

INDIAN RAILWAYS TECHNICAL SUPERVISORS ASSOCIATION

(Estd. 1965, Regd. No.1329, Website <http://www.irtsa.net>)

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**Additional Member (Staff) &
Chairman CRC (Cadre Restructuring Committee),
Railway Board,
Rail Bhavan, New Delhi.**

Dear Sir,

**Subject: Cadre Restructuring of Group-C categories
– Case of Design & Drawing Engineers (JEs & SSEs)**

Reference: i) Railway Board letter No. PC-VI/2008/CRC/1, Dated 09.11.2009
ii) RBE No177.2003, No.PC-III/2003/CRC/6 dated 09/10/2003.
iii) RBE No. 5/2004, No. PC-III/2003/CRC/6 dated 06/01/2004.
iv) Department of Expenditure OM No. File No.2(15)/E.III/99.

We submit as under for your kind and favourable consideration and that of the CRC (*Cadre Restructuring Committee*) in reference to the letters cited above:

- Design & Drawing Engineers (JE & SSE Design / Drawing) working in Mechanical, Electrical, Civil Engineering and Signaling Departments require high degree of Technical expertise, intelligence and wisdom; and are responsible for initiation of new or improved designs of Rolling Stock, Locomotives, Jigs, Tools, Systems, Equipments and innumerable Fixed & mobile Assets on the Railways.
- Their duty starts right from survey to continual improvement in the system with out any boundaries. Duties and responsibilities of Design & Drawing Engineers which includes many other duties as well – (as explained in Annexure-I).
- Indian Railways has been continuously upgrading its technology in train operations and maintenance, not only to provide safe and efficient services at the minimum cost but also to compete with other modes of travel including road transport and low budget airlines etc. Drawing & Design Engineers (JE & SSE Design / Drawing) play a vital role for this purpose for continuous induction of new technology and improvements are made & initiated by them continuously in the existing systems & technology.
- In the cadre of Design & Drawing Engineers (with the entry qualification of Diploma in Engineering at JE level with one and half years on the job training; and Graduate in Engineering at SSE level with one year on the job training - only two Grade Pays are available, ie. JEs in Rs.4200 Grade pay and SSE in Rs.4600 Grade Pay.
- Existing Cadre Structure for Design & Drawing engineers**

As per RBE No. 5/2004 No. PC-III/2003/CRC/6, dated 06/01/2004 referred above percentage distribution for is as under for JE & SSE Design / Drawing which is totally inadequate to meet with their job requirements & responsibilities:

Designation	Pre-Revised Scale Rs.	Existing Percentage	Revised Grade Pay	Percentage Distribution after merger
SSE / SE Drawing / Design	7450-11500	15%	Rs.4600	45%
	6500-10500	30%	Rs.4600	
JE-I / JE-II Drawing / Design	5500-9000	25%	Rs.4200	55%
	5000-8000	30%	Rs.4200	

6. DISCRIMINATION IN CADRE RESTRUCTURING FROM OTHER INSPECTORIAL STAFF

Design Supervisors have much lesser % age of higher grade posts in comparison to other Inspectorial categories (as apparent from the following table)

	Traffic Controllers		Loco running Supervisors		Commercial Inspectors		CMT	
	Prior to merger	After merger	Prior to merger	After merger	Prior to merger	After merger	Prior to merger	After merger
7450-11500	37%	85%	65%	100%	30%	62%	37%	70%
6500-10500	48%		35%		32%		33%	
5500-9000	15%	15%			13%	38%	20%	30%
5000-8000					25%		10%	

8. QUANTUM OF DIRECT RECRUITMENT AT PRE-MERGER LEVEL:-

a) 20 % posts of SE (Rs.6500-10500) were filled up through direct recruitment of Engineering Graduates out of a total of 30% posts of Design & Drawing Engineer cadre in this scale.

b) Pay Scales of SE (Rs.6500-1050) & SSE (RS.7450-11500) have been merged after Sixth Pay Commission. The total quantum of direct recruitment will increase on the combined strength SE & SSE if the percentage of Direct Recruitment is retained at the existing level of 20%. This will adversely affect the avenues of promotion of the existing staff (JE) in the lower scales. It is therefore important to ensure that:

Total number of posts filled up through direct recruitment may not be increased and the total quantum of Direct Recruitment should not exceed the pre-SCPC level so that existing Promotional chances for the serving employees may not get reduced for promotion to higher grades & LDCE.

