Scan, Copy) with Automatic document feeder; Two-sided printing; Two-sided scanning, LAN, USB & Wireless connectivity , print speed : 40 ppm ; along with 10 original toner cartridge
Accepted make : Brother or HP or Canon only. Comprehensive Warranty : Three Year.
 - Other accessories
External Hard Disk, Type : Solid State Drive , Capacity : 1 TB ,
Read Speed: 1050MB/s, Write Speed: 1000MB/s ; Compatible with PC, Mac Computers, Smartphones, and tablet; Comprehensive Warranty : Three Year.; Accepted make : SANDISK or SAMSUNG or TRANSCEND only

न.वि.इजी.(कचस्टा.) बिलासपुर
DEE / TRS Bilaspur

SCHEDULE-I
SPECIFICATION NO. : COFMOW/IR/EOTC/2022, Rev-2
 (see clause 1.1.5 of Section-V of specification)

NOTE: 1. ITEM 5, 6, 7, 8, 10.3, 10.11, 10.12, 12 AND 13 ARE MAJOR PARAMETERS IN RESPECT OF WHICH NO DEVIATIONS ARE ACCEPTABLE.

LEADING PARAMETERS

NO.	ITEM NO.	DETAILS
1.	Consignee	Sr. Section Engineer (TRS), Electric Loco Shed, Sirgitti, Bilaspur, Chhattisgarh - 495004
2.	No of Crane required	1 (One)
3.	Crane No.	3/15/2025
4.	Location (Sub Shop name with bay no.)	Light Lifting Bay
5.	Type	Conventional Double Girder
6.	Capacity	
6.1	Main Hoist (Tonnes)	15 T
6.2	Auxiliary Hoist (Tonnes)	3 T
7.	Class of Duty	IV (Four)
8.	Crane Control from	Cabin, Remote and Pendent (All Three)
9.	Speeds (Meter/Minute)	
9.1	Main Hoist	4.0
9.2	Auxiliary Hoist	8.0
9.3	Long Travel	40
9.4	Cross Travel	20
9.5	VVVF Drive (stepless speed for all motion)	VVVF drive required
9.6	Creep Speed of MH	0.40
10.	Structural details (Refer COFMOW sketch no. COFMOW/IR/EOTC/X/Y/Z/1-2020 (Double Girder), COFMOW/IR/EOTC/SG/91 (Single Girder), COFMOW/IR/EOTC/X/Y/Z/92-1 (Under Slung Girder)	All dimensions are in meters unless otherwise indicated.
10.1	Weight/Unit length of Rail (Laying of Rail is not in scope of bidder)	52 Kg/M
10.2	Rail Head Width	B 67 mm
10.3	a. Span (Centre to Centre of Gantry Rail)	S 15.414 M
	b. Gauge (Inner face to Inner face of Rail)	W=(S-B) 15.347 M
10.4	Top of Gantry Rail to lowest overhead obstruction	C 3.0 M
10.5	Top of Gantry Rail (or bottom flange of I-Beam in case of under slung crane) to floor level	D 10.0 M
10.6	Lift of Hook above floor level (MH)	H1(MH) 7.845 M
10.7	Drop of Hook below floor level (MH)	H2(MH) 1.5 M

10.8	Lift of Hook above floor level (AH)	H1(AH)	7.845 M
10.9	Drop of Hook below floor level (AH)	H2(AH)	1.5 M
10.10	Centre distance between hooks MH & AH	R	1.0 M
10.11	Side clearance from centre line of gantry rail/I-beam to nearest side obstruction	A1	0.200 M
10.12	Side clearance from centre line of gantry rail/I-beam to nearest side obstruction	A2	0.200 M
10.13	Vertical clearance from floor level to lowest structural member of crane	K	9.8 M
10.14	Vertical clearance from floor level to bottom of cabin	L	7.8 M

S.No.	Item Description	Remark/ Qty.
11.	Bay Length and DSL	
11.1	Length of Gantry on which crane is to operate (meters)	170
11.2	Type of DSL required (It should match with existing DSL)	Shrouded type as per existing to be supplied and synchronized with existing.
11.3	Length of DSL required (meters) (Bidder shall include the cost of this item in the offer for each crane)	100 mts.
11.4	Type of existing DSL to be indicated	Shrouded type
12	Type of control station	Cabin, Remote and Pendent (All Three)
13	Crane has to Work in	Indoor
14	Working Environment	General Workshop Dusty & Humid
15	Other requirements	
15.1	Type of hook required	MH = "C" Type AH = "C" Type

Note for 11.3 above, new DSL must be joint and synchronized with existing DSL

15.2 Concomitant Accessories: The bidder shall offer following Chain/Sling/Lifting tackle/Loco stand/ Other spares along with EACH crane. The bidder shall indicate the cost of these items separately in the offer.

