

Guidelines No. CORE/ Guide/23 (4/09)	Guidelines and Procedure for enlisting of firms as CORE approved manufacturer for Electrical Items	Date Effective from 27-August-2012
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**CENTRAL ORGANISATION OF RAILWAYS ELECTRIFICATION
NAWAB YUSAF ROAD,
ALLHABAD -**

Amendment History

S N.	Date of Amendment	Page No	Rev	Reasons for Amendment
1	NA	Nil	0	Guidelines issued on 06.05.09
2	10.11.09		1	1 .Para 4.24 inserted to give procedure for the firms having various nearby factory premises for manufacturing of one item. 2. Para 4.25 inserted to clarify about traders. 3. Para 12.4 & Para 12.5 inserted to give procedure for approval of additional unit of an already approved vendor. 4. STR for Re-rollers modified as Annexure -III (a). 5. STR for Structures and SPS both modified as Annexure -III (b). 6. STR for manufacturers of SPS only added as Annexure -III (c).
3	10.01.11		2	1. Para 4.1 modified to clarify regarding Part-I & Part-II sources
4	20.02.12		3	Structure and format changed with the strengthening Downgrading/ delisting process of the vendor and introducing the concept of vendor delivery rating
5	31.08.12		5	Strengthening the document for effective vendor management

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1 Purpose

To define the guidelines for vendor approval/vendor registration (Multi sourcing) of items dealt by Electrical Engineering Department of CORE

2 Scope of the document

This procedure covers the general guidelines to be followed by the Electrical engineering department during fresh registration, renewal of registration, up gradation from Part II to Part I, down gradation from Part I to Part II and delisting from Part I/Part II of various vendors for Electrical items being dealt by Electrical Department of CORE.

2.1 The type of items being procured by CORE and Zonal Railways for TRD works are broadly classified into following categories.

- (a) Ferrous and non-ferrous OHE fittings.
- (b) Fittings for sub-stations and transmission lines.
- (c) Various OHE & PSI equipments.
- (d) Fabrication and galvanization of steel structures of various lengths including small parts steel (SPS).
- (e) Contact and catenary wires.
- (f) Dropper wires, jumper wires and other similar components.
- (g) OHE insulators (porcelain as well as composite).
- (h) 230 Volt AC Control Panel for CLS Supply, ACDB & 110 Volt DCDB.
- (i) Gas Chromatograph for DGA test for Trf. Oil.
- (j) Discharge Rod.

This document has been brought out to help the manufacturers who are interested in developing OHE/PSI fittings/equipments for Railway Electrification installations on Indian Railways. It outlines the procedure for enlistment of a firm, the details regarding manufacturing, testing and quality control measures to be adopted, the financial & technical capability requirement of the firm etc. Besides, it also contains a list of different fittings/equipments along with their RDSO specifications used in Rly. Electrification.

2.2 Technical Specifications/Drawings

The following technical specifications/drawings and other details of each category of the fittings/equipments are available on payment basis.

- (a) Malleable cast iron fittings used in Rly. Electrification.
- (b) Ferrous forged and steel galvanized OHE Fittings used in Rly. Electrification.
- (c) Aluminum-Bronze, Aluminum Alloy and Copper Strip Fittings used in Rly. Electrification.
- (d) 25 KV, SP/DP Isolators, D.O. Fuse Switch & Operating Pole, Discharge/Earthing rod and other OHE equipments.
- (e) A/C Distribution Boards & Terminal Connectors.
- (f) 132 KV & 220 kV, DP & TP Isolators.
- (g) Connectors/Fittings for Tr. line fittings.
- (h) Power & control cables/XLPE cables for AT supply and TSS.

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- (i) ACSR conductor, panther wolf, zebra, Aluminum tubular bus bar, Copper bus bar, Copper strips.
- (j) 25 kV Potential Transformer (Type-I & II), 25 KV Current Transformer, 220/132/110/66 KVCT, 100/150 KVA Booster Transformer, 5/10/25/50/100 kVA, 25 kV/240 Volt Auxiliary Transformers
- (k) Structure Number Plates and Boards (Enameled and retro-reflective type).
- (l) Various types of Steel Structures and SPS (Fabricated & rolled) for OHE and TSS.
- (m) Various types of Copper Jumper Wires.

The general description of these fittings/components along with number of approved sources are listed out in Annexure-IV & Annexure-VI. The interested parties may contact the Chief Electrical Engineer, Railway Electrification, Allahabad for obtaining the above as well as other details.

3 Fresh Registration:

3.1 Vendors shall be categorized as Part I and Part II sources for Railway supply items. For other items, which are normally not being procured by CORE and are purchased by the contractors etc., the present system of vendor registration without any categorization will continue. The railway supply items for which vendor registration is done by CORE are listed below:-

- (i) Fabrication and galvanization of various types of steel structures and SPS (fabricated & rolled) for OHE & TSS.
- (ii) Re-rollers for steel sections.
- (iii) Various types of copper conductors.
- (iv) Malleable cast iron fittings used in Rly. Electrification.
- (v) Ferrous forged and steel galvanized OHE Fittings used in Rly. Electrification.
- (vi) Aluminum-Bronze, Tin-bronze, Aluminum Alloy and Copper Strip Fittings used in Rly. Electrification.
- (vii) 25 KV, SP/DP Isolators, D.O. Fuse Switch & Operating Pole, Discharge/Earthing rod and other OHE equipments.
- (viii) A/C Distribution Boards & Terminal Connectors.
- (ix) 132 KV & 220 kV, DP & TP Isolators.
- (x) Connectors/Fittings for PSI/Tr. line fittings.
- (xi) Power & control cables/XLPE cables for AT supply and TSS.
- (xii) ACSR conductor, panther wolf, zebra, Aluminum tubular bus bar, Aluminum Alloy extruded tubes & sections, Copper bus bar, Copper strips and bars.
- (xiii) 25 kV Potential Transformer (Type-I & II), 25 KV Current Transformer, 220/132/110/66 KV CT, 100/150 KVA Booster Transformer, 5/10/25/50 /100 kVA, 25 kV/240 Volt Auxiliary Transformers.
- (xiv) Structure Number Plates and Boards (Enameled and retro-reflective type).
- (xv) Various types of Steel Structures and SPS (Fabricated & rolled) for OHE and TSS.

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- (xvi) Various types of Copper Jumper Wires
- (xvii) GI/SS fasteners
- (xviii) ERW tubes
- (xix) Section insulator assembly
- (xx) C.I .counter weights

3.2 The following procedure will be followed by the firms interested in getting themselves registered as approved manufacturer/supplier of any of the items listed out in introduction.

3.3 The guidelines for enlistment and application form (Annexure-I) can be purchased from this office by sending a demand draft of Rs.300/-drawn in favour of FA&CAO, Railway Electrification, Allahabad (in case the form is required to be sent by post) or by depositing Rs.250/-in cash to Divisional Cashier, Railway Electrification, Allahabad (in case the form is being collected from the office of Chief Electrical Engineer, Railway Electrification in person). All correspondence regarding vendor registration/approval should be addressed to Chief Electrical Engineer, Railway Electrification, 1, Nawab Yusuf Road, Allahabad-211001. The enlistment procedure and application form can also be downloaded from CORE's website (address www.core.indianrailways.gov.in). In case application is submitted on the form downloaded from the website, the application form should be submitted to CORE alongwith a demand draft of Rs.250/-drawn in favour of FA&CAO, Railway Electrification, Allahabad, without which the application will not be entertained. In case of Vendor need attention urgently he may call DEE (Dev) CORE ALD at Mobile No 09794515558 or DyCEE (MP) CORE ALD at Mobile number 09794865319. If the vendor still remains unsatisfied with the response of CORE he may call CEE (P&D) CORE ALD at mobile number 09794865301.