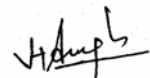
9. Need for combined Cadre Restructuring of Group A, B & C” to upgrade adequate number of Group C posts to Group A & B – to fully meet with the job requirements of the posts of JE & SSE of Design and Drawing cadre on Railways – Annexure - II

10. It is, therefore, requested that:

- % age distribution of Design & Drawing Cadre may please be made uniform on par with Technical Supervisors Cadre.
- % age of Direct Recruitment of Engineering Graduates in the Design & Drawing Cadre may please be reduced in order to maintain the total quantum direct induction at Pre-Sixth CPC level – depending on the overall redistribution of their posts.
- Cadre of Design & Drawing Engineers may please be restructured as

Designation	Grade Pay Rs.	Present Cadre Distribution	Proposed Cadre Distribution
SSE & SE (Drawing / Design)	4600	15 + 30 = 45%	85%
JE-I & II (Drawing / Design)	4200	25 + 30 = 55%	15%

Yours faithfully,



(Harchandan Singh),
General Secretary, IRTSA

Copy for information & favourable consideration to:

- Shri A. K. Nigam, Advisor (IR) & Member CRC, Railway Board, New Delhi.
- Advisor Finance & Member CRC, Railway Board, New Delhi
- Executive Director Pay Commission- I & Member CRC, Railway Board, New Delhi.
- Executive Director Pay Commission - II & Member CRC, Railway Board, New Delhi.
- EDE (N) & Member CRC , Railway Board, New Delhi.
- Secretary (Establishment), Railway Board, New Delhi.

DUTIES AND RESPONSIBILITIES OF DESIGN & DRAWING ENGINEERS

The duties and responsibilities of the SSE/JE working in this branch are sensitive in nature involving intense mental application and planning and estimating area. They have to process vital data taking guideline from RDSO, considering moving dimensions and safety related sensitive dimensions and they have to plan their work starting from designing on their own in accordance to the master plan given by the RDSO. Actually, they have to design themselves the components required for the Rolling Stock viz. coaches, locos as well as Civil Engineering areas like track laying, maintenance, inspection, bridges and also in construction activities.

Though they are small in numbers when compared to the strength of the Railway men, their contributions are in no way insignificant. This simple concept about the category may kindly be noted by Cadre Restructure Committee and rendered justice in the form of suitable up-gradation.

I. SPECIFIC DUTIES OF DRAWING & DESIGN ENGINEERS:

1. Preparation of layout drawing for Sheds, Shops and Sick Lines for modification/extension.
2. Issue of Technical Standing Orders, Procedure Orders, Maintenance Orders, Alteration Sheets, Trail Sheets and following action on them.
3. Preparation of technical notes, graphs, charts etc., for Loco Standards Committee, Carriage & Wagon Committee, Diesel Group meetings, Corrosion Committee meetings, etc., investigation of derailment and engine failures and their remedial measures.
4. Selection of alternative material and specification for smooth and economical operation.
5. Suggestion and preparation of Drawing for anti-pilferage of Rolling Stock components.
6. Provision of safety devices for Rolling Stock to avoid accidents.
7. Fixing permissible clearances for meeting components and condemning limits thereof pertaining to Non-IRS and BESA locomotives.
8. To monitor trial of components in connection with procurement.
9. Visit Shops, Sheds, Sick Lines, etc. for collecting data to enable the issue of modification to components of Rolling stock and guide the technical staff.
10. Study & prepare report for standardization / rationalization of thousands of components of Rolling stock.
11. Discuss technical problems with officers in day to day working and difficulties faced by the Shops, Sheds and prepare drawings thereof.
12. Training of Apprentices in Drawing Sections.
13. Modification of Rolling stock components and maintain its up-to-date records.
14. Drawing section of Mechanical Workshops have different cells and JE/ SSE supervise these different cells constituting the above nature of work.

II. IMPORTANT DUTIES COMMON WITH THEIR COUNTER PARTS IN PRODUCTION UNITS & WORK SHOPS:

1. General administration of Technical & Ministerial staff and supervision in the Drawing B.C. preparing the assembly and detail part drawings for manufacture of components.
2. Developments of indigenous components for import substitution and supervision, preparation of detailed working drawings from consulting Engineers and of Railways Design and standard Organisations Line Drawings and from samples supplied by the Shops and Sheds.
3. Co-ordination with Shops during manufacture of components and evolution of new methods for their manufacture and also handling correspondence with RDSO and Railway Board/Other Zonal Railways on Technical matters.
4. Compilation and maintenance of Technical Data/Drawings for thousands of items.
5. Supervision and supply of up to date drawings to Workshops, Sheds and to controller of stores for manufacture/procurement of material.
6. Technical scrutiny of tender papers for procurement of Rolling Stock components and inspection of materials as per specification.
7. Estimation of Railway materials and compilation of Rolling Stock components.

