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भारत सरकार Government of India

रेल मंत्रालय Ministry of Railways

(रेलवे बोर्ड Railway Board)

Compendium of Instructions

on

AC & TL Coaches

January, 2010

Director Electrical Engineering (G)
Railway Board

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

COMPENDIUM OF INSTRUCTIONS ON AC & TL COACHES

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Preface

A gigantic organization like Railways spread over the country has a complex organizational structure with multilevel functioning. Availability of guidelines and instructions pertaining to any function involving operation and maintenance, in a consolidated form is thus vital for ensuring uniformity in working system and practices to achieve optimum productivity.

The **Compendium of Instructions** regarding policy and other guidelines pertaining to operation and maintenance of Air conditioning & Train Lighting of coaches was last issued in March, 2004. The changing focus of Indian Railways towards Safety, Passenger Comfort and satisfaction has led to re-orientation in approach towards reliability, availability and optimal productivity of assets. As a result a number of initiatives have been taken through various policy directives and guidelines issued in the intervening period since April, 1999.

The present compendium is an effort in the direction of making available various instructions/guidelines/directives comprehensively through a single document by updating and supplementing the previous compendium to make it current up to date.

The objective of making such a document would be served only through wide circulation at all levels in the field so that its accessibility to all the personnel involved in Air Conditioning & Train Lighting coaches can be achieved.

Though all out efforts have been made to make the compendium exhaustive, some circulars or orders might have been missed inadvertently. Such omissions may kindly be brought to the notice of Secretary(Electrical), Railway Board for incorporating it in the future editions.

It is expected that this compendium will give ready reference on policy guidelines to all Zonal Railways and in the field.

Any suggestions to improve the structure of the compendium will be highly appreciated.

(I.C. Sharma)
Advisor. Electrical (G),
.01.2010.

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182	No. 2007/Elect.(G)/114/1 Dt. 4.4.08	Failure of 60 kVA transformer in Garib rath trains	245
183	No. 2007/Elect(G)/114/1 Dt. 10.4.08	Premature failure/ smoke emission from 60 kVA/ 50 kVA transformer provided in coaches in power cars of LHB rakes / Graib Rath trains	246
184	D.O No.2007/Elec(G)/125/1 dated 23.04.2008	Punctuality loss / equipment failure of AC / TL coaches.	247
185	D.O no. 2003/Elect.(G)/165/2 Pt. Dt. 13.5.08	Extension of feed in TL coaches.	248
186	D.O No. 2006/Elect.(G)/114/4 Dt. 23.5.08	Supply of CFC 012 gas to railways for use in air conditioned passenger coaches.	249
187	No. 2001/Elect.(G)/113/4 Pt. 1 Dt. 3.6.08	Provision of LED based lights in coaches.	250
188	No. 2006/Elect.(G)/114/4 Dt. 9.6.08	Conversion of underslung coaches from R-12 to R0134a refrigerant system to comply with Montreal protocol.	251
189	No. 2006/Elect.(G)/129/1 Dt. 8.7.08	Distribution of quantity and allocation of funds against the work appearing in Railway work RSP " conversion of R-12 to R-134a refrigerant in 500 AC coaches".(PB item no. 926/ 008-09) under DRF.	252
190	No. 2006/Elect.(G)/114/2 Dt. 14.7.08	Maintenance / repair contract for roof mounted AC coaches.	253
191	No. 2003/Elect.(G)/165/1 Dt. 25.7.08	Electrolyte additives to enhance battery life for TL/ AC & EMUs	254
192	No. 97/Elect.(G)/114/1 Dt. 25.8.08	Provision of catalytic converter in power cars	255
193	No.2006/Elec(G)/113/1 dated 3.09.2008	Fire in 3038 UP GKP- Bandra Terminus Avadh Exp. between Lokodhra and Palej station from Varodhra- Surat section of Varodhra Division of Western Railway on 24th July'07	256
194	No. 2001/Elect.(G)/113/4 Dt. 18.9.08	Procurement of LED type emergency light to ICF specification no. ICF/ Elect/ 917	257
195	D.O No. 2006/Elect.(G)/114/4 pt. Dt. 24.9.08	Urgency in conversion from R-12 to R-134a refrigerant.	258
196	No. 2001/Elect.(G)/165/16 Dt. 30.9.08	Approval of sources for procurement of items pertaining to train lighting and air conditioned coaches.	259-264
197	No. 98/Elect.(G)/165/1 Dt. 1.10.08	Procurement of ERRU as per revised specification of RDSO.	265
198	No.2007/Elec(G)/138/1 dated 23.10.2008	Decision taken during 23rd MSG meeting for AC/TL held at SR , Chennai on 31st July & 1st Aug'08	266
199	No.2007/Elec(G)/138/1 dated 27.10.2008	Decision taken during 23rd MSG meeting for AC/TL held at SR , Chennai on 31st July & 1st Aug'08	267
200	No. 2003/Elect.(G)/165/1 Dt. 19.11.08	Electrolyte additives to enhance battery life to TL, AC & EMU.	268
201	No. 98/Elect.(G)/165/1 Dt. 3.12.08	Procurement of ERRU as per revised specification of RDSO.	269
202	No. 2003/Elect.(G)/165/1 Dt. 16.12.08	Electrolyte additives to enhance battery life to TL, Ac * EMUs.	270
203	No. 2003/Elect.(G)/113/2 Pt. Dt. 31.12.08	Use of fire survival cables in passenger coaches.	271
204	No. 98/Elect.(G)/165/1 Dt. 9.1.09	Procurement of ERRUs	272-273
205	No. 97/Elect.(G)/114/1 Dt. 19.3.09	Provision of catalytic converter in power cars.	274
206	No. 2007/Elect.(G)/114/1	Approval status of approved sources for 60 kVA transformer	275