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3.4 Vendors seeking registration for any of the items spelt out above, shall apart from procuring the guidelines on general procedure for enlistment of firms as CORE approved manufacturers for Electrical items and the application form, shall also procure latest version of all the relevant specifications and drawings from CORE on payment.

3.5 The required RDSO specifications and drawings may be obtained by the firm from this office or from Sr. Executive Director/TI/RDSO, Manak Nagar, Lucknow on payment basis, at the prescribed rate of the specification/drawing. The standard technical requirement for manufacture of various items are given in the annexures enclosed with this procedure.

3.6 Firm seeking fresh registration shall apply on the prescribed form given at Annexure-I of this booklet which should be submitted to Chief Electrical Engineer, Railway Electrification duly filled in, in duplicate. The firm shall clearly specify the item/items (with their specification number) for which they are seeking registration from CORE/ALD. The firm shall ensure submission of following details:

- (a) Orders executed by them in the past three years for similar type of items.
- (b) Copies of the audited balance sheet & profit & loss account for last three years.
- (c) Photocopy of license to use relevant applicable ISI/ISO standard mark.
- (d) List of manufacturing and testing facilities besides other details as required as per Annexure-I.

Note:- Details mentioned in Annexure-II may also required to be furnished by the firm.

3.7 Firm seeking fresh registration shall apply on the prescribed form given at Annexure-I of Application once received in duplicate shall be scrutinized in the office of Chief Electrical Engineer in detail. Application will also be checked up for adequacy in respect of the information sought. Any information considered incomplete/unsatisfactory shall be pinpointed. A technical screening shall also be done at this stage to establish whether on the basis of information supplied regarding infrastructure and manufacturing practices etc. firm can be considered for a visit for assessment of its capability. Any clarification to be sought from the firm shall be pinpointed at this juncture and communicated to the firm in writing. It may also be noted that a mere application does not confirm an obligation on CORE to give approval of vendors. CORE shall approve new vendors based on the requirements in particular field and workload for such approvals / field inspections.

3.8 In case, any clarification has been sought from the firm, the firm should furnish the required details within a maximum period of **45 days**, failing which the application will be treated as closed and firm shall be required to apply afresh.

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- 3.9** If the firm's application is accepted for further processing after scrutiny, the firm will be inspected by nominated CORE official for verification of the documents/infrastructural facilities and capability assessment. If on the other hand, firm's application has been rejected for further processing, firm will be intimated accordingly. While communicating the rejection, the firm shall be informed about the deficiencies.
- 3.10** Once the rejection of application is communicated, the case can be reviewed for consideration only if the firm reports complete compliance within one year from the date of making communication for rejection. In case the firm fails to report complete compliance within the above mentioned period or in case closure advise has been issued to the firm, the firm will have to apply afresh to CORE in case the firm becomes subsequently interested after removing the deficiencies pointed out.
- 3.11** The capability of the firm shall be assessed by the nominated official of CORE. In case of fresh registration of vendors, visit of manufacturing works by an official of CORE is mandatory.
- 3.12** Once the official is nominated for capability assessment, the application form & relevant documents shall be given to the nominated official. The duly completed inspection & capability assessment report (Annexure-II) on the standard format shall be submitted by the inspecting official to Chief Electrical Engineer with his recommendations.
- 3.13** If during capability assessment visit, certain shortcomings are noticed, or if any information is found incomplete/inadequate, the same shall be informed to firm. Further action will be taken as per the procedure listed out in para 4.8.
- 3.14** In case of receipt of the clarifications or in case of successful inspection of the firm, wherein the facilities available with the firm are in line with the requirement, the inspection report shall be put up to Chief Electrical Engineer along with the scrutiny sheet for his approval, so that the firm may be advised to develop prototype sample. On approval, the firm will be advised to manufacture prototype, get it tested internally and send the internal test report with invoices of raw materials along with the offer for inspection of prototype sample.
- 3.15** Standard technical requirement for manufacturing and supply of different types of items (Annexure-III) is the basic minimum for the firm to be considered. However, to encourage development of new vendors, minimum requirement may be relaxed depending upon the availability of sources on the sole discretion of Chief Electrical Engineer/ CORE/Allahabad. The scrutinizing official should, however, clearly indicate the items which are not being fulfilled by the firm. Also, past cases of approval of similar item should be examined and cases where for similar deficiency any relaxation was granted or if any firm's approval was not considered due to this deficiency, such cases should also be listed out along with the list of already approved sources with a view to take on overall view by Chief Electrical Engineer.

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3.16 After approval of firm's capability to manufacture the stated item, firm will be advised to manufacture the prototype samples and submit their internal test report within 3 months of issue of letter from CORE. If the firm is unable to offer the prototype inspection within the stipulated period of 3 months then his case will be closed, if he does not apply within this period for extension/relaxation of time period. Further period of 3 months for prototype sample development may be granted with the approval of CEE/CORE subjected to application for relaxation is given by the firm with specific and genuine /logical reasons. If extension is granted and firm fails to offer the prototype for inspection within extended period, as described above then his case will be closed and beyond this period the firm will have to apply afresh for registration.

3.17 After receipt of confirmation regarding manufacture of prototype and internal test report from firm, the test report will be scrutinized at CORE & if found satisfactory, CORE's representative will be nominated for prototype testing.

3.18 The nominated representative of CORE will carry out/witness the testing of prototype sample at firm's premises. The firm is required to maintain internal test report of the prototype sample and produce the same to the inspecting official when asked for. If felt necessary, the firm will be required to produce a sample in the presence of CORE's representative. The prototype samples will then be subjected to detailed type tests as per relevant specification/IS. Testing equipment used should be calibrated from time to time from recognized testing labs and copies of the calibration test reports enclosed along with prototype test reports.

3.19 The firm shall also maintain a record indicating the source from whom the raw materials required for manufacturing the item has been procured. In order to ensure proper quality of the raw material, the firm shall also keep the following documents readily available:

- (i) The test results of the raw material supplied by the raw material supplier.
- (ii) Internal test report of the raw material.

The nominated representative of CORE will check these documents while carrying out the prototype testing.

3.20 If any testing facility is not available at firm's premises, such tests can be got conducted at recognized test laboratories, for which the sample will be sealed by the nominated CORE official. The testing labs will be identified by CORE's representative and the testing charges will have to be borne by the firm. The test report should be sent by the testing laboratory directly to CORE. After testing of prototype/receipt of test report, if any, from the testing laboratory, a detailed report as per relevant IS & specifications will be prepared by the concerned official and the report will be put up to CEE alongwith recommendation for approval if the sample is meeting the required parameters.

