TENDER DOCUMENT

TENDER NO.: DLI/C&E/WI-675/275

FOR

Tender for Design, Engineering, Supply and Supervision of installation, testing & commissioning of “Cable Reeling Drum with Composite Flexible Trailing Cable” for the project of “Augmentation of Fuel and Flux Crushing Facilities (Package No. 064) of Bhilai Steel Plant (SAIL)”. 

VOLUME – 2B

TECHNICAL SPECIFICATIONS
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GENERAL

The following Technical Specification shall be read in conjunction with General Technical Specification (GTS) of Bhilai Steel Plant, SAIL and General Specification. If there are any provisions in this Technical Specification, which are at variance with the provisions of General Technical Specification (GTS) of Bhilai Steel Plant, SAIL and General Specification, the provisions in this Technical Specification shall take precedence.

1.0 DOCUMENTS/INFORMATION TO BE FURNISHED ALONGWITH OFFER

(i) Clear Scope of supply.

(ii) Exclusions, if any.

(iii) Type and quantity of oil, lubricants & consumables for initial fill till successful commissioning of equipment.

(iv) List of Commissioning spares and start-up spares with unit rates.

(v) List with unit rates of special tools and tackles, if any required.

(vi) Price Schedule for supply & supervision work as per the format enclosed.

(vii) List of recommended spare parts for 2 years trouble free operation and maintenance alongwith unit rates as per the format enclosed in price schedule.

(viii) Catalogues/Leaflets and O&M Manuals.


(x) Unpriced Copy (Furnish un-priced copy of Price Schedule alongwith the Technical Bid).

2.0 SCOPE OF SUPPLY

The scope of the supply includes Design, engineering, manufacture, assembly, testing and inspection at manufacturer's works, packing, dispatch, transportation, delivery to site, supervision of installation, testing & commissioning, of ‘Cable Reeling Drum with Flexible Trailing Cable’ as per specifications and scope defined in tender documents complete with all accessories and drive, which are not mentioned specifically but are required for the efficient and trouble free operation of the equipment/system.

a) Following items are also included in vendor's scope.

(i) Complete equipment including “Stall Torque Induction Motor (Demag Make)” and “Composite Power cum Control Flexible Trailing Cable” as per the details given in the specifications.

(ii) Special tools & tackles, if any required.

(iii) Recommended spare parts for (2) two years trouble free operation and maintenance.

(iv) Painting of complete equipment (including final painting before handing over to the Employer) as per Clause no. 5 of Vol. 2A.
(v) Supervision of installation, testing & commissioning at site.

(vi) All drawings/documents along with operation and maintenance manuals as per requirement mentioned elsewhere in the tender document.

(vii) Getting approval of design/drawings and any other design calculation related to the equipment from BSP/MECON/EPI.

(viii) System Voltage shall be 3 Phase, 415V (+10%, -15%), 50Hz (±6%), all system component shall be designed accordingly.

(ix) The drawings/data sheet provided in the tender are indicative which has to be read along with NIT documents/specifications. Anything which is missing in the drawings/data sheet but required as per specifications shall be in bidder scope without any price implication.

b) **Tenderer to note the following:**

BSP GTS and “Approved Preferred” make list shall be followed for parts/components/equipment/sub units.

### 3.0 TECHNICAL SPECIFICATION:

1. Cable reeling drum should be suitable for the Mobile tripper being manufactured by EPI as per Drg. no. BSP-EPI-02-064-02-002-55-DE-00451_Sheet 03_Rev. 04 and travel movement as indicated in BSP-EPI-02-064-02-002-55-DE-00451_Sheet 01 & 02_Rev. 06.

2. The length of composite flexible cable shall be provided considering location of JB on floor at the center of total tripper travel.

3. Cable reeling drum will be provided with Stall Torque Induction Motor.

4. Specification for Composite Flexible Trailing Cable will be as given below:

   1. 1.1KV Grade conforming to IS: 9968 Part-I Multi Core Flexible Trailing Cable.

   2. Power Core – 4C X 6sq.mm. ATC conductor (class 5 confirming to IS:8130), EPR Insulated, cores identified by coloured insulation or coloured PC tape (Red, Yellow, Blue colour), cores laid up suitably, Binder tape (if required). This will form the centre of the cable.

   3. Control Core – 17C X 1.5 sq.mm. Conductor composed of ATC conductor (class 5 confirming to IS:9130), EPR insulated, cores identified by number 1 to 17.

   4. Final laying up: 17 control cores laid up suitably around the central unit, binder taped, inner sheathed with HOFR CSP (Type SE3 confirming to IS:6380). Outer sheathed with HD HOFR CSP (Type SE4 confirming to IS:6380).

   5. Make of trailing cable shall be as per Preferred makes (Chapter 13) of GTS of BSP and Approved vendors list (APPENDIX-6).
4.0 TECHNICAL DATA SHEET (Electrical)

MOTOR

1. Project :
2. Make :
3. Driven Equipment :
4. Motor Tag No. :
5. Quantity :
6. Voltage With Variation :
7. No. of Phases/Connection/ : No of Terminals
8. Frequency With Variation :
9. Fault Level (Mva) & Duration :
10. Motor Type And Duty :
11. KW RATING/POLE :
   - At 40 Deg.C. :
   - At Specified Ambient Temp.:
   - With Derating.
   - BHP/BKW of Driven Eqpt. : At Rated Load
12. Frame Size/Mounting :
13. Insulation Class With Temp Rise:
14. Enclosure Type :
15. Full Load Speed :
16. Full Load Torque (FLT) :
17. Starting Torque as % of FLT :
18. Pullout Torque as % of FLT :
19. FULL LOAD CURRENT (FLC) :
20. Starting Current as % of FLC :
21. Starting Time on Rated Load At :
   - Rated Voltage :
   - 85 % of Rated Voltage :
22. Locked Rotor Withstand Time
   - Cold :
   - Hot :
23. Rotation Viewed From Driving End
24. Gd Square of Motor :
25. GD Square Of Driven Equipment:
26. Weight Of Motor :
27. Power Factor at
(i) 50% Load :
(ii) 75% Load :
(iii) 100% Load :

28. Efficiency at
   (i) 50% Load :
   (ii) 75% Load :
   (iii) 100% Load :

29. Space Heater Watts/Volts :

30. Terminal Box Type & :
    No. of Terminals :

31. No. of Starts Per Hour :

32. Noise Level at a Distance of 1m : From The Motor :

33. Thermal Withstand Time :

34. Cooling :

35. Applicable Standard :

36. Location :

37. Hazardous Area Classification :

38. Bearing Details
   (i) Type of DE/NDE :
   (ii) Size of DE/NDE :
   (iii) Make :

39. Location of Terminal Box :
    Position From DE Side :

40. Lubrication Type :

41. Cable Size :

42. Paint Shade :

43. G.A., Dimensions & Mounting : YES/NO
    Detail Drawings Enclosed :

44. Details Drawings For T.B. : YES/NO

45. Performance Characteristics : YES/NO
    Curves Viz. Speed V/S Current & Speed V/S Torque Enclosed :