207	No.2006/Elec(G)/114/2 Pt. dated 22.04.2009	Trials with Anti Graffati clear coating on coach exteriors.	276
208	No.2003/Elec(G)/165/1 dated 01.05.2009	Battery health analyzer for train lighting/ air conditioning, electric loco, EMUs & traction installation batteries.	277
209	No. 97/Elect.(G)/114/1 Dt. 1.5.09	Introduction of centrifugal lube oil cleaner on DG set of Rajdhani / Shatabadi trains.	278
210	No. 97/Elect.(G)/114/1 Dt. 1.5.09	On board services.	279
211	No. 2003/Elect.(G)/165/1 Dt. 18.05.09	Electrolyte additives to enhance battery life for TL, AC & EMU.	280
212	No. 2003/Elect(G)/ 113/4 Pt. Dt. 30.06.09	Provision of Electric earthing in coaches	281-282
213	No.97/Elec(G)/180/5 dated 23.07.2009	Position of pantry cars equipments	283-284
214	No.2006/Elec(G)/109/14 dated 24/ 28.07.2009	Provision of LED destination Board system in coaches.	285-286
215	No. 2006/Elect.(G)/114/2 Pt. Dt. 5.8.09	Use of 50/ 60 kVA transformer in LHB / Garib rath coaches.	288
216	No. 94/Elect.(TRS)/441/1 Pt. 3 Dt. 6.8.09	Eligibility criteria for award of works contract to undertake repair/ rehabilitation of equipment of Electric locomotives, EMUs/ MEMUs and AC/TL coaches including power cars.	289-290
217	No. 2006/Elect.(G)/114/4 Dt. 3.09.09	Large scale failure of underslung compressors and shaft seals.	291
218	No.97/Elec(G)/180/35 dated 8.09.09	Maintenacve of all electrical pantry cars equipments.	292
219	No. 2003/Elect.(G)/165/1 Dt. 16.9.09	Electrolyte additives to enhance life of batteries used in TL, AC, EMUs & Locos application.	293
220	No. 2009/Elect(G)/125/1 Dt. 25.9.09	Failures of AC/TL coaches – measures adopted to ensure the performance/ reliability of AC/TL coaches.	294-295
221	No. 2004/Elect.(G)/113/2 Dt. 28.10.09	Report of the railway Safety Review Committee (Part-II) 98 – Training to handle Fire Related Disasters.	296
222	No. 2001/Elect.(G)/165/1 Dt. 11.11.09	Minutes of meeting with V belts manufacturers to be held at Railway Board on 1.10.09	297-300
223	No.2006/Elec(G)/114/4 dated 13.11.2009	Approval of sources for procurement of underslung refrigerant compressors and spares.	301
224	No.2006/Elec(G)/181/3 dated 20.11.2009	Running of trains in festival seasons	303
225	No.2001/Elec(G)/180/5 dated 2.12.2009	Running of second phase of Red Ribbon Express	304
226	No.2006/Elec(G)/114/2 Pt. dated 4.12.2009	Regarding free supply of initial spares for Rajdhani/ Shatabadi/ Garib Rath & MEMUs rakes.	305-308
227	No.2007/Elec(G)/138/1 dated 9.12.2009	Provision of emergency lights in coaches.	309
228	D.O No.2003/Elec(G)/113/2 Pt. dated 30.12.2009	Fire prevention in coaches.	310-311

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.E(LL)/73/HER/26. New Delhi, dt. 13.1.1977

The General Managers,
All Indian Railways.

Sub: Working hours of Air-Conditioned Coach Attendants and Air-conditioned Coach In charges working on running trains under the Hours of Employment Regulations and for payment of night duty allowance.

Reference Railway Board's letter No.E(LWA)61/Adj/8, dated 7.5.1969 wherein it was decided in consultation with the Ministry of Labour that the Air-Conditioned Coach Attendants would be classified as 'Continuous' under the Hours of Employment Regulations and that in computing their hours of employment, they would be allowed credit in full for such of the time spent in traveling during which they were expected to be fairly busy and for a fraction, say, 25% of the time occupied in traveling when they did little or no work. In para 2 of Railway Board's letter No.PC-67/HW-2/15 dated 20.11.1967, it was clarified that in the case of the non-running traveling staff the time spent on night duty for purposes of payment of Night Duty Allowance shall be reckoned in the same manner and to the same extent as in the period counted as duty under the Hours of Employment Regulations.

2. At the last P.N.M. meeting held between A.I.R.F. and Railway Board on the 22/23rd September, 1976, the following minutes were recorded :

"Full credit of time spent on running train by the Rake Attendants, Air-Conditioned Coach Attendants, mid-on-generator staff and the Air-Conditioned Coach Incharges :

It was clarified that weightage for night duty in the case of non-running traveling staff would be given on the same basis on which credit for time spent in traveling under H.E.R. is given as provided in Subsidiary Instructions 18(ii) and 20. After discussion, it was agreed that in the case of Air-Conditioned coach Incharges and Air-Conditioned coach attendants full credit will be given for the time spent in traveling and not 25% as at present."

3. Accordingly, the Ministry of Railways have decided that in computing the hours of employment of the ACC Incharges and ACC Attendants, credit may be allowed in full for such of the time spent by them in traveling. The payment of Night Duty Allowance to ACC Incharges and ACC Attendants may, therefore, be regulated in the same manner as indicated above.

contd...

4. Necessary steps may be taken to implement the above decision on your Railway and send a report of action taken in the matter to this office, as early as possible, for the information of this Ministry.

5. This issues with the concurrence of the Finance Directorate of the Ministry of Railways. Hindi version will follow.

6. Please acknowledge receipt.

- Sd -
(R. Ramanathan)
Deputy Director Establishment (RLT)
Railway Board

No.E(LL)/73/HER/26. New Delhi, dt. 13.1.1977

Copy forwarded for information to the FA&CAOs, All Indian Railways.

- Sd -
(R. Ramanathan)
Deputy Director Establishment (RLT)
Railway Board

No.E(LL)/73/HER/26. New Delhi, dt. 13.1.1977

Copy forwarded for information to the ADAI (Railways), New Delhi with 140 spare copies.
DA : 140 spares

- Sd -
for Financial Commissioner, Railway.

No.E(LL)/73/HER/26. New Delhi, dt. 13.1.1977

Copy (with 25 spare copies each) forwarded to :
1. The General Secretary, N.F.I.R., New Delhi.
2. The General Secretary, A.I.R.F., New Delhi.

DA : As above

- Sd -
for Secretary, Railway Board.

Copy to :

E(LR) Branch, Railway Board's office.

CONFIDENTIAL

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.E(LL)78/HER/69 New Delhi, dated: 21.3.1979

The General Managers,
All Indian Railways.