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- 3.21** In case, any of the prototype sample fails in any of the test, all the prototypes will be considered as failed and firm will have to
- (i) prepare improved samples,
 - (ii) investigate the reasons for failure and submit detailed report,
 - (iii) Suggest corrective actions to be incorporated in their quality assurance plan so that such failures do not take place during normal production.
- 3.22** Only if the investigation report and corrective action is considered satisfactory, the prototype testing will be carried out on the improved sample. In case the second improved sample is also found non-conforming to specification, the firm's application for registration will be rejected and firm will be informed accordingly.
- 3.23** Fresh registration shall normally be given for a maximum period of 1 year after satisfactory prototype testing. Fresh registration for items which are proposed for categorization as Part I & Part II [refer para 3.1 (i), (ii) above] will be given in Part II only. However in exceptional cases and depending on the product requirement for I.R. / RE / RITES/ RVNL / DFCC etc. CEE/CORE/ALD reserves the right to classify directly as Part-I based on the specific merit of the case.
- 3.24** Normally all the required facilities for manufacture and testing of an item, for which approval is being sought, should be available with the firm at a single place. However, a firm having different factory premises will also be considered in case the various factory premises for manufacture of an item are located at nearby places only, so that unnecessary transportation of material from one place to another for manufacturing final product is avoided. However, all the locations and facilities available therein would be inspected for considering the approval of firm. Since each firm is an independent legal identity and thus would be considered only for approval of the activities undertaken within its premises.
- 3.25** Only the manufacturers having the required manufacturing/testing facilities will be considered for enlistment. **Traders will not be permitted to be enlisted as CORE's approved vendors.**

4 Vendor List

- 4.1** The CORE approved vendor list for Electrical items is available on CORE's website (www.core.indianrailways.gov.in). This list is periodically updated on a quarterly basis on 1st day of JAN, APR, JULY & OCT.
- 4.2** Any fresh approvals/renewals/delisting are also advised separately to the concerned firms.

5 Renewal of Registration

- 5.1** Renewal of registration for all the items shall be applicable to all the approved vendors for the first time after one year and next renewal will be after every two years unless specifically mentioned otherwise.

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5.2 For renewal of registration, the firm shall submit the request giving details of the following:-

- (i) List of orders executed for the concerned item along with details of rejection, if any, duly certified by RITES.
- (ii) A certificate that all the inspection reports by RITES have been mentioned in the list and nothing is pending.
- (iii) Details of failures reported, if any, by any Railway, investigation carried out and its report.
- (iv) Details of tenders floated by CORE in which the firm participated.
- (v) Vendor Delivery Rating

5.3 It shall be the responsibility of the firm to submit application for renewal at least three months in advance before the date of expiry of the validity of its approval. The validity of approval and the clause regarding firm's responsibility to apply for renewal within the validity of approval should be communicated in the certificate of approval issued to the firm by CORE.

5.4 When the firm applies for renewal of registration within the validity of its approval, the name of the firm shall continue in the approved vendor list with the same status (either Part I or Part II), till such time the status is decided in the renewal case.

5.5 When the firm fails to apply for renewal of registration within the validity of its approval, the name of the firm will be deemed to be temporarily delisted from the vendor list. If the firm applies for renewal within six months of expiry of validity of registration, the renewal case should be processed provided the reason for failure to apply for renewal is considered reasonable and the firm's name will be considered for inclusion in the vendor list only on finalization of the renewal case. If the firm fails to apply for renewal within six months of expiry of validity of registration, its name will be finally delisted from the vendor list. Any renewal application after this time will be dealt as fresh application and will be processed accordingly by CORE.

6 Inclusion of additional items

6.1 If the firm is already approved for a particular product and desires to supply some additional product, it shall be considered as a fresh registration case and the same procedure will be applicable as per fresh registration. However, if the firm desires to apply for approval of their firm for similar type of product requiring same machinery & plant, capacity cum capability assessment of the firm can be waived off. While waiving off the assessment, it will have to be ascertained that the firm is capable to manufacture this item based on past record and no additional facility in question will be required.

7 Vendor Delivery Rating

Delivery rating of all vendors shall be worked out to access their production capabilities of vendors as under:-

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$$Dr = \frac{Qt + \sum Qd (1-K \times Td/T)}{Q}$$

Where

Q	=	Qty ordered
T	=	Promised delivery time (In days)
Qt	=	Qty. supplied in time
Qd	=	Qty. delayed
Td	=	Time delay for quantity delayed (In days)
K	=	Constant = 2

Overall Delivery rating of firm shall be worked out based on orders placed by CORE/Zonal Railways/ RE contractors during the last three years provided number of orders is not less than 3. In case of number of orders less than 3 in last 3 years then the vendor rating shall not be calculated.

Vendors shall be required to submit such Ratings as and when called by CEE/CORE and in case of each renewal the same shall be submitted by the Vendor along with necessary documents. **CORE reserves the right to use the information for vendor evaluation and down gradation /delistment of vendors based on this data.** In case of non-submitting details by the firm, delivery rating shall be decided by CORE on the basis of data available in CORE's office.

8.0 Upgradation of vendors from Part II to Part I

8.1 For items for which the registration of vendors will be done by CORE under Part I/Part II categorization as listed in para 3.1 above, the vendors who are in Part II shall be upgraded to Part I list only after compliance of the following conditions:

- (a) The vendor has applied in writing or based on requirement CORE may ask for application to CORE for upgradation from Part II to Part I.
- (b) Vendor is in Part II category of approved vendor list of CORE for a minimum period of one year from the date of initial approval for Galvanized Steel structures, SPS, Jumpers & dropper wires. However, for other balance items the period shall be for two years.
- (c) Registration of the firm as Part II vendor is valid on date of application.
- (d) The vendor has supplied material in substantial quantity to CORE against at least one order placed by COS/CORE or railways /RITES/RVNL/DFCC etc.

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- (e) There is no serious complaints in the supplies made by the firm during one year from date of supply. In case of any complaint, prompt action must have been taken by the firm in replacing the defective material and a detailed analysis including the corrective methods taken by the firm to avoid such failures should have been put in place. Details of the same will be required to be submitted by the firm while applying for up gradation.
- (f) If the initial registration of the vendor was done relaxing certain standard technical requirement, then the firm's up gradation to Part I will be considered only after the firm upgrades its facilities and meets all the standard technical requirements or as per discretion of CEE/CORE at the time of renewal on case to case basis.
- (g) For all such Up gradations vendor ratings may be considered for evaluation.

8.2 In exceptional cases and depending on the product requirement for I.R. / RE / RITES/ RVNL/ DFCL projects, CEE/ CORE/ ALD reserves the right to upgrade directly as Part-I based on the specific merit of the case.

9.0 Down gradation/delisting of vendors

9.1 The vendors can be downgraded from Part I to Part II list or delisted from Part-I or Part-II list in case of one or more of the below mentioned conditions are established. Considering the seriousness and nature of deficiency and its effect on the quality or performance of products.