III. DUTIES & RESPONSIBILITIES OF MECHANICAL & ELECTRICAL ENGINEERING DESIGN & DRAWINGS IN PRODUCTION UNITS

1. Designing of critical sub systems for coaches & locomotives.
2. Making layouts and installation drawings & its assembly/component drawings
3. Checking the interfacing of sub assemblies
4. Prepared developed/coordinated view for CNC programming
5. Calculations of manufacturing tolerances and allowances before bulk production
6. Balancing calculations & optimization
7. Country wide components inspection of bought out items before bulk manufacturing
8. Material chasing for prototype manufacturing of coaches and locomotives
9. Pilot sample checking at workshop and vendor premises
10. Innovation of alternate design
11. Vendor assessment & development
12. Quality checking / inspection at workshop/vendor
13. Squeeze testing of newly designed coaches & locomotives
14. Running trials of newly designed coaches
15. Investigation of defects in running coaches
16. Supervision of prototype manufacturing of coaches and locomotives
17. Assistance to vendor for developing the better quality of product
18. Preparation of specifications.
19. Vehicle dynamics analysis and FEM analysis for newly designed coaches & locomotives
20. Fluid dynamics analysis for critical sub systems
21. Follow-up for after sale service of coaches & locomotives

IV. GENERAL DUTIES OF DRAWING & DESIGN CADRE CIVIL, MECHANICAL, ELECTRICAL AND S & T DEPARTMENT [INCLUDING WORKSHOPS SHOPS & PRODUCTION UNITS]

The role of the drawing staff as such is yet to be stipulated. Apart from carrying out all technical works of highest precision including diagnostic study, all sundry & miscellaneous works like clerical, typing, binding, protocol etc. are being practically forced upon this unfortunate few.

It has to be noted that transforming a concept into reality is made possible only with the presence of these personnel. An idea is given final shape with the help of data, 2D & 3D sketches, simulated models, technical analysis, economic considerations, on site feasibility study and the like. All the shortfalls are eliminated and shaping into reality is made possible. Planning, Design, Development, Trial study, Analysis of failures, Review of works, incorporating regular technological advancements etc. are also being carried out.

The works listed / assigned requires a high level of technical acumen, forecasting ability and problem solving ability. This job requires high technical qualifications along with managerial skills. This point has been ignored all along and merely for convenience this Cadre has been placed with other general pay scales.

A few of the jobs currently handled are as below:

- ⇒ Technical Evaluation.
- ⇒ Engineering Codal Provisions.
- ⇒ Railway's Codal Provisions.
- ⇒ Survey (*Reconnaissance, Preliminary & Final location*)
- ⇒ Collection of Data.
- ⇒ Planning.
- ⇒ Design
- ⇒ Estimation
- ⇒ Works management.
- ⇒ Feasibility Study.
- ⇒ Economy Viability Study.
- ⇒ Developmental works.
- ⇒ Preparation of General arrangement & detailed drawings related to –

- New projects and proposals
- Modification and Restoration
- Civil & Construction works
- Track layout.
- Track Maintenance
- Electrical System
- Signaling System
- Network
- Radio Signaling
- Maintenance of M&P
- Water Supply & Sanitation
- Accident & Prevention
- PERT & CPM charts.
- Rain water harvesting.
- Index section & plans.
- ⇒ Interaction with Field Engineers.
- ⇒ Exploring alternative methodology.
- ⇒ Thorough study of accidents and preventive measures.
- ⇒ Conducting trials regarding technical feasibility and economic viability.
- ⇒ Liaison with accounts for vetting.
- ⇒ Track monitoring works like OMS, Amsler, Oscillograph.
- ⇒ Processing to obtain CRS's sanction for works.
- ⇒ Processing to obtain Safety certificate from CRS for running of trains.
- ⇒ Preparation of specifications for all works.
- ⇒ Preparation of Work Instructions.
- ⇒ Job Analysis.
- ⇒ Asset Management & Development.
- ⇒ Preparation of system maps.
- ⇒ Preparation of special maps.
- ⇒ Technical assistance to special Committee.
- ⇒ Looking into safety aspect.
- ⇒ Preparing of technical standing order.
- ⇒ Preparation and analysis of technical reports.
- ⇒ Providing in-house training.
- ⇒ Workshop activities.
- ⇒ Preparation of Track Machine Deployment Charts.
- ⇒ Tender related activities.
- ⇒ Mooting out new proposals.