Sub: Grant of credit for stay at out-station and overnight stay when the AC Coach is damaged and detached in the case of Air-Conditioned Coach Attendants and Air-Conditioned Coach In charges under the Hours of Employment Regulations and for payment of night duty allowance.

It has been represented by the All India Railwaymen's Federation that on certain Railways no credit is allowed to the Air-Conditioned Coach Attendants and Air-Conditioned Coach In charges either for stay at out-station or for periods of stay when a coach is damaged at a non-terminating station and detached. In this connection, the following suggestions are under consideration of this Ministry for uniform adoption on all Railways ;-

(i) For stay at out-stations :

The following guide-lines may be adopted :-

(a) The coach Incharges and attendants may be allowed adequate time after signing on and before signing off at the out-station for carrying out their normal duties in preparation to start the journey and to leave duty. This period of signing on and signing off will be treated as duty.

(b) After signing off to signing on at the out-station, no duty should be expected of the Air-Conditioned Coach Incharges/Attendants, preferably proper rest accommodation should be provided for them so that they are not forced to take rest inside the coach itself.

(c) Before signing off at the terminal station, the Air-Conditioned Coach Attendant should make over charge of the linen, utensils and other articles to the terminal station staff. Similarly, A.C. Coach incharge should book the defects in the coach before signing off so that the maintenance staff at the terminal station can attend to the maintenance.

(d) At the out-station where no maintenance staff is provided about two hours may be provided for the Air-Conditioned Coach Incharge and Air-Conditioned Coach Attendants for doing the normal maintenance at the out-station on ad-hoc basis.

contd...

(e) Only one Air-Conditioned Coach Incharge and one Air-Conditioned Coach Attendant should be booked per coach

(ii) <u>For the periods of stay when a coach is damaged at a non-terminating station</u> :

The staff in question, viz. Air-Conditioned Coach Attendants/Incharges, full credit for night duty may be allowed if repairs are attended to during night. However, if the coach is merely detached and sent to base depot when there would be neither passengers nor any staff attending to the coach at night, no credit need be granted.

2. In order to enable the Ministry of Railways to examine the matter and for laying down a uniform procedure for adoption on all Railways, they desire to be furnished with the practice at present in force on your Railway in these respects. They also desire to be furnished with your remarks on the above suggestions and in case there is any practical difficulty in their adoption, you may make alternative suggestion and also furnish the comments of your FA&CAOs in the matter.

3. An early reply is requested.

- Sd -
(A.K. Sinha)
Jt. Director, Estt.(LL),
Railway board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.82-TGI/200/SIG New Delhi, dated: 6.5.1982

The General Managers,
All Zonal Railways.

Sub: Coach Attendants in 2-tier Air-Conditioned coaches.

It has been observed that in 2-tier Air-Conditioned sleeper coaches as many as three staff have been provided. Board desires that in the Air-Conditioned Sleeper coaches only two staff of the Electrical Department should be provided and they should also be responsible for looking after the comforts of passengers, check their reservations, guide them to their berths and provide bedding sets and for these functions, these staff would be answerable to the Commercial Department. If Commercial Coach Attendants have been provided in 2-tier AC Sleeper Coaches, they should be withdrawn.

Please acknowledge receipt and report compliance.

(Hindi version will follow).

- Sd -
(Vijay Kumar)
Jt. Director Traffic Comml. (G)I.
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.84/Elec.I/114/2 New Delhi, dt. 15.2.1984

The General Manger (Elect)
All Indian Railways

Sub: Unauthorised use of electric heaters by AC Coach Attendants for cooking purposes.

It has come to the notice of the Railway Board that some AC Coach Attendants and staff booked for maintenance on the run in AC Sleepers are, contrary to extant orders, in the habit of using electric heaters and stoves for cooking purposes.

In view of the serious fire risk involved, it may please be ensured that this practice is stopped forthwith for which measures such as, educating the staff concerned, putting up notices in the AC coaches at relevant locations where the staff are booked for work, should be taken up on priority. All Electrical officers during their inspections should specially inspect this aspect for possible misuse of the supply available for use of such appliances and drastic punitive action should be taken of the cases reported by them.

The receipt of the letter may please be acknowledged.

- Sd -
(V.C.V. Chenulu)
Director Electrical Engineering
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

RBE/157/85

No.E(LL)83/HER/1-2 New Delhi, dt. 27.6.1985

The General Managers
All Indian Railways.

Sub: HOER - Computation of duty hours of Air Conditioned Coach Attendants and In-charges.

Reference Ministry of Railways letter No.E(LL)78/HER/69 dated the 21st march 1979 and your reply thereto.

The question of laying down uniform procedure for computation of duty hours of ACC attendants and Incharges, from the time they take over charge at the commencement of journey to the time of handing over charge after completing the trip, has been under the examination of the Ministry of Railways.

It has been decided that in the computation of duty hours of these categories of staff, the following procedure should henceforth be adopted :

i) The ACC Attendants and the Incharges may be allowed one hour before the commencement of the train journey for completing the pre-departure formalities. Similarly, they may be allowed one hour more after the arrival of the train at their base station for completing the handing over procedures.

For services extending over long distances such as Howrah-Delhi/Amritsar, New Delhi-Bombay, Madras-New Delhi etc., in order that the working hours of staff are not unduly extended, the links of the staff booked for such services should be so arranged so that staff are booked off at a convenient intermediary station and fresh set booked for further journey. Such arrangements at Mughalsarai on the Howrah-Delhi route, Ratlam on Delhi-Bombay route, Kazipet/Kanpur on the G.T. route etc., should be considered.

ii) At outstation, at the end of their outward journey, they may be allowed one hour to complete the procedure for handing over the coach to the outstation maintenance staff. They will hand over the loose items under their possession, e.g. linen, tumblers, flasks etc. to the maintenance staff and take over the same when they take over charge at the commencement of train journey. They may take rest in the AC coach itself wherever rest facilities have not been made available to them in the nature of a running/rest room. They may be allowed one hour to take charge of the coach from the maintenance staff before the commencement of train journey.