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- a) Complaints regarding poor quality/performance reported by Railways/R.E. Projects/RDSO/Rly Board /RITES/DFCCIL/RVNL etc. then depending upon the severity of the complaint a quick investigation shall be undertaken by CORE/Allahabad. Representative of the vendor can be associated, if considered necessary. If the fault in design/QAP is established, then the vendor shall be given adequate opportunity to improve upon the design/QAP. Based on the response from the firm, the decision regarding down gradation/deletion of the firm's name from the approved list may be taken.
- b) Frequent non-conformities observed during regular purchase inspections.
- c) Deficiencies/non-functioning of major machinery & plant affecting the quality.
- d) During course of time, if the specification is amended and the firm is not upgrading the additional requirements within a specified time frame of one renewal.
- e) Information provided in the application is incorrect the vendors name can be de-listed without down grading.
- f) The firm is black listed/or business dealing is banned by Govt. of India or its offices or communication by Railway Board. In such cases, no show cause notice to the firm shall be required.
- g) Non-conformities of samples picked up from consignee end by CORE/Allahabad during their inspection.
- h) If at any time, the firm's manufacturing capacity is not found conforming to the latest declared capacity.
- i) Major non-compliance of the submitted QAP of the vendor.
- j) Major deficiencies found during quality audit /process audit and their non-compliance.
- k) Any other situation leading to adverse effect on the quality of production.
- l) The entire factory or part of it is reported closed/shut down/lock out for sufficient period.
- m) Non availability of a valid extended ISO-9001 Certification of the firm.
- n) Whenever any malpractice or, unethical practices adopted by the firm comes to the notice of CORE, the case for down gradation / deletion of the firm's name from the approved list shall be initiated.
- o) Persistent cases of non supply of material after acceptance of orders, or poor persistent rate of supply of material and reported cases of irregular supply or non-supply by the firm. If the firm is not able to supply the product on a regular basis or, found to be not supplying the material over a long period and the purchaser is put into inconvenience, cases of poor delivery index, case can be taken up for down gradation / deletion of the firm's name from the list.
- p) In case of irregularities of serious nature like raw materials found to be from not the proper source as indicated in P.O./approval /renewal letter and adoption of any other such mal practice.
- q) After receiving information from the Railway Board / Railways regarding the involvement of any firm in cartel formation, the name of such firm may be de-listed with immediate effect.
- r) The vendor must inform the CORE immediately if any change in design, specification, manufacturing process, raw material, plant and machinery takes place, failing which the name of the vendor may be down-graded/de-listed.

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- s) Whenever the purchaser revises a specification and the revision does not involve major changes in the design, the status will continue to be the same. Any additional tests, if required, shall be completed within a reasonable time, failing which the vendor may be down-graded/de-listed.
 - t) In case financial position of firm goes down (To be checked from 'Solvency and turnover).
 - u) Cases of repeated calling of vendor's representative for review meetings, the firm's representative does not turn up for technical discussions/review of supply positions.
 - v) No response to a show cause notice.
- 9.1 Down gradation/delisting shall be considered after serving the notice on the firm seeking time bound reply (unless a show cause notice is not required in case of serious issue) and considering the response of the firm to the notice.
 - 9.2 Down-gradation shall be for a maximum period of 18 Months depending upon the faults / shortcomings
 - 9.3 Down gradation/delisting shall be communicated in writing to the firm. All concerned as per distribution of the vendor list, shall also be advised immediately. The certifying body who had issued the ISO: 9001 certification shall also be informed in writing regarding down gradation/delisting of the vendor.
 - 9.4 The renewal of the vendor, if falls due during the period of down gradation, the renewal application shall be pended till the final decision regarding down-gradation.
 - 9.5 Inspection of material against purchase orders placed before the deletion of firm's name from the approved list of vendors may be carried out in normal course as per extant policy/norms.

10 Reinstatement of status of downgraded/delisted vendor

10.1 Reinstatement after delisting/down gradation shall be considered only when:

- (a) The firm applies for the up gradation after complying facts on which firm was downgraded.
- (b) In case of delisting the firm applies for registration as a fresh case.
- (c) Revival shall be considered only after a period of one year.
- (d) Verification, if considered necessary, detailed investigation, feed back of consignee etc., if any, is done.

11 Change in the name of the vendor

- ### **11.1** On receipt of request from the vendor for change of name, which is already on the approved vendor list, the same shall be affected after verification and legal vetting of documents like memorandum of article of association, list of tools, plants and machinery, undertaking by the new firm regarding taking the liability of old firm, resolution of Board of Directors, partnership deed etc. The approval for change of name of the firm will be done by CEE/CORE.

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11.2 If change of name is done as a result of bifurcation of existing works premises, in addition to checking the documents as given above, reassessment will also be carried out by CORE official to assess the firm's capacity before effecting the change of name of firm.

11.3 The vendor shall be informed in writing that the change of name has been noted by CORE.

12 Change of work address of the vendor:

12.1 The vendor should report the change of address of the manufacturing unit and should establish the following fact in writing:

- (a) The office establishment has been shifted totally.
- (b) The machinery & plant have been shifted totally.
- (c) The testing and laboratory facilities have been shifted totally.
- (d) Factory licence & pollution control certificate is available for new address.
- (e) The name of firm has not changed.

12.2 After scrutiny of the request, the sample manufactured by the firm at the new premises will be tested by representative of CORE.

12.3 After satisfactory testing, the acceptance in the change of address shall be communicated to the vendor, with the approval of CEE. The validity of registration and the status of approval (Part I/Part II) shall remain the same.

12.4 Approval of additional unit of an already approved vendor

Sometimes vendors who are already approved for manufacturing/supplying a particular item want to establish another unit for manufacture of same item normally with a view to enhance their capacity. For such cases of approval of second unit of the firm for manufacture of same item the past experience criteria and financial capacity criteria for the new work will not be separately required to be fulfilled as it is considered as an expansion program of the already existing firm. However, such a relaxation will be permitted only if the firm who is already approved wants to set up another unit.

On the receipt of the request for approval of the second unit, the new premises will be inspected by the nominated representative of CORE with a view to ascertain that all the required manufacturing, testing etc. facilities are available with the firm. After ascertaining the availability of the required facility, the firm will be advised to manufacture the prototype test which will again be tested by CORE's representative at the new factory location.

13 General

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- 13.1** This office does not give any commitment regarding purchase of any quantity from the firm either directly or indirectly through contractor. The firm has to, by competitive quoting, obtain orders for supply.
- 13.2** In case of revision of relevant RDSO Specification/IS, the manufacturer shall develop the components/fittings accordingly and shall arrange to carry out the necessary testing at his own cost, if necessary.
- 13.3** Notwithstanding the design approval/type testing done by this office, the ultimate responsibility of correct design and manufacturing as per specification rests entirely with the manufacturer.
- 13.4** A list showing classification of equipments fittings, components etc. with their governing specification used in Railway Electrification is enclosed at Annexure- IV.
- 13.5** The decision for enlistment of any firm or otherwise is the prerogative of the Chief Electrical Engineer/Railway Electrification, Allahabad.
- 13.6** For any further details and clarification about any of the provision of the above clauses, the vendor may contact Chief Electrical Engineer/CORE.

14 Referenced Documents

The following documents have been relied on while making this guidelines

- 14.1 CORE Guidelines No. CORE/ Guide/23 (4/09) revision 2
- 14.2 RCF Guideline MDF0014 Rev-0 for Technical Approval of Vendors.
- 14.3 RDSO Vendor renewal guidelines number QO-D-7.1-13 version 2.0
- 14.4 CLW Vendor development procedure WI No CLW/MLAS/EL/WI/Rev.1
- 14.5 Railways Bd Letter Number No. 95/RS (IC)/165/34 New Delhi, Dated 30th June 1997 regarding Vendor rating.