Non-technical & out of scope works.

- ⇒ Computer programming.
- ⇒ Creating & maintaining Database.
- ⇒ MIS data.
- ⇒ Upkeep of computers.
- ⇒ Progress of Works.
- ⇒ Preparation of regular and special reports and minutes of meetings.
- ⇒ Assisting Hon. MLA / MP Committee & members.
- ⇒ Taking part in preparation of books from data entry to Dispatch.
- ⇒ All sundry works assigned by the Administration.

**V. DUTIES & RESPONSIBILITIES OF DESIGN & DRAWING ENGINEERS OF
CIVIL ENGINEERING**

Surveying

- a. Reconnaissance
- b. Technical feasibility
- c. Final location
- d. Acquisition of land
- e. Curve setting
- f. Location of station buildings
- g. Alignment of pipelines
- h. Flood investigation
- i. Location of Bridges

Preparation of plans

- a. Building
- b. Track
- c. OMS charts
- d. Yard
- e. Layouts
- f. Land
- g. W & S
- h. Hydrants
- i. GAD
- j. Temporary Arrangement
- k. PCS/RCC/Steel bridge
- l. FOB
- m. ROB/RUB

Structural designs

- a. Structure
- b. OHT
- c. Bridge
- d. Culvert
- e. Track stress
- f. Curves
- g. PSC
- h. Checking of 3rd party designs

Estimating

- a. Rough cost estimate
- b. Detailed estimate
- c. Completion estimate
- d. Urgency certificate
- e. BCI

Tendering

- a. Preparation
- b. Scrutiny
- c. Comparative statement
- d. TC proceedings
- e. Accounts vetting
- f. Re tender
- g. Risk tender

Completion plans

- a. Plans
- b. Estimate
- c. Documents

Accounts concurrence

- a. Estimate
- b. Works programme
- c. Variation statement
- d. Vitiation statement

Collecting site details

- a. Bridge data
- b. Building data
- c. Track data
- d. Structure along track
- e. FOB
- f. ROB / RUB

TRC

- a. Accompanying
- b. Checking
- c. Charts maintenance

M book

- a. Measurement check
- b. Cement schedule
- c. Steel schedule
- d. Certification of quantities

Works programme

Preparation of charts, booklets

- a. MCDO
- b. PCDO
- c. VIP visit
- d. Detailed Project Report

Land management

- a. Maintenance of land plans
- b. Removal of encroachments
- c. Demarcation of land boundaries
- d. Licensing & Leasing
- e. Way leave facilities
- f. Rent rules

Asset management

BSR

Data storage

Rate analysis

CRS sanctions

Safety certificate

Accidents & breaches

- a. Collection of site details
- b. Preparation of drawings
- c. Attending enquiry with relevant data

Instrumentation

Track machines

ODC

Interaction with State Govt.

Need for Combined Cadre Restructuring of Group A, B and C on the Railways:

i) There has been no upgrading or Cadre Restructuring of the Apex Grade of Group C ever on the Railways – (either in 1979, 1984, 1993 or 2003). Consequently there is extreme stagnancy & resultant frustration amongst the incumbents of the Apex Grade ‘C’ – especially amongst the Technical Supervisors on the Railways.

ii) There has been substantial increase in the duties and responsibilities over the years of the Design & Drawing JEs & SSEs due to modernisation and advancement of technology on the Railways – but this has not been recognised or remunerated in any manner whatsoever – especially in the case of Senior Section Engineers.

iii) Not even 1% of Design & Drawing cadre – (entering with Diploma or Degree in Engineering) - reach Group B level and only a small fraction thereof reach Group A level – due to very meager number of Posts in Group A & B vis-à-vis Group C and non-implementation of DOPs orders regarding Classification of Posts – issued by the last 4 Pay Commissions on the Railways. Large majority of Design & Drawing Engineers (with Diploma in Engineering at JE level and with Graduation in Engineering at SSE level) do not get any promotion except in a very few cases and that too at the fag end of their careers. Even after acquiring long years of experience and expertise they remain and mostly retire in the Supervisory cadre itself.

iv) Even though the terms of reference of the CRC are regarding Cadre Restructuring of Group-C, but the Ministry of Finance (vide point vii of OM referred at SL.No.4 above) allows the deviation from the same after consultation with it.