Contd....

iii) As regards AC Coaches detached enroute as being mechanically sick, the ACC Attendant should remain with the coach till the coach is attended, made fit and also for the period the coach is moved thereafter to either the base depot or any other terminal from where it is to work a service. The ACC Incharge will, however, return by the first available train to the base depot. No night duty allowance will be payable for this period, but 25% of time spent in journey while returning to base station will be counted towards duty for the purpose of overtime. ACCA/ACCI detained at the outstation enroute will also be given credit of 25% of the time so spent on such occasion.

iv) As regards AC coaches marked sick at the outstation after the arrival at the outstation, in addition to the duty allowance as allowed in (ii) above, the specific period for which they are required to be present in the coach for attention of the defects, may be reckoned as duty hours for the purpose of overtime allowance.

3. Instructions issued under Board's letter No.E(LL)73/HER/26 dated the 13th January 1977 thus stand slightly modified to the extent of the above instructions.

4. These instructions take effect from the date of issue.

5. This issues with the concurrence of the Finance Directorate of the Ministry of Railways.

6. Please acknowledge receipt. Hindi version is attached.

- Sd -
(T.N. Vijh)
Jt. Director, Establishment (LL)
Railway Board

Copy forwarded for information to the FA&CAOs, All Indian Railways.

- Sd -
(T.N. Vijh)
Jt. Director, Establishment (LL)
Railway Board

Copy forwarded for information to the ADAI (Rlys), New Delhi with 140 spares copies.

- Sd -
For FINANCIAL COMMISSIONER, RAILWAYS

Copy to :

1. The general Secretary, NFIR, New Delhi. 5 spares
2. The General Secretary, AIRF, New Delhi. 5 spares
3. All Member of Departmental and National Council.
4. Secretary, Staff Side, National Council, 13-C, Ferozeshah Road, New Delhi.

- Sd -
for SECRETARY, RAILWAY BOARD

Copy to : F(E)I, Electrical Br. and E(G) Br., E(LR)III Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.85/M(W)/814/64 New Delhi, dt. 19.8.1985

The General Manger (Elec)
All Indian Railways

Sub: Marking of return date on overhauled coaches and wagons.

There is lack of uniformity with regard to practices followed by different Railways in counting the period after which the vehicle will become due for overhaul i.e. in marking the 'return' date. Some of the workshops count the period from the beginning of the month in which the vehicle is turned out, with the result that the actual period for which the vehicle is in use before becoming due for overhaul is less than the prescribed period.

After careful consideration, the Board have decided that the following standard practice will be followed:-

(i) The month during which the vehicle is overhauled shall be discounted for the purpose of counting the period for marking the coach date. For example, vehicles overhauled in August, 1985 which have an overhaul period of twelve months, shall show return date of September, 1986.

(ii) Vehicles turned out after 15th of the month are put in service only in the subsequent months. For marking return date on these coaches, the next month shall also be discounted. For example, vehicle turned out from shops on 26th August, 1985 shall show October, 1985 as the return date.

These instructions will apply to all coaching and wagon vehicles, including EMU stock, and will come in from with immediate effect.

Kindly acknowledge.

- Sd -
(Pramod Kumar)
Addl. Director Mechanical Engg.(RS)
Railway Board

No.85/M(W)/814/64 New Delhi, dt. 19.8.1985

Copy to:- 1. CMEs, All Indian Railways.
2. CEEs, All Indian Railways.
3. Chief Workshop Engineers, All Indian Railways.

- Sd -
(Pramod Kumar)
Addl. Director Mechanical Engg.(RS)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.83/Elec.(I)/138/8 New Delhi, dated: 24/25.10.1985

The General Managers,
All Indian Railways.

Sub: Escorting duty for Air Conditioned coaches and power coaches.

The Board have been considering adoption of uniform norms for escorting staff in Rajdhani/Deluxe services and other AC services. The subject was discussed in the last Electrical Standards Committee meeting held at Secunderabad in April 1983. A Sub-committee was appointed by them to go into the details and submit their report with recommendations. The Board have considered the recommendations and decided that booking of escort staff in AC coaches and power cars should be provided as under :

1. **Rajdhani trains**

(a) The complement of Electrical Staff for escorting a total no. of 18 coaches, including Power Cars in each rake should be as follows:

Electrical Chargeman		-	1
AC Mechanic	-	2	
Electrical Fitter	-	2	
Oil Engine Mechanic		-	4
Total	-	9	

(b) The links should be so divided as to limit the duty hours preferably within 10-12 hours at a stretch. The escorting staff may be booked off at suitable intermediate station enroute as advised in the former Ministry of Railway's letter no.E(LL)83/HER/1-2 dated 27.6.85.

2. **Deluxe Trains**

(a) The complement of staff for a Deluxe train consisting of about 10 vestibuled AC coaches including 2 Power Cars and 1 Pantry Car should be as under :

Electrical Chargeman		-	1
AC Mechanic	-	2	
Electrical Fitter	-	1	
Oil Engine Mechanic		-	2
Total	-	6	

Contd..

(b) The link of existing staff should be broken as in the case of Rajdhani Express.

(c) In the case of Deluxe Train consisting of self-generating coaches only, the norms followed by Western Railway of sending 2 AC Fitters and 2 Electrical Fitters should be adopted by the other Railways also. However, the possibility of replacing one of the skilled staff by an Electrical Chargeman can be considered.

3. **Self-Generating coaches :**

(a) First Class AC coach

The present complement of one ACCI (highly skilled Gr.II) and one ACCA (Semi-skilled) in each coach may continue in view of the extent of technical and commercial duties being performed.

(b) 2nd Class AC Sleeper coach or AC Chair Car

The existing complement of one ACCI (Highly skilled Gr.II) and one ACCA (Semi-skilled) per coach should continue. ACC Attendant should carry out the commercial duties in the coach dispensing the requirement of commercial attendant as existing now on some Railways as already advised in the former Ministry of Railway's letter no.82-TG1/200/SIG dated 6.5.82.

(c) 2nd Class AC Sleeper or AC Chair Car when more than one coach provided in the same train and vestibuled.

When more than one coach connected by vestibuled gangway in one block provided on the same train, the complement of staff should consist of only one ACCI for every 2 coaches and one ACCA for each coach.

However, when the number of AC coaches exceeds more than 4 in such a block, there should be one Electrical Chargeman in lieu of one ACCI for higher level trouble-shooting and promote rectification of defects on line.

(d) Composite AC coaches and Partial AC coaches

The complement of staff deputed for composite AC coaches and Partial AC coaches (consisting of half portion as First Class AC and half portion as 2nd Class AC Chair Car) should be the same as in 1st Class AC, i.e. one ACCI and one ACCA may be deputed for each coach in view of extent of technical and commercial duties being performed.