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Vendor Enlistment Form

ANNEXURE-I

CENTRAL ORGANISATION RAILWAY ELECTRIFICATION ALLAHABAD

PARTICULARS TO BE FURNISHED BY A MANUFACTURER BEFORE CARRYING OUT INSPECTION OF THE WORKS TO ASSESS THE CAPACITY/ CAPABILITY OF THE MANUFACTURER TO UNDERTAKE MANUFACTURING & SUPPLY OF COMPONENTS /FITTINGS/EQUIPMENTS /ITEMS USED IN RAILWAY ELECTRIFICATION

1. Name of the firm
2. Location of Factory (Address, Telephone & Fax No. and Contact No.)
(In case different processes involved are done at different locations,
the address of each location should be given indicating
clearly which process is carried out at which location).
3. Is the Factory owned by the manufacturer?
(In case some of the premises are not actually owned
by the manufacturer, the name of the owner of the premises
and its relationship be indicated. In case, it is called a
sister concern, the share held by the manufacturers in
that concern should be stated)
4. License Number of the Factory under Factory Act.
5. Approximate covered area of the works (in Sq.m)
6. List of Machinery Installed

(AS PER PROFORMA-I)

7. Special manufacturing facilities required
& their availability.
8. Number of Employees -
 - i) Technicians
 - ii) Unskilled
 - iii) Skilled
 - iv) Supervisory

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9. Name, qualification, experience of the technical personnel under whose guidance and supervision the products are manufactured/tested (As per Performa 2)
10. (A) Items being manufactured and present production capacity of each item per month along with credentials.
(B) Items for which approval is sought.
11. Since how long are the items being manufactured in this factory
12. Average output per month during last one year in each of the items.
13. Details of stages of manufacturing of each product.
14. Any collaboration/technical help from out side parties.
15. Details of sources of raw materials/components procured (Give full address of sources of procurement).
- 15 A. Drawing office facilities available.
16. Financial Capabilities :
 - (a) Enclose last audited balance sheet and Profit & loss account.
 - (b) Enclose a copy of Income Tax Clearance certificate/Income tax return for last financial year.
 - (c) Give details of orders executed/ under execution. during last two years (as per proforma-3)
 - (d) Give details of capital, investment as per proforma-4
17. Facilities for after sales service
18. Future plan for expansion.
19. Land available for further expansion
20. Submit pollution control board clearance certificates, wherever applicable.

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21. Quality Control Measures :

- (a) Give details of quality control measures.
- (b) Give details of quality control exercised on raw material/components.
- (c) Give details of quality control checks during manufacturing process/stage Inspection & facilities available for such checks.
- (d) Give details of final inspection before offering the material to purchaser's representative for acceptance test.
- (e) Give details of laboratory testing Facilities with full details of equipments as per proforma-5.
- (f) Indicate galvanization facilities with size of zinc bath.
- (g) Give details of specification followed for manufacture of the particular project.
- (h) Test certificate showing tests carried out on the products, if any, earlier.
- (i) Furnish details of license available for use of ISI standard mark and furnish its photo copies (indicate original date of grant of license and subsequent renewal dates and specification numbers).
- (j) Indicate the steps being taken, if any for obtaining ISO 9000/1/2/3 certification for your products. Indicate time by which ISO certification is expected (Give details on a separate sheet).

NOTE :-Each & every page of this Performa should be duly signed and stamped. Add separate sheet wherever space is insufficient.

PROFORMA-1
LIST OF MACHINERY

SN	Name of Machine	Manufacturer's	Capacity	Year of Installation	Approximate cost
1	2	3	4	5	6

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PROFORMA-2
DETAILS OF TECHNICAL MANPOWER

SN	Name of employee	Educational Qualification	Designation	Experience	Responsibilities Production/QualityControl/ Purchase/Marketing/Etc.
1	2	3	4	5	6

PROFORMA-3
LIST OF ORDERS EXECUTED

SN	Purchaser reference	Items ordered	Ordered Quantity	Value of the order	Quantity Supplied within Delivery Data	Balance Quantity Supply Date
1	2	3	4	5	6	7

(support by documentary Evidence, Enclosing Purchase Order copies)

PROFORMA-4

1. Name of Bank
 - a) Standard limit against pledge
 - b) Sanction against hypothecation
 - c) Bills collection
 - d) Bank guarantee
 - e) Letter of Credit
 - f) Loan D.D.
2. Name of Financial Corporation and details
3. Against land, building, plant & Machinery

GRAND TOTAL -----

PROFORMA-5
LABORATORY EQUIPMENT

SN	Name of Machine	Manufac- turer's	Capacity	Year of Installation	Approxi mate cost	Test for which Used	Period Calibration Followed
1	2	3	4	5	6		

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Annexure-II

Inspection of firm's Work (New Vendor)

Item for which registration sought for -----

S.N	Details of Checking	Observations
1	Location of factory (Address, Telephone & Fax No. and Contact No.)	
2	Whether the premises occupied is owned/rented/leased.	
3	How long the firm/factory established in this business/ manufacturing of items (Minimum 3 yrs. business).	
4	Firm/factory structure (Minimum Requirement) : Rerolling Mills -10000Sq.m. For fabricated structures etc. : ONR & other OHE Structures -10000 Sqm. : SPS -1000 Sqm. : Others -500 Sq.m	
5	Whether the firm is an ISO 9000 series (Name of the Agency from which the certificate received) (May be exempted for those OHE items which are used in Rly. only)	
6	Certificate of concern pollution control board required for Rerolling Mills/ Galvanization/Casting & Foundry only.	
7	Whether the firm registered under factory act then license No.& validity date.	
8	Whether the firm also registered with NSIC.	
9	Technical key persons with their qualification and experience.	
10	Detail of Technical manpower available with qualification and experience.	
11	Whether the manpower is permanent or contract basis. If permanent then their PF nos. etc. (Documentary proof).	
12	Any training programme for technical	

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	manpower (refresher course).	
13	Financial status of the firm. (i) Solvency certificate from their banker. Annual turn over of last three years of firm shall be for (a) Rerolling of Steel -10 Crs. (b) OHE structure -5 Crs. (c) SPS -1 Cr (d) Other OHE items -50 lacs & PSI items (ii) Audited balance sheet for last three years.	
14	Plant and Machinery available with firm with their capacity .	
15	Source of procurement of raw material & system in force for ensuring quality control. Documentary proof in support of procurement of raw material from different sources	
16	Detail of T & P and fixtures required for manufacture the required item.	
17	Detail of testing facilities available with calibration	
18	Process flow chart with stages of Inspection.	
19	Whether the process is manual, automatic or semi automatic.	
20	Supply of finished products other than Rly. (Govt. Organization/Public sector/Other firm/Export).	
21	If exported then to whom (firm's name & country).	
22	Inspection authority in case of export.	
23	Details of storage procedure for raw material and finished products	
24	Annual average Turn over for last three years	
25	Sufficient Electric power sanctioned/ connected load.	
26	Quality assurance plan:-Details of quality assurance set up on the stages of manufacturing by exercising control of each product	
27	Details of stage tests on sampling size	
28	System of documentation of results of quality assurance inspection	

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29	Instruments used for the stage testing of the product whether of reputed make and calibrations are done by are a reputed /certified company?	
30	Has the firm submitted the Quality manual in duplicate?	
31	Whether galvanizing facility available with the firm? If not name of the galvaniser whether galvaniser is CORE approved	

Name& Designation of Inspecting Official
Date

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ANNEXURE-III

Standard Technical Requirement for Manufacturer and supplier of OHE Fittings and Equipments

1. Scope :

This schedule covers the technical requirements for manufacturing and supplying of various OHE fittings and components to the railways. Basically these fittings and components are divided as follows :

- (a) Ferrous fittings and components
- (b) Non ferrous fittings and components

The ferrous & non-ferrous fittings and components are sub divided as follows.