S.No.	Item Description	Capacity	Length	Qty in Each crane
1	Four legged Wire rope sling with "O" Ring at one end and hooks at other end.	6T	3.000 M	4 Nos.

Lifting tackle to 'O' rings of slings shall be compatible with "C" hook provided in the crane. This aspect needs to be specifically taken care of by the firm at the time of submission of GA drawings & by consignee while granting approval.

Details of Existing facility at ELS/BSP

In existing facility, 02 nos. of EoT crane, each capacity 15 ton has been installed on a gantry of 70 m length. This lifting shed is being extended by 100 m (new total gantry length to be 170 m).

One number of EoT crane is being procured through this tender along with 100 mts DSL with each crane. So total length of DSL will be 170 mts.

Both old crane and newly procured crane will travel in total of 170 mts gantry seamlessly.

So, Scope of work includes supply, installation, testing and commissioning of the new EoT crane and all associated civil, electrical, mechanical etc. works required for seamless integration with the existing crane and in extended gantry (including DSL and other required item).

SCHEDULE - II
(See clause 1.1.6 of section-V)

(In respect of items 10, 14, 20.3, 20.6, 20.9, 21.2 & 21.6 of Schedule-II, non-submission of information / incomplete information / deviation in the offer is not acceptable. No clarifications / correspondence will be sought / entertained in this regard and the offer shall be summarily rejected.)

INFORMATION TO BE SUPPLIED BY THE TENDERER

	Tonnes	Capacity	operated	EOT	Crane
S.No.	Description				Remarks
01.	Specification of the crane offered (class of duty/capacity in tonnes/span in metres)				
02.	Is it the tenderer's intention if awarded the contract, to comply fully and in all respects with purchasers specification covering the work? if not, he shall state exceptions in details				
03.	Time in which tenderers will agree to deliver or complete all work covered by these specs.				
04.	Break up weights of the crane as mentioned below should be furnished				
4.1	Total weight of crane including electrical equipment.				
4.2	Total weight of trolley, including electrical equipment.				
4.3	Weight of each bridge girder assembled and ready for erection with and without mech. and electrical equipment.				
4.4	Weight of each end carriage assembled and ready for erection.				
4.5	Weight of operator's cabin together with all equipments mounted in it.				
05.	Type and class of crane and its mechanism				
06.	Safe working load in tonnes				
6.1	Main hoist				
6.2	Aux. hoist				
07.	Maximum speed with max. workload (MPM)				
7.1	Main hoist				
7.2	Aux. hoist				
7.3	Creep Speed of main hoist				
7.4	Long travel				
7.5	Cross traverse				
08.	Speed steps and speed range in meter/min. at various steps. The remarks offered should be in accordance with single girder or double girder crane.				
8.1	Hoist Motion				
8.2	Cross traverse				
8.3	Long Travel				
09.	Rope size and construction details (MH/AH)				
10.	Number of rope falls supporting the load (MH/AH)				
11.	Diameter of drum (MH/AH)				

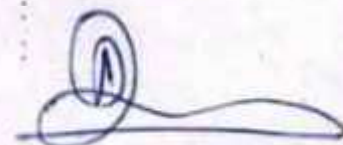
Signature Not
Verified

Digitally signed by
LALIT KUMAR
SAHOO
Date: 2026.11.08
18:54:45 IST
Reason: IREPS-CRIS
Location: New Delhi