4. **Relieving at Intermediate Stations :**

Wherever possible the break in duty may be considered at important en-route stations having resting facilities after 10 to 12 hours duty with fresh set of staff taking over and where this is not feasible, the staff should be given adequate compensatory rest at home station to keep this cumulative duty hours below the permissible limits of 104 hours for 14 day-period.

Contd.....

5. The Board further desire that Eastern and Western Railways must arrange for stepping down of the escorting staff at Mughalsarai and Ratlam respectively so that long working hours are avoided.

As regards the cadres structure and seniority of the Electrical Escorting staff, further orders will follow.

Kindly acknowledge receipt of this letter.

- Sd -
(T.N. Vijh)
Jt. Director Establishment (LL)
Railway Board

Copy to :

1. The Director General (Electrical), RDSO, Lucknow.

2. The General Manager, Integral Coach Factory, Perambur, Chennai.

- Sd -
(T.N. Vijh)
Jt. Director Establishment (LL)
Railway Board

Copy to : E(LL) Branch (with 40 spares)
for information 7 necessary action.

Copy to : TG-I Branch for information.

Annexure to Board's letter no. 83/Elect.I/138/8 dt. 24/25.10.85

DUTIES OF ESCORTING STAFF (AC Coach Attendants)

1. To appear in prescribed uniform, and have his badge fixed on it to be easily identified by the travelling public.

2. To be present one hour before the scheduled departure of the train.

3. To check that all internal fittings in the coach provided for the comfort and safety of passengers are intact and in working order.

4. To ensure that the water tanks are filled with water and all fittings for supply and use of water in the bath rooms are intact and in good working order.

5. To collect linen and blankets from the concerned authorities and keep it in his safe custody. We would also supply linen and blankets to the passengers and collect the same and keep their accounts. He would also obtain payment of requisite charges and maintain necessary record.

6. To carry jerry cans and to supply cooled water to passengers and to ensure filling up of water containers/jerrycans at the nominated stations.

7. To check tickets of passengers when they first enter the coach to occupy berth/seats, if TTE/Conductor is not available to exercise the checks. He should not allow any person without proper tickets to occupy the accommodation available in the coach.

8. To accommodate passengers joining enroute under the supervision/direction of the Conductor of the coach.

9. To keep the compartments locked when the train is on the run and open them for occupation as and when required.

10. To assist passengers in obtaining food/refreshments and look after their convenience generally.

11. To prevent entry of beggars, hawkers, unauthorised passengers and heavy luggage inside the coach especially in the corridors and to keep the corridor and space near bathrooms free from obstructions.

12. To keep watch on the corridor of the coach from the Attendant Seat during night time.

13. To attend personally to monitor electrical/mechanical defects developing in the coach and call maintenance staff concerned for attending to other repairs whenever necessary.

14. To keep the berths/seats of compartments properly closed at regular intervals by personally dusting the same.

Contd.....

15. To assist the AC coach In-charge in pre-cooling the coach at least one hour before commencement of the journey.

16. To take reading of pressures at the panel board in respect of duties, discharge pressure of refrigerant and oil pressure of compressor, voltages of the alternator and battery etc. from time to time and make entries in the log book. To inform AC Coach incharge of any abnormalities in the readings.

17. To assist the AC Coach In-charge in the rectification of minor faults in the AC coach equipments enroute.

18. To remain with the AC coach when it is detached enroute due to sick marking till the coach is attached, made fit and moved thereafter to either the base depot or any other terminal from where it is to park a service.

19. To carry flit and flit gun and flit the compartments of the AC coach during the course of the journey and as and when required by the passenger.

20. To attend training course as and when deputed by the Administration.

21. To carry out other duties such as cleaning electroplated fittings and assisting AC fitters in maintenance of AC coach when spare at Headquarters.

22. To carry out such other duties as may be assigned to him from time to time by ACCI/TTE.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.86/M(N)/951/7 New Delhi, dt. 25.6.1987

The General Managers,
All Indian Railways

Sub: Corporate objectives – ineffective percentage of coaching stock – Seventh Plan.

In super session of all earlier orders, the Board have revised the ineffective targets for coaches stock as under :

	Ineffective percentage	
Year	other Coaches	AC Coaches
1987-88	12.5	15.0
1988-89	11.5	12.5
1989-90	10.0	12.0

The guidelines for break-up of the ineffective percentage at the end of the Seventh Plan are as under ;

		Other Coaches	AC Coaches
i)	Workshops for POH	6.0	9.0
ii)	Workshops for nominated repairs	0.5	-
iii)	Stabled in yards awaiting workshop repairs	1.0	-
Iv)	C&W depots for repairs to Mechanical & Electrical equipment.	2.5	3.0
		10%	12%

iii) In order to reduce the ineffective time to the barest minimum, the following steps need to be taken :

iii) The number of coaches being worked to and upon in the mechanical workshops should be strictly on the basis of targeted out-turn/repair days;

iii) Percentage of coaches stabled and awaiting workshop repairs should be closely monitored through the system of Carriage Controllers;

iii) Integrated maintenance should be insisted upon and all parallel activity must be performed simultaneously;

contd...

iv) Number of coaches in sick line and transportation workshops should be brought down by resorting to ;-

a) multiple placements'
b) multiple shift working;
c) ready availability of unit spares;

v) Mechanised cleaning and handling methods should be widely resorted to.

3. Kindly acknowledge receipt.

- Sd -
(O.F.H. Jung)
Exec.Director Mech. Engg./RS
Railway Board.

Encl. 2 spare copies.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.87/Elec.I/138/2 New Delhi, dt. 6.7.1987

The General Managers(Elec.),
All Indian Railways, & I.C.F., Madras.
The Director General (Electrical),
R.D.S.O, Lucknow.
OSD/RCF/New Delhi.
The Jt. Director, Inspection, Electrical/R.D.S.O., Madras.

Sub: Revised temperature settings in A.C. coaches.
Ref: RDSO's letter No.EL/7.1.60/G/J8 dated. 15.12.86.

Attention is invited to para 9.1 (Page 6) of the Minutes of the second MSG (TL & AC) Meeting held at Bombay VT on 22nd & 23rd October 1986 as circulated vide RDSO's letter of 15.12.86 referred above, wherein Railway Board was to issue instructions for temperature setting in AC coaches.