(a) Ferrous fittings :

These type of fittings are

- i) Ferrous forged galvanised fittings
- ii) MCI fittings
- iii) Cast Iron fittings and components

(b) Non-ferrous fitting :

These type of fittings are :

- i) Al-Alloy fittings & components
- ii) Al-Bronze fittings and components
- iii) Tin-Bronze fittings & components
- iv) Cu fittings/components

2. General Infrastructure :

The manufacturer should have the sufficient covered area and open free space for storage and transportation of raw material, finished material for dispatch and inspection. The manufacturer should ensure that the products conform to the requirement of RDSO specification No.ETI/OHE/49(9/95) with latest A&C slip.

3. Manufacturing Facilities :

The following Machineries and Plants of suitable capacity should essentially be available with the manufacturer.

- (a) Production Side : For Non ferrous fittings
(Al-Alloys, Al;-Bronze, Tin Bronze etc.)
- (i) Gas Oil fired furnace with suitable temp control facilities and other facilities for casting.

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- (ii) Measuring and weighing equipments.
- (iii) Die manufacturing/repairing facilities consisting of M/c tools such as milling m/c, shaping m/c, lathe m/c, grinder and files of various types.
- (iv) Gravity and pressure die-casting facilities
- (v) Chipping/finishing tools
- (vi) Drilling m/c
- (vii) Grinding m/c
- (viii) Polishing/Buffering m/c

- (b) For MCI fitting, C.I. Casting fittings :
 - (i) Electric Induction furnace / Oil fired furnace tilting type with suitable capacity and temp control facilities
 - (ii) Measuring/weighing facility
 - (iii) Pattern making sand moulding, die casting facilities
 - (iv) Chipping / finishing tools
 - (v) Drilling m/c
 - (vi) Grinding m/c
 - (vii) Lathe m/c for fabrication of gigs & fixtures etc.
 - (viii) Galvanising facilities such as degreasing tank, rinsing tank, pickling tank, cleaning/rinsing tank, fluxing tank, galvanizing tank, dichromate tank etc.
 - (ix) Heat treatment facilities for malleable cast iron fittings

- (c) Ferrous forged fittings :
 - (i) Measuring/ weighing facilities
 - (ii) Cold forging facilities
 - (iii) Hot forging facilities
 - (iv) Drilling m/c
 - (v) Grinding m/c
 - (vi) Lathe m/c suitable for fabrication/finishing of item
 - (vii) Chipping/Grinding m/c
 - (viii) Power Hack saw m/c
 - (ix) Turning m/c ,Lathe m/c
 - (x) Galvanizing facilities
 - (xi) Small furnace of suitable capacity for hot forging
 - (xii) Tempering furnace of suitable capacity
 - (xiii) Power Press of various capacities suitable for fittings

- (d) Copper fittings & components :
 - (i) Measuring / weighing m/c of suitable capacity
 - (ii) Drilling m/c
 - (iii) Power hack-saw m/c
 - (iv) Wire drawing m/c suitable for product
 - (v) Lathe m/c suitable for fabrication of jigs & fixtures
 - (vi) Shearing m/c
 - (vii) Milling m/c
 - (viii) Turning m/c

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- (ix) Grinding m/c
- (x) Annealing m/c
- (xi) Hydraulic Press suitable capacity
- (xii) Power Press of suitable capacity
- (xiii) Polishing m/c

4. **Inspection & Testing Facilities : (for all Ferrous/ Non-Ferrous Fittings)**

The manufacturer should have the following testing equipments / instruments

- (i) Measuring / weighing equipments
- (ii) Well established chemical laboratory for determining C, S, Mn, Mg, Ph, Al, Fe, Cu contents etc.
- (iii) Universal Testing M/c suitable for Tensile Testing, Proof load testing etc.
- (iv) Hardness Testing M/c
- (v) Measuring Instruments such as Scales, Verneier Caliper, Micrometer etc.
- (vi) Alco-meter (pen type / digital type) coating testing instruments
- (vii) Dye penetrating test facilities
- (viii) Kelvin bridge for resistance testing (optional)
- (ix) Temperature rise test facilities (optional)

The above equipments / instruments must be calibrated time to time from some reputed/Govt./Authorized testing lab.

5. **Quality Control Requirements :**

- The manufacturer should have the ISO 9000 series certification for the product for which approval is sought.
 - The system of easy trace ability of product from initial raw material stage to finished product stage should be available.
 - Manufacturer should have the monitoring system for identifying the complaint from customers at the production stage.
 - Corrective /preventive steps / action should be linked at manufacturing stages.
 - Quality Assurance Plan to be made and approved by CORE and strictly followed.
 - Manufacturer should also have the process flow chart for manufacturing the product.
 - Stage inspection at various stages of manufacturing should be framed.
 - Proper documentation should be maintained from Raw material inward to finished product outward including rejection and their disposal.
- (i) In coming raw material with the reference of suppliers as well as internal test.
 - (ii) Details regarding the final testing and dispatch to the customer in proper packed condition.
 - (iii) System for timely calibration of testing and measuring instruments.
- The Quality Assurance Plan for the product should contain the following aspects.

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- (i) Organization chart
 - (ii) Process flow chart
 - (iii) Stage inspection details
 - (iv) Various parameters to maintain control over the manufacturing
 - (v) Policy of disposal of rejected material and its record for documentary evidence
- System of documentation in respect of rejection at the customer and its warranty replacement should be available.

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Annexure -III (a)

STANDARD TECHNICAL REQUIREMENT FOR RE-ROLLERS

Minimum facility required for Approval of Rolling Mill

- (A) Rolling mill capable of rolling out min of
- (a) Wide flange beam / joist type WB-200 as per IS-808,1989
(b) Column section SC-150 as per IS-808-1989
(c) Channel section Size from MC-100 to MC-250 as per IS-808-1989
(d) Angle sections 50x50x6 to 90x90x8 as per IS-808-1989 for portals.
- (B) Production capacity of Rolling mill should be at least 1000 Ton per month
- (C) Suitable mobile cranes (min 5 Ton capacity) 2 nos
- (D) E.O.T Cranes -2 nos of minimum 5 Ton capacity
- (E) Cooling bed-suitable for around 1000 Ton per month rolling capacity
- (F) End cutting machine-1 no preferably electrically operated.
- (G) Heavy duty straightening machine for straightening of steel structures of above size.
- (H) Shearing machine -1 no.
- (I) Quality control & testing facility:
- (a) Full fledged quality Assurance & testing facility -with all necessary measuring instruments.
- (b) Computerized Universal Testing Machine (App. 40/60 Ton capacity)
- (c) Chemical testing facility for determination of chemical composition (for determining C,S,P, Mn & Si in steel).
- (d) Weighment facility.
- (J) (a) Suitable area for handing of raw material.
(b) Suitable area for stacking of finish goods.
- (K) Machine shop equipped with Lathe Machines, Power Hacksaw (band saw), Shaper etc. as required.
- (L) Firm should have valid BIS license for re-rolling of steel sections for which approval is sought for.