शु. अभियंता (कच.स्टा.) बिलासपुर
DSE / TRS / Bilaspur

शु. अभियंता (कच.स्टा.) बिलासपुर
DSE / TRS / Bilaspur

12. Material of drum :
13. Material of gear box :
14. Material and Hardness of gears (Indicate specifications) :
15. Material of sheaves :
16. Diameter of sheaves (MH/AH) :
17. Brakes, type make and size (MH/AH) :
18. Make and type of bearings :
19. Type of hook and its specification. - :
- 20.0 Trolley :
- 20.1 Wheel span :
- 20.2 Wheel base :
- 20.3 C.T. Wheel Diameter, material and hardness :
- 20.4 Maximum wheel load :
- 20.5 Material of gear box :
- 20.6 Material and hardness of gears (indicate specifications) :
- 20.7 Make, type and size of brake :
- 20.8 Make and type of bearings :
- 20.9 Size of trolley runway rail (DG) :
- 20.10 Bidder shall furnish Current Rating & Material of DSL being offered. (i.e. M S, G.I. or Copper) :
21. Bridge :
- 21.1 Wheel base :
- 21.2 L. T. wheel Diameter, material and hardness :
- 21.3 No. of wheels on each end of crane :
- 21.4 Maximum wheel load :
- 21.5 Material of gear box :
- 21.6 Material and hardness of gears. (Indicate specifications) :
- 21.7 Make, type and size of brakes :
- 21.8 Make and type of bearings. :
- 21.9 Clear width of each foot walk. (DG) :
22. STRUCTURAL Details (Refer sketch NO. COFMOW/IREOTC/X/Y/Z/86) :
- 22.1 Centre to centre of gantry/track rail span (S) meters :
- 22.2 Lift of Hook above floor level (Exclusive of travel required to operate limit switch) :
- 22.3 Drop of Hook below floor level :
- 22.4 Nearest position of hook to centre line of gantry rail :
 - i. Main hoist
 - cabin end (E) meters
 - other end (F) meters



म.वि.इजी. (क व स्टा.) बिलासपुर
DEE / TRS Bilasour

ii. Auxiliary Hoist
cabin end (E) meters
other end (F) meters

- 22.5 Type of main girder
Design drawings showing overall dimensions,
Size of each section and location and depth of
diaphragms should be submitted for the girders.
23. Particulars of safety devices
24. General arrangement drawing showing to scale elevation,
cross section and plan which shall indicate the following
information:
- Clearance diagram of crane
 - Construction of bridge structure
 - Hook approaches.
 - Wheel base
 - Wheel loads
 - Wheel diameter
 - Outer buffer dimension
- Drawing should be offered along with the offer
Drawing No. should be indicated.
25. Detailed wheel diameter calculation for
long travel and cross traverse wheels
26. Other information offered along with the tender.

Note: 1. If above clauses are found inadequate for furnishing all necessary information of the crane offer,
the tenderer may append further information separately.

2. Bidders should furnish information on Schedule-II & Schedule-III. In case of any discrepancy in
the information submitted against Schedule-II and III and that furnished in clause wise
comments, the information submitted against schedule-II & III shall over-ride that against
the clauses.

Signature Not
Verified

Digitally signed by
LALIT KUMAR
SAHOO
Date: 2026.01.08
18:54:45 IST
Reason: IREPS-CRIS
Location: New Delhi

अभियंता (क.च.स्टा.) बिलासपुर
SSE / TRS / Bilaspur

page 38 of 66

36

अ.वि.इंजी. (क.च.स्टा.) बिलासपुर
DEE / TRS Bilaspur

SCHEDULE -III

(Refer to Clause 1.1.6 of Section V)

for.....ELs/BSP, SEC Railway

ELECTRICAL DETAILS OF CRANES

The under mentioned electrical details should be furnished for each motor separate alongwith the offer. The particulars indicated below should be offered for each motor/control separately.

01 MOTORS

- 1.1 Manufacturer's Name
- 1.2 Type and degree of enclosure
- 1.3 Type of duty
- 1.4 Rating-continuous/intermittent
- 1.5 Output (KW/BHP)
- 1.6 AC Voltage across phases & frequency
- 1.7 Speed in RPM
- 1.8 Class of Insulation of stator
- 1.9 Class of Insulation of rotor (Applicable for Non VVVF Drive Crane only);
- 1.10 Frame size
- 1.11 Normal full load current
- 1.12 Starting current
- 1.13 Motor type
- 1.14 Temperature rise of windings & other parts allowed above ambient temp. of 50 deg.C.
- 1.15 Cyclic duration factor
- 1.16 Max. starts per hour for which motor is suitable
- 1.17 Class of duty (S1,S2,S3,S4 Etc.)
- 1.18 Ambient temp. for which motor is suitable
- 1.19 Voltage range for which motor is suitable
- 1.20 Motor horse power calculations
- 1.21 Efficiency at
 - a) full load
 - b) 3/4 load
 - c) 1/2 load
- 1.22 Power Factor at
 - a) Full load
 - b) 3/4 load
 - c) 1/2 load
- 1.23 Type of drive (Direct gear etc.)

