

CHAPTER - XXVIII

DRAWINGS AND SPECIFICATIONS

SECTION A

STANDARD DRAWINGS

28.1 INDIAN RAILWAY STANDARD DRAWINGS

- (a) Indian Railway Standard Drawings designated by the code word IRS have been issued by Director General, Research Designs and Standards Organisation, Lucknow. The telecommunication drawings are marked IRS (TC) - 'TC' stands for 'Telecommunication'. The particulars of the drawings and their reference numbers are detailed in an Index of Indian Railway Standard Signal and Telecommunication Drawings including advanced drawings IRS (TC) issued by Research Designs and Standards Organisation. This index shows all the IRS (TC) drawings arranged alphabetically as well as serially in the order of their numbers. Each drawing number is either prefixed with the letters 'TCA' or letters 'TC'.

(Note - 'TCA' stands for a telecommunication equipment assembly and 'TC' stands for a part of a telecommunication equipment assembly.)

- (b) New designs and drawings which are accepted for adoption as standards have the word 'Advance' suffixed to their number, e.g. TC.50 (Advance) pending their final adoption as Indian Railway Standard Drawing. For such drawings the manufacturers shall have a sample approved by the purchaser before undertaking the bulk manufacture.

28.2 Supply of drawings

- (a) Standard drawings - A set of all IRS (TC) drawings must be supplied to each Sr.DSTE, ASTE and to each Inspector as required. IRS drawings should not be traced by the Railways. Copies should be obtained from the Director General (S&T), Research Designs and Standards Organisation, Ministry of Railways, Lucknow.
- (b) In addition to the standard drawings, each Sr.DSTE/DSTE office must have editable (preferably in digitised form) copies of the following :
- i. Jurisdictions of maintenance staff, telecommunication equipment maintenance staff and signal and interlocking supervisors.
 - ii. Charts for maintenance staff of underground telecommunication cables and OFC.
 - iii. Charts showing distribution of section and deputy control telephones.

- iv. Charts of underground cables for local telephone exchanges.
- v. Telecommunication cable route plan of sections.
- vi. A chart indicating the exact location of the emergency telephone socket post and the jurisdiction of maintenance staff.
- vii. Route plan /locations of VHF stations.
- viii. Route plan of train radio or wireless communication system, if any.
- ix. Optic fibre and quad cable route plan

SECTION B

SPECIFICATIONS

28.3 INDIAN RAILWAY STANDARD SPECIFICATIONS: Approved specifications of Telecom directorate are available on RDSO website. Specifications for material and equipment used for telecommunication purposes have been drawn out by Research Designs and Standard Organisation, Ministry of Railways, Lucknow and are titled 'Indian Railway Standard Specifications'. These specifications are issued under fixed serial number, e.g., TC.12-66 : the letter TC denoting 'Telecommunication', the number '12' representing the serial number of the specification and the final number '66' indicating the year of original adoption as standard, or in the case of major revision, the year of last revision (a case of reissue) .Any minor amendment is done and indicated as Amd1, Amd2 and so on until the Specification is revised when all these amendments are merged into main body of the Specification as revision 1 and so on.

However this is done in two stages as described below;

New Draft specifications are prepared based on directives from Railway Board/requirement of Zonal Railways related to introduction of new technology/product identified during MSG/TCSC/other review meetings. New specifications as RDSO/SPN is prepared by Dir/JD RDSO by taking into account other related specifications and comments/ feedback from railways and RDSO /SPN number is given by concerned JE/SSE/RDSO after entering into register No. TC-R-0008. This specification is circulated to customer and field inspecting units for comment by Dir/JD. RDSO/SPN along with comments of customers is discussed in Telecom Standard Committee (TCSC) meeting. Recommendations made by TCSC are put up to the Railway board for approval. After approval from Railway Board, RDSO/SPN is accordingly modified/ updated & issued for use by Railways/other users. Copies of this specification are sent to Approved Vendors, field Inspection units and Railways,. The specifications are reviewed from time to time based on experience/ feedback from railways and/ or manufacturers and are updated as necessary. When sufficient feedback is received from fields during product stabilisation phase after its installation in fields for a reasonable period of time and technological growth in product/specification is also stabilised, RDSO/SPN is given IRS number after making entry into register.