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Annexure -III (b)

**STANDARD TECHNICAL REQUIREMENT FOR FABRICATORS & GALVANIZERS OF ALL THE
STRUCTURES OF OHE, TSS INCLUDING SPS**

1. Sourcing of Raw Material

The Steel sections required for OHE, TSS, Structures & SPS etc shall only be procured from SAIL, TISCO, RINL and CORE approved re-rollers. Steel sections procured from other sources will not be accepted. List of CORE approved re-rollers is available on CORE's web site.

2. Galvanizing Plant

The minimum length of Zinc bath and associated tanks in galvanising plant shall be as under:

- (i) Zinc bath -7 m long or more
- (ii) Associated tanks -10 m long or more

(Pickling, Rinsing, Dichromate quenching)

Plant should be equipped with temperature control of Zinc bath.

3. Machinery & Plant required for fabrication

3.1 For fabrication at least following M&P should be available with the firm:

- (i) Gas cutter and Accessories -04 sets
- (ii) Hand grinders -06 sets
- (iii) Hack Saw (Powered) -01 set
- (iv) Welding machine (Cap 15 KVA or more) -08 sets
- (v) Drill Machines (Radial, Pillar Pedestal, Magnetic) -04 sets
- (vi) Safety Helmets, glasses(as per requirement of staff)
- (vii) Material handling host or crane (As per requirement)
- (viii) Mobile Crane 2 T Cap. -01 no.
- (ix) DG set of suitable Cap (50 KVA or more) -01 no.
- (x) Other facilities required for fabrication & galvanisation.
- (xi) Structure straightening machine.

3.2 M&P required for Galvanisation:

- (i) EOT Canes (3 to 5 Ton) -01 no. (min)

4.0 Testing facilities

Minimum required testing facilities

- (i) UTS machine 400/600 KN duly calibrated. -1 no.

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(ii) Chemical laboratory equipped with facilities to determine C,S,P,Mn & Si in Steel.

(iv) Others i.e. such as steel tape, vernier Caliper, Angle protractor, Radius gauge etc.

(v) Suitable means & apparatus for hammer test, knife test, Preece test and determination of mass of zinc coating by stripping method.

5.0 **General** Sufficient space required for storage of black steel and finished/galvanized structures must be available for smooth handling.

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Annexure -III (c)

Standard Technical Requirement for Fabricators and Galvanizers of Small Parts Steel (SPS).

1.0 Sourcing of Raw Material

The Steel sections required for SPS shall only be procured from SAIL, TISCO, RINL, CORE approved or BIS approved re-rollers. Steel sections procured from other sources will not be accepted. List of CORE approved re-rollers is available on web site.

2.0 Galvanizing Plant

Galvanizing bath and associated tanks of suitable size equipped with temperature control device.

3.0 Machinery & Plant required for Fabrication

- (i) Gas cutter - 02 sets
- (ii) Hand grinders - 03 sets
- (iii) Power Hack Saw - 01 set
- (iv) Welding sets (5 KVA) - 04 sets
- (v) Drill Machines (Radial, Pillar Pedestal, - 04 sets magnetic)
- (vi) Safety Helmets, glasses (as per requirement of staff)
- (vii) Material handling hoist or crane (As per requirement)
- (viii) Suitable Jigs & fixtures
- (ix) DG set of suitable Cap (50 KVA or more) - 01 no.
- (x) Other facilities required for fabrication
- (xi) Suitable device for material handling during Galvanization.

4.0 Testing facilities

- (i) Measuring instruments such as steel tape, vernier Caliper, Angle protractor, Radius gauge etc.
- (ii) Suitable means & apparatus for hammer test, knife test, measuring thickness of Zinc Coat (Elco meter), Preece test and determination of mass of zinc coating by stripping method.

5.0 General

Sufficient space required for storage of black Steel & finished/Galvanized structures must be available for smooth handling.

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Annexure - IV

CHAPTER-1

**Classification of Equipments, Fittings, Components etc with specifications used in
Railway Electrification.**

S. No.	Classification of Equipments, fittings & Components	Specifications
1.	Aluminium -Alloy die-cast fittings, connectors, components	IS:617-1994 (Grade 4600) ETI/OHE/49(9/95), A&C-1, 2, 3, 4 & 5
2.	Al-Alloy tubes and sections (Extruded)	IS:733-1983,IS:1285-2002, ETI/OHE/21(9/74)
3.	Al-Alloy tubular bus bars (Extruded)	Gr.91 E to IS:5082-1998 IS:2673-2002
4.	Al-Alloy rivets	IS:740-1977, IS:2907-1998
5.	(a) Al-Alloy stranded conductor (SPIDER) (b) ACSR stranded conductors	IS:398 (Pt I)-1996 IS:398 (Pt II)-1996
6.	Al-Bronze die-cast fittings/ components	IS:3091-1999 ETI/OHE/49(9/95), A&C-1, 2, 3, 4 & 5
7.	Al-Alloy Strip fittings/ components	Grade 52000 of IS:737-1986, ETI/OHE/49(9/95), A&C -1, 2, 3, 4 & 5
8.	Al-Copper bimetallic strip	ETI/OHE/55(4/90)
9.	Copper strip formed fittings, components etc	IS:1897-83 IS:191-1980 (Pt 1 to Pt 10) ETI/OHE/49(9/95) A&C Slip No. 1, 2, 3, 4 & 5
10.	Copper rivets, copper split pins	IS:2907-1998 IS:549-1974
11.	Copper-Cadmium stranded conductors	ETI/OHE/50(6/97), Rev-1(6/97)
12.	Annealed Copper stranded jumper wires	ETI/OHE/3 (2/94) Rev1.
13.	Copper dropper wires	IS:282-1982
14.	Enamelled steel No. plates	ETI/OHE/33 (8/85)
	Copper grooved contact wire	ETI/OHE/76(6/97) with A&C slip No. 1,2 &3
	Hard drawn stranded copper conductor (37/2.25mm)	TI/SPC/OHE/HDCSCF/0030

16.	Grey-Iron casting fittings/ components (CI Counter Weights)	IS:210-1993 FG-150 grade
17.	Galvanised steel fittings components other than forged or cast made out of steel flat,	IS:2062-1999 IS:1730-1989