2. After due consideration and consultations with RDSO, following temperature settings have been approved finally:

1. For I AC coaches three settings are to be provided as under ;

	Lower	Medium	High
Cooling	22 deg.C	24 deg.C	26 deg.C
Heating	17 deg.C	19 deg.C	21 deg.C

2. For AC Sleeper and Chair Car only two settings are to be provided (keeping one set of thermostat as stand-by) as under ;

	Medium	High
Cooling	24 deg.C	26 deg.C
Heating	19 deg. C	21 deg.C

3. This supersedes the previous approval for settings as conveyed under letter No.83/Elec.I/138/8 dated 22.10.84.

4. Railways, however, must ensure sufficient pre-cooling of AC coaches, particularly in AC Sleepers, before placement on platform as per extant instructions to avoid public complaints, as the 'low' setting of the thermostat is now abolished.

5. Please acknowledge receipt.

- Sd -
(A.K. Mandal)
Jt. Director Electrical Engineering(G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.87/Elec.(I)/114/1 New Delhi, dated: 6.7.1988

General Managers,
All Indian Railways.

Sub: Temperature Control in A.C. Sleeper Coaches.

As per the approved norms, the following temperatures are to be maintained in AC Sleeper Coaches :

	Low	High
Cooling	24 deg.C	26 deg.C
Heating	19 deg.C	21 deg.C

In the Grievances Cell Meeting on 5.7.88, while the issue of bed roll was discussed, the question of requirement of blankets came up. The possibility of not requiring blanket by passengers if the temperature inside the coach is maintained at the 'High' setting i.e. 26 deg.C during summer and 21 deg.C during winter, is to be examined.

Keeping this in view, Board have taken a decision that Railways should fix the temperature at night corresponding to 'High' position and monitor and record passengers' opinion to enable a regular decision in this regard. The results of the monitoring should reach Board's office after about a month along with comments of your Railway.

- Sd -
(A.K. Mandal)
Director Elec.Engg.(G),
Railway Board.

Copy to :

Director General (Elec.), RDSO, Lucknow for information.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.87/Elec.(I)/180/6 New Delhi, dated: 2.8.1988

The General Managers,
All Indian Railways.

Sub: (1) Coach Attendants in 2-tier Air-Conditioned coaches.
(2) Escorting duty for Air-Conditioned coaches and power cars.

During the course of Public Grievances Redressal Machinery Meeting held on 5th July 1988 in Board's office, it was pointed to by CRB that Board's instructions regarding manning of two-tier Air-Conditioned sleeper coaches are not being followed by many a Railways. He has desired that instructions issued vide Board's letter No.82-TGI/200/SIG dated 6th May, 1982 should be implemented by 31st of July 1988. It was also desired that Electrical staff should man the sleeper from one end to the other and there should be normally no change enroute.

Further Member Electrical has desired that instructions issued by Board vide letter No.83/Elec.I/138/8 dated 24th October, 1985 regarding norms for escorting staff in Rajdhani/Deluxe services should be strictly followed as far as feasible.

A copy of each of the letters referred above is enclosed for ready reference.

Kindly acknowledge receipt.

(3) Sd -

(KARAM CHAND)
Jt. Director, Estt(LL),
Railway Board.

Copy to : (1) DG/Elec/R.D.S.O., Lucknow.
(4) General Manager, I.C.F., Madras.

(5) Sd -

(KARAM CHAND)
Jt. Director, Estt(LL),
Railway Board.

Copy to : (1) E(LL) Branch with 10 copies (spares) for information and necessary action.
(6) TG –I Branch for information.
(7) Copy for file No.86/Elec.I/109/15

K.V. BALKRISHNAN

MEMBER TRAFFIC, RAILWAY BOARD
AND EX-OFFICIO SECRETARY
GOVERNMENT OF INDIA
MINISTRY OF RAILWAY
(RAILWAY BOARD)

D.O.No.83/Fuel/282/20 New Delhi, Dated 21.11.88

My dear Rajagopalachari,

Sub: Conservation of HSD oil.

You are already aware that the Government have decided to restrict the consumption of HSD during 1988-89 to the last year (1987-88) level. This has become necessary due to adverse Balance of payment situation. CRB and my predecessor have already addressed you on the subject. A number of points on which action is required to be taken were also discussed during the at GMs Conference. While you would no doubt be taking necessary action on such points to control the HSD oil consumption, I would request you to take immediate action on the following items which directly affect the HSD oil consumption.

(i) HSD oil from diesel installations should not repeat not be issued for any other purpose except for traction to the locomotives. Normally, small issues for other than traction go unaccounted and also provide an opportunity for pilferage.

(ii) Diesel sheds should intensify their efforts to identify the locomotives running heavy on HSD and action should be taken to attend to such locomotives without any loss of time.

(iii) Driver instructions should be activated to inculcate fuel efficient driving habits in drivers.

2. A report on action taken on above as well as other items discussed during the GMs Conference be sent to us within a month.

With best wishes,

Yours sincerely

Sd/-

Shri J. Rajagopalachari,
General Manager,
Northern Railway,
New Delhi.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 85/Elect.I/138/4 New Delhi, Dt. 26.4.1989

The General Managers (Elect),
All Indian Railways.

Sub: Scale of equipments to be provided in Accident Relief Trains.

Ref: I) Board's letter of even number dated 20.6.93 & 7.11.86.

There have been two reports on re-organisation and modernization of ARTs which were accepted by Board in June, 1986 and November, 1986 respectively. These reports were formulated by XXV Electrical Standards Committee and a committee of CRPS (R&L) of Central, SE & Western railways respectively.

On the basis of these reports, a combined list of electrical items incorporating recommendations of both committee is enclosed herewith for taking necessary action in the matter.

- Sd -
(A. K. Mandal)
Director Elect. Engg. (GI)
Railway Board.

Scale of equipments to be provided in Accident Relief Trains.