28.4 Other specifications - Specifications issued by Telecommunication Engineering Center (TEC) or the British Standards Institution and the Indian Standards Institution have also been adopted for items of equipment used for telecommunication purposes for which no IRS specification exists.

28.5 Supply of specifications - Each Sr.DSTE office should have a copy of all Indian Railway Standard (Telecommunication) specifications. Copies of such British Standard and Indian Standard Specifications that are generally required may also be kept.

28.6 Availability

- i. Indian Railway Standard Specifications are obtainable from RDSO's Railnet and Internet websites.
- ii. British standard and Indian Standard Specification are obtainable from the Director, Bureau of Indian Standard, Manak Bhavan, 9-Bahadur Shah Jafar Marg, New Delhi - 110 002.

SECTION C

MAINTENANCE OF DRAWINGS AND SPECIFICATIONS

28.7 Folders - Standard drawing and specifications should be maintained in a block form separately bound in suitable folders. New drawings and specifications should on receipt be promptly added to the respective folders. Obsolete or cancelled drawings and specifications must be destroyed. Torn or defaced drawings should be replaced.

28.8 Responsibility.

(a) Each Sr. Section Engineer shall be responsible for :

- i. The standard drawings are properly maintained and kept up to date in respect of new drawings issued and old ones cancelled.
- ii. The staff working under him understand and carry out work in accordance with standard drawings. Any mistake in drawings that may come to his notice should be promptly intimated to the Sr. DSTE for arranging correction.

(b) Each Sr. DSTE shall be responsible to see that:

- i. The standard drawings and specifications in his custody are kept upto date and that the obsolete and cancelled ones are destroyed.
- ii. All SSEs /JEs keep their standard drawings upto date.
- iii. The staff properly understand and carry out work in accordance with standard drawing.
- iv. Any mistake in the standard drawings and specification, which comes to his notice, is promptly intimated to the PCSTE for arranging correction.

SECTION D

ADDENDA AND CORRIGENDA AND ACCOUNTAL

28.9 Addenda and Corrigenda

- (a) British Standard Specifications - British Standard Year Book is published by the British Standards Institution, Victoria Street, London SW1. It contains a list of upto date British Standards in numerical order and also gives a brief description of each.
- (b) Indian Standard Specifications - The ISI Hand Book of publications contains upto date list of Indian Standards and is available from the Director, Bureau of Indian Standard, Bahadur Shah Jafar Marg, New Delhi-110 002.
- (c) Standard Drawings - Railway should publish list of standard drawings for the information of the staff. Addenda and corrigenda slips should be issued to these lists regularly once in six months incorporating particulars of drawings issued, modified or cancelled.

28.10 Accountal of Standard Drawings and Specifications -

All Indian Railway Standard Drawings and specifications must be accounted for in the same way as other books of reference.

SECTION E

INDIAN RAILWAY STANDARD EQUIPMENT

28.11 Indian Railway Standard Designs.

- (a) Where Indian Railway Standard Designs exist, they should invariably be followed for all new works and no modification of such designs should be introduced without the prior approval of the Railway Board.
- (b) Defects, if any, in standard designs noticed under service conditions or modifications, which appear to be desirable should be brought to the notice of the Director General, Research Designs and Standards Organisation, Ministry of Railway, Lucknow, for examination in consultation with the telecommunication standard committee.

28.12 Requisitioning of materials.

- (a) All materials and equipment must normally be indented in accordance with Indian Railway Standard Drawings and Specifications. Indian Standard Specifications, TEC or British Standard Specification should only be quoted for items for which an IRS Specification does not exist.
- (b) No alteration or modification to or divergence from IRS drawings shall be permitted without the specific sanction in writing of the Director General, Research, Designs and Standards Organisation, Ministry of Railways, Lucknow. In the case of deviations having been decided upon before placing an order, the indenting authority concerned shall quote such sanction in the order. When deviations are decided upon or desired after the placing of an order, the necessary sanction shall be obtained in writing by the Inspectorate concerned in consultation with the indenting authority.
- (c) It shall be the responsibility of the SrDSTE/DyCSTE, DSTE, ASTE & SSE to see that reference of correct drawings and specifications is given for all materials indented.