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	strips, sheets etc.	ETI/OHE/49(9/95), A & C Slip No. 1, 2, 3, 4 & 5
18.	Galvanised MS bolts, nuts, washers etc	ETI/OHE/18 (4/84) Rev. 4 (Oct-02)
	Galvanized steel flexible traction bond	TI/SPC/OHE/GALSTB/0040 with A&C slip No. 1 (8/05)
19.	Malleable cast - iron fittings	IS:2108-1977 (Gr BM-340) & ETI/OHE/49(9/95), A & C Slip No. 1, 2, 3, 4 & 5
20.	Galvanised steel tubes for cantilever assembly	ETI/OHE/11(5/89) ETI/OHE/13(4/84) with A&C slip no. 1,2 & 3
	Galvanization of steel structure	ETI/OHE/13 (4/84) with A&C slip no. 1,2 & 3
21.	Steel & Stainless-steel bolts Nuts and washers.	ETI/OHE/18 (4/84) Rev. 5 (Nov.'06)
22.	Steel tubes for counter- weight guide-tubes	IS:1239-2004 (Pt I). ETI/OHE/11(5/89)& IS:2062-1999 (Gr A) ETI/OHE/13(4/84) Rev3 (Apr-90)
23.	Tin Bronze castings	IS:306-1983 ETI/OHE/49(9/95), A & C Slip No. 1, 2, 3, 4 & 5
24.	Copper bus bar	RE/30/OHE/5(11/60) IS:613-2000
25.	Retro Reflective Structures Number plates.	ETI/OHE/33A (12/97) Rev-6
26.	Section Insulator Assly.	ETI/OHE/27(8/84) Rev1 (Oct-92)
27.	Discharge rod/Earthing pole Assly of 25 Ac Traction	ETI/OHE/51(9/87) Rev. 1. (Oct-92)
28.	Bimetallic strip (Aluminum- Copper)	ETI/OHE/55(4/90) – (Apr-90)
29.	25 KV A.C-Traction Single Pole & Double pole isolators 1250,1600 & 3150 Amps	ETI/OHE/16(1/94) Rev.2 (Mar-04)
30.	Single Phase Oil Filled 25 KV, CT. Ratio 1500-750/5A (for heavy duty) & 1000/500/5A, (for general purpose)	ETI/PSI/90 (6/95) with A&C slip no. 1 to 7
31.	Current transformer (i) 220KV, 200-100/5 (ii) 132 KV, 400-200/5 (iii) 110 KV, 400-200/5 (iv) 66 KV, 800-400/5	ETI/PSI/117(7/88) with A&C slip no. 1 to 8
32.	Potential transformer for 220KV, 132KV, 110KV, 60KV and 25KV.	TI/SPC/PSI/PTS/0990 with A&C slip no. 1 to 4
33.	Auxiliary transformer 5KVA, 10KVA, 25KVA & 50KVA oil type.	ETI/PSI/15 (8/2003).
34.	D.O. fuse switch 25 KV	ETI/PSI/14 (01/86) Rev1.(Apr87)
35.	Automatic CLS control panel for signaling supply in 25 KV AC Traction System.	TI/SPC/PSI/CLS/0020 with A&C slip-1 to 4
36.	Metal oxide gapless type lightning arrester for use on 25 KV side & Rly. Traction	TI/SPC/PSI/MOGLA/0100 (07/10)

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	substation and Switching Station.	
37.	Metal oxide gapless lightning Arrestor for use on 220/132/110/66KV side of Rly AC Traction Substation.	ETI/PSI/137(8/89) with A&C slip no. 1 to 7
38.	LT Distribution Panel (AC & DC)	ETI/PSI/29 (12/79) Rev-1 (Feb'93)
39.	Galvanised Steel Wire	ETI/OHE/36 (12/73) May 98
40.	Double Pole & Triple Pole Isolators 245 KV/145 KV/123 KV/72.5 KV	ETI/PSI/122 (3/89) with A&C slip No. 1 (4/90)
41.	Gas Chromatograph	ETI/PSI/105 (7/93)

NOTE : All the RDSO specifications and IS are to be referred to the latest edition.

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ANNEXURE - V

LIST OF OHE / PSI CONTRACTORS

DELETED

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Annexure-VI

Category wise list of approved Manufactures & suppliers of OHE/PSI fittings/equipments etc.

Various approved manufacturers are broadly classified in four categories:-

A. Al Br./Al. Alloy fittings & Copper strips etc.

Category	Name of approved Vendors	Remarks
Al. Br./Al. Alloy Fittings & Copper Strips etc.	10(NMPL, SEC, TLP, ERF, SBI, KF, EW UPE, SEW & PEC) & CSPL (for Cu. Strips only)	
Al. Bus tube & BFB steady arm	3 (Hindalco, Jindal & Sudal)	
Section Insulator Assembly (w/o section insulator)	2 (Khatri, Kamghar)	Source to be developed

B. CT, PT, CLS Panel, Control Cables, Isolators & LAs

Current Transformers from 25 KV-220 KV & 25 KV Potential Transformer (Type- I & II)	5 (Vishal, JSL, Lamco, Telk & Vidhuyt)	
(i) Colour light signaling panel, (ii) 230 V ACDB & 110 V DCDB	(i) 5 (Japs, Matrix, 3Q, Suntron, System & Services) (ii) 3 (Matrix, Suntron & 3Q)	
Control Cables for switching & sub-station	10 (Ajanta, Vinicab, Sight & Sound & Imperial, Orient, Universal, KEI, Alpha, Govind, SAM)	
Isolators (i) 25 KV SP/DP (ii) 132 KV DP & TP	(i) 6 (TE, KTI, ABEC, SBI, PEC & SAI) (ii) 2 (TE, KTI)	
Lightning Arrestor 42 to 198 KV	2 (Lamco, Oblum)	

C. Fe (CI, Forged & MCI,) Fittings/Components, SS/GI fasteners & SPS

Cast Iron Counter Weights	8 (PC, PCPL, AGV, NSSA, GSC, ICC, Khatri, Gupta)	
Forged fittings	3 (KF & TLP, CEC)	Source to be developed
Malleable C.I. fittings	4 (BMC, HMF, VML & TMI)	
SS/GI fasteners	15 (ASP, Deepak, AF, FR, Nexo Shreeji, KF, UPE, Kundan, RCE, NLE, AVF, SKL, Pioneer & Anand)	
(Galvanized Fe fittings)	6 (CEC, C&C, TLP, KF, Metalfabs & KSE)	

D. Miscellaneous items (D/Rod & Operating Pole, ERW Steel Tubes ,Gas Chromatograph& OHE Structure No. Plate/Caution Board)

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	(i) Discharge / Earthing Rod	(i) 4 (Hitronics, International Motors, UEE & PEC)	
	(ii) DO fuse assembly & Operating pole	(ii) 5 (TE, PEC, KTI, SBI & ABEC)	
	ERW steel tube	5 (Indus, Jindal Pipes, Utkarsh, Vishal Pipe, Advance steel)	Source to be developed
	Gas Chromatograph for DGA test of transformer oil	CIC	
	OHE structure Number Plates & Caution Board Retro Reflective Sheet Vitreous Enameled	(i) 3 (ANC, CBM & Reget) (ii) 4 (Kaveri, Premier, RKE & Surya)	

The renewal/approval cases of the above 4 categories will only be processed in respective Qtrs. of the year as follows:-

Category	will be Processed in the Qtr.	Remarks
	JAN to MARCH	Hence forth onwards in all renewal/approval cases, validity of renewal/approval will be up to the end of each qtr. of respective categories.
	APRIL to JUNE	
	JULY to SEPT.	
	OCT. to DEC.	