2. CONTROL GEAR

- 2.1 Rating of AC 4 / AC-3 Contactors suitably derated for AC-4 with minimum 2,00,000 cycles of operation.
- 2.2 Are the following provided for each motor.
 - 2.2.1 Short circuits protection by HRC fuses.
 - 2.2.2 No volt trip
 - 2.2.3 Overload trip
 - 2.2.4 Instantaneous trip current sensitive single phasing preventor.

3. Standard specifications to which the motor control gear and its ancillary offered conform to

4. Any other special feature

Signature Not
Verified

Digitally signed by
LALIT KUMAR
SAHOO
Date: 2026.01.08
18:54:45 IST
Reason: IREPS-CRIS
Location: New Delhi

अभियंता (क.च.स्टा.) बिलासपुर
SSE / TRS / Bilaspur

व.वि.इजी.(क व स्टा.) बिलासपुर
DEE / TRS Bilaspur

SCHEDULE - IV

SPARES FOR EACH CRANE

S.NO.	DESCRIPTION OF ITEMS	QTY. /NOS	TOTAL QTY.	REMARKS TO BE
	INDICATED BY		THE BIDDER	
01.	Fixed & moving contact tips for contactors	1 no. of each size		
02.	For Contactors coils	1 set consisting of 3 nos. of each size		
03.	Limit switches	1 set of M.H. 1 set of C.T. 1 set of L.T. 1 set of A.H (if applicable)		
04.	Current collectors	2 sets		
05.	MCB	1 set of each size		
10.	Thrusters	2 of each size		
11.	Brake Liners with rivets	2 pair of each size		
12.	Main spring for thruster brakes used on crane	1 of each size		
13.	Brakes shoes complete with lining	2 pair of each size		
14.	Oil seals for gear cases	2 for each size of gear box and geared coupling on the crane		
15.	Spare cards for VVVF drive For all drives viz .MH, AH, LT & CT	1 no. each		
16.	A set comprising of 2 nos. Each long travel and cross Travel motion wheel in Assembled condition with axle Bearings housing	1 set of 2 nos. each.		
17.	Complete VVVF Drive with DBR (extra as spare) same as used for Main Hoist	1 Set		
18.	Any other items considered Essential (Ref. Cl.1.4)			


Note: 1. It is not necessary that all spares are ordered. Quoting of unit rate of each item is therefore necessary.
2. One set of above spares is required with each crane. Wherever more than one cranes are covered in one schedule-I, the bidder shall quote for one set of above spares with each crane.

Signature Not
VerifiedDigitally signed by
LALIT KUMAR
SAHOO
Date: 2026.01.08
18:54:45 IST
Reason: IREPS-CRIS
Location: New Delhi

अनु. अभियंता (क.च.स्टा.) बिलासपुर

BSE / TRS / Bilaspur

page 40 of 66


 म.वि.इंजी. (क.च.स्टा.) बिलासपुर
 DEE / TRS Bilaspur

SCHEDULE-V
LIST OF MAINTENANCE TOOLS

S.NO.	DESCRIPTION	QTY.
01.	Tool box (For storage tools from Sr.no.2 to Sr. no.10)	
02.	D/E Spanners required sizes	1 Set
03.	Grease gun	1 No.
04.	Oil can	1 No.
05.	Screw Driver of required sizes	1 Set
06.	Nose plier	1 No.
07.	Insulated plier	1 No.
08.	Hammer 2 lbs	1 No.
09.	Allen Key required sizes	1 Set
10.	Hydraulic jack	1 No.

Signature Not
Verified

Digitally signed by
LALIT KUMAR
SAHOO
Date: 2026.01.08
18:54:45 IST
Reason: IREPS-CRIS
Location: New Delhi

अभियंता (क.च.स्टा.) बिलासपुर
SSE / TRS / Bilaspur

page 41 of 66

म.वि.इंजी.(क.च.स्टा.) बिलासपुर
DEE / TRS, Bilaspur