v) In the new scenario of modern liberalized economy and management requirements thereof, it is requested that Combined “Cadre Restructuring” of posts in Group ‘A’, ‘B’ & ‘C’ may please be considered to upgrade adequate number of Group C posts to Group A & B – to fully meet with the job requirements of the posts of Technical Supervisors on Railways – keeping in view the following facts:

vi) For the Design & Drawing Engineers of Engineering, Mechanical, Electrical, Signal & Telecommunications only 4274 Group-B posts are available for 5,72,191 Group-C employees, i.e. just 0.74% posts are available in Group-B. After abolition & Up-gradation of Group-D to Group-C the availability of Group-B posts will further dip to very meager i.e. just 0.47% - as indicated in the Tables below:

Analysis of Staff Strength in the Technical departments of IR as on 31st March 2009

	Gr-A	Gr-B	Gr-C	Gr-D	Total	% Gr-A	% Gr-B	% Gr-C	% Gr-D
Engineering	1203	1565	144961	197132	344861	0.35%	0.45%	42.03%	57.16%
S&T	484	756	39781	22394	63415	0.76%	1.19%	62.73%	35.31%
Mechanical	647	875	253487	64326	319335	0.20%	0.27%	79.38%	20.14%
Electrical	592	640	117836	34219	153287	0.39%	0.42%	76.87%	22.32%
Stores	408	438	16126	12070	29042	1.40%	1.51%	55.53%	41.56%
Total	3334	4274	572191	318071	909940	0.37%	0.47%	62.88%	34.96%

(Ref: Indian Railways Annual Statistical Statement for the year 2008-09)

Staff Strength in Technical Depts. of Rlys. Subsequent to up-gradation of Group-D to Group-C

	Group-A	Group-B	Group-C&D	Total	% Gr-A	% Gr-B	% Gr-C&D
Engineering	1203	1565	342093	344861	0.35	0.45	99.20
S&T	484	756	62175	63415	0.76	1.19	98.04
Mechanical	647	875	317813	319335	0.20	0.27	99.52
Electrical	592	640	152055	153287	0.39	0.42	99.20
Stores	408	438	28196	29042	1.40	1.51	97.09
Total	3334	4274	902332	909940	0.37	0.47	99.16

vii) In spite of higher nature of duties and responsibilities on account of requirements of Safety & modernisation, Railways have the lowest %age of Gazetted posts in Group A & B vis-à-vis Group C & D - in comparison to all other Departments of Central Government.

Ministry / Department	%Group A	% Group B	% Group C	% Group D
All India Avg. % age of Gr. A & B -vs- C & D	2.8%	5.3 %	64.2%	27.6 %
Railways % age of Group A, B-vs- C & D	0.6 %	0.5 %	61.9 %	37.0 %
All India Average % age of Gr. A, B -vs- Gr. C	3.9 %	7.3 %	88.8 %	Group 'D' Not counted
Railways % age of Group A, B -vs- Gr. C	0.9 %	0.8 %	98.3 %	Group 'D' Not counted

viii) In the present scenario of huge investments and fast & prompt completion of new projects, more number of posts in the Group-A & B are essentially required, so that decision making and accountability can be broadened in the administrative hierarchy.

ix) Sixth Central Pay Commission in its recommendations and thereafter the Government has made the right decision of abolishing the Group-D posts and upgrading them as Group-C. But similar functional and career improvements (made at the bottom level) have not been carried over to the middle tier in the apex Group-C and Group-B.

x) It is therefore requested that the combined cadre strength of Technical Departments including all posts in Group- A, B and C on Indian Railways may please be Restructured as under — so as to be comparable with - if not higher than - the All India Average % age of Group A, B & C of Central Government employees in other Departments:

PROPOSED DISTRIBUTION OF POSTS ON RAILWAYS				
AS PER ALL INDIA AVERAGE %age DISTRIBUTION OF POSTS UNDER CENTRAL GOVERNMENT				
Group of Posts	Existing % age Distribution of Posts <u>On Railways *</u> <u>After the upgradation of Gr-D to Gr-C</u>	Proposed % age Distribution in Technical Departments on Railways As per All India Average * After the upgradation of Gr-D to Gr-C	Existing % age Distribution of Posts <u>On Railways*</u> <u>Without counting Existing Group D</u>	Proposed % age Distribution in Technical Departments on Railways <u>As per All India Average *</u> <u>Without counting Existing Group D</u>
Group A	0.6%	2.8%	0.9%	3.9% or 4%
Group B	0.5%	5.4%	0.8%	7.3% or 7.5%
Group C	98.9%	91.8%	98.3%	88.8% or 88.5%