S N.	Equipments	Quantity Class A'	Class 'B'	Class C'
1.	*Generator set kerosene driven 1.5 kVA 230 V*	*20 sets*	*20 sets*	-
2.	Generator set kerosene driven 1.0 kVA 24 Volts	6 sets	6 sets	2 sets
3.	Luminaries for mounting Halogen lamp	20 sets	20 sets	-
4.	Telescopic stand for mounting luminiare for Halogen lamp	20 sets	20 sets	-
5.	Halogen lamp 1000 W, 230V	40 nos.	40 nos.	-
6.	Phillips "Comptalux" spot light luminiare DC 10	24 nos.	24 nos.	8 nos.
7.	Phillips "Comptalux" 24v lamp 150 watts	48 nos.	48 nos.	16 nos.
8.	PVC insulated and PVC sheathed 3 core flexible cable 23/0.193 mm 15 m long with 15 weather proof I.C. pin for weather proof I. C. socket.	48 nos.	48 nos.	16 nos.
9.	PVC insulated and sheathed 3 core flexible cable 23/0.193 mm	1000 meters	1000 meters	200 meters.
10	Kerosene oil in 20 litre drums	3 drums	3 drums	1 drum
11	Polythene containers 20 ltrs. Capacity for handling kerosene and pouring into auxiliary tanks of engine.	18 nos.	18 nos.	4 nos.
12	Lubricating oil	40 lts.	40 ltrs.	59 ltrs.
13	Oil measuring can 1 litre capacity	6 nos.	6 nos.	1 no.
14	Insulation tape PVC in rolls of 10 mtrs.	24 nos.	24 nos.	6 nos.
15	Tool set comprising of 254 mm cutting pliers –1 no. screw driver round-300 mm, 150 mm, 100mm, 3 nos. knife 1 no., hammer DP-1 no.	1 set	1 set	1 set
16	Spanner DE 3 mm to 19 mm in steps of 1.5 mm	1 set	1 set	1 set
17	Socket spanner with lever 3 mm to 19 mm	1 set	1 set	1 set
18	Aluminium telescopic ladder	2 nos	2 nos.	-
19	Earthling rod for earthling OHE *	2 nos	2 nos.	-
20	Portable switch board with water proof sockete each capable of taking 500 watt load	2 sets	2 sets	
21	Drum of fixed stand for main cable	2 nos.	1 no.	
22	Metal rectifier for charging 2 TL batteries at a time	1 nos.	1 nos.	-
23	500 W gas filled bulbs screw type	6 nos.	3 nos.	-
24	2550 W gas filled bulbs screw type	12 nos.	9 nos.	-
25	100 W gas filled bulbs bayonet type	4 nos.	4 nos.	
26	Telescopic masts for power van 6 metres high *	4 nos.	4 nos.	

* These will be provided in electrified sections only.

Hints: I) Class 'A' – stands for power vans involving collision.
II) Class 'B' – stands for power vans involving derailments.
III) Class 'C' - stands for Auxillary medical van.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.89/Fuel/282/20 New Delhi, dated : 16/18.8.89

The General Manager,
Northern Railway,
New Delhi.

Sub: Issue of HSD Oil from loco feeding points to power cars.

Ref: D.O. NI.21FA/39DR)VI dated. 1.8.89 from Shri Y.P. Anand, G.M./N.Rly addressed to MT.

In view of the circumstances explained in the D.O. dated 1.8.89 referred to above, Board have decided to grant exemption from the instructions issued in item (I) of MT's D.O. of even number dated 21.11.1988 only in respect of generator cars of prestigious trains with under slung tanks, as a special case, to be fuelled directly from the fuelling points into the underslung tanks of such generator cars. It may, however, be ensured that proper accountal of such issues is kept both by the Issuing as well as by Consuming Departments. No exemption can be given in respect of tower wagons as the same are stationed in TRD depots and are required to be fuelled in the depot itself with the help of drums before moving out for OHE repairs. HSD oil in drums/barrel should be obtained from the Store Depot for the purpose.

Please acknowledge receipt.

- Sd -
(N.K. Khurana)
Director Mech.Engg.(Fuel)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.89/Elec.(G)/138/2 New Delhi, dated : 19.2.1990

General Manager (Elec.),
All Indian Railways,
ICF, RCF 7 DG (Elec.)/RDSC

Sub: Guidelines for holding MSG (TL & AC) Meetings.

Following guidelines are issued in connection with holding of MSG (TL & AC) meetings :

i) The meetings should be held once every year, preferably in the month of December/January.

ii) The host Railway and venue of the meeting should be fixed by rotation in consultation with the Railways by RDSO.

iii) The duration of the meeting should be limited to 2 days.

iv) Number of delegates attending the meeting should be limited to 2 persons per Railway.

v) Each Railway must study the problems connected with maintenance of train lighting and AC coaches in depth and give a brief presentation with audio visual sides, detailing the nature of failure, solutions tried and results achieved in minimizing failures. The presentation from each Railway should form an essential part of the agenda. The detailed instructions regarding presentation of papers in the MSGs issued vide Board's letter No.82/Elec.I/148/10 dated 27.7.1983 may be followed.

vi) Solutions to various problems successfully tried on each Railway and accepted by the MSG earlier should be circulated amongst various Railways in the form of modification sheet by ICF/ RDSO. The progress of implementation of these modifications must be given separately by Railways and ICF to RDSO and should form an item of the agenda in subsequently meetings.

vii) Technical discussions on modifications/alterations should include financial implications, cost benefit analysis, wherever relevant.

viii) No. of firms permitted to give presentation in the meeting should be restricted to the bare minimum. The presentation should be relevant to equipment failures connected with maintenance of train lighting and air-conditioning.

Please acknowledge receipt of this letter.

DA: As above

- Sd -

(T.K.A. Iyer)
Adviser Electrical
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.85/M(W)/814/88 New Delhi, dt. 29.3.1990

The General Manager (Mech.)
All Indian Railways

Sub: Periodicity for Overhaul of Air-Conditioned Coaches.

Ref: Railway Board's letter No.85/M(W)/814/88 dt. 22.10.85.

Board after having considered all aspects regarding maintenance of Air-Conditioned Coaches have decided that periodicity for overhaul of Air-Conditioned coaches (air brake and vacuum brake) shall be as follows :

i) Rajdhani & Shatabdi
a) POH - After 4 lakh Km or 18 months whichever is earlier.

b) IOH - After 2 lakh Kms. or 9 months whichever is earlier.

ii) All air conditioned coaches POH - after 12 months other than (i) above.

2. Instructions contained in Board's letter no.72/M(W)/814/60 dated 29th November, 1979 regarding intermediate examination of coaches in depot for Mechanical Examination and repairs shall continue to be followed.

3. Marking of Return date as coaches will be as per Board's letter No.85/M(W) 814/64 dated 12.8.1985.

4. This supersedes earlier instructions issued vide Board's letters under reference.

Kindly acknowledge the receipt.

-- Sd/--
(Raj Kumar Shukla)
Exec. Director Mech. Engg.(RS)
Railway Board

Copy to :
Chief Workshop Engineers/all Indian Railways.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.92/Elec.(G)/138/1 New Delhi, dt. 13.3.1992

General Managers,
All Indian Railway.

Sub: Escorting Duty for Air-Conditioned coaches and power cars.

Ref: Board's letter No.83/Elec.I/138/8 dated 24.10.1985.

In partial modification of norms for escorting staff for self-generating AC coaches prescribed in item no.3 of this office letter no.83/Elec.I/138/8 dated. 24.10.85, Board have decided as under :

(D.□. The existing practice of deputing air-conditioned Coach Attendant in the AC Chair Car should be discontinued on all trains having self-generating AC coaches. The technical duties in the AC Chair Car will accordingly be performed by AC Coach In-charge. The commercial duties in the AC Chair Car, if any, will be the responsibility of the Travelling Ticket Examiner in-charge of the coach/coaches and no Commercial Attendant should be deputed in the AC Chair Car for this purpose.

(D.□. When more than one self-generating AC coaches (all types except first class AC) are provided on the same train, connected by vestibuled gangway in one block, the complement of escorting staff should consist of only one ACCI upto every four AC coaches and one ACCA for each AC sleeper/composite/partial AC coach. As mentioned in para (i) above no ACCA will be provided for the AC Chair Car.

(D.□. In first class AC, the existing complement of one ACCI and one ACCA in each coach may continue.

The above instructions should be implemented with immediate effect.

Kindly acknowledge receipt of this letter.

Sd –
(D.D. Pahuja)
DIRECTOR, ELEC. ENGG.(G)
RAILWAY BOARD

Copy to :
The FA&CAOs and CCSs, all Indian Railways.
Director General/RDSO/Lucknow.
General manager/ICF/Madras.
General Manager/RCF/ Kapurthala.
Director Finance (E)/ Rly Board – for kind information.

Sd/-
(D.D. Pahuja)
DIRECTOR, ELEC. ENGG.(G)
RAILWAY BOARD

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.85/M(W)/814/88 New Delhi, dated : 15.7.1992

General Manager (Mech.),
All Indian Railways.

Sub: Periodicity of POH of mid life rebuilt coaches.

Board have decided that the coaches which have undergone mid life rebuilding at Bhopal Workshop shall be given POH after 24 months, in line with the practice followed for newly manufactured coaches. As in the case of newly manufactured coaches, an intermediate overhaul (IOH) should be given after one year.

2. Bhopal Workshop should mark the return date on rebuilt coaches as per the revised POH period of 2 years.

3. Receipt of this letter should be acknowledged.

- Sd -
(R. Vatash)
Director Mech. Engg. (P) II
Railway Board

Copy to : 1. General Managers ICF, Madras.
2. General Managers, RCF, Kapurthala.
The return date on new coaches should be marked by the respective production units as per the extant instructions. This should be ensured for all coaches turned out.
4. Director General (Carriage), RDSO, Lucknow.
5. Copy to M(C) Branch, Rly. Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.93/Elec(G)/114/9 New Delhi, dated : 9.7.1993

General Manager (Elec.),
South Eastern Railway,
Garden Reach,
Calcutta.

Sub: Failure of air-conditioning equipment in AC coaches and refund of fare.

Ref: i) S.E. Rly's letter no.CEE/TL/100/675/1/A/Vol.XXIII dated. 1.7.92.
ii) S.E.Rly's letter no.CEE/TL/100/675/1/A Vol.XIV dated 14.6.93.

The point brought out in your above referred letter has been examined and it is observed that para 15 of Railway Passengers Amendment Rule 1991 concerning cancellation of tickets and refund of fares stipulates that wherever the air-conditioning has not worked for a portion of journey, refund of tickets shall be issued. It may please be noted that the para does not refer to full failure or partial failure of air-conditioning. Thus, it is very clear as and when air-conditioning in a coach fails either fully or partially, refund has to be given to the passengers after certification of non-AC. The certification of non-air-conditioning shall be made only for those seats which are affected by failure of the air-conditioning as the case may be. Your contention that the refund is permitted only for full failure of air-conditioning is not correct. Even in case of partial air-conditioning, refund is admissible for the seats affected by failure of one side of the AC plant. No further clarifications are required in the matter.

- Sd -
(D.D. Pahuja)
Director Elec. Engg. (G)
Railway Board

Copy to : General Managers (Electrical), All Indian Railways for information.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.85/M(W)/814/88/Pt. New Delhi, dated : 10.3.94

The General Manager
All Indian Railways.

Sub: Periodicity of POH of Air-Conditioned coaches.

Ref: Board's letter No.85/M(W) /814/88 dated. 9.3.90.

Instructions regarding POH of AC coaches were issued vide Board's letter referred above. A doubt has been raised by one of the Railways regarding the periodicity to be followed for the first POH of AC coaches. It is clarified for the information of the Railways that the first POH of AC coaches should be as under :

(i) Rajdhani and Shatabdi Express coaches -

First POH after 4 lakh Kms. or 18 months whichever is earlier. First IOH after 2 lakh Kms. or 9 months may be dispensed with.

(ii) All air-conditioned coaches (Air or Vacuum brake) other than (i)

First POH after 24 months. (As per Board's letter No.85M(W)/814/EE dated 15.7.92).

IOH in depots shall be as per extant instructions.

2. This disposes GM(M)/N.Rly's letter No.86-M/4 Pt.II dated 25.7.93 also.

Receipt of this letter should be acknowledged.

- Sd -
Director Mech. Engg.(P-II)
Railway Board

Copy to :

1. Chief Mechanical Engineers, All Indian Railways
2. DG/Carriage, RDSO
3. Gen. Secy./IRCA, New Delhi.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

D.D. PAHUJA
DIR. ELEC. ENGG.(G)

D.O.No.93/Elec(G)114/10 New Delhi, dated : 22.3.94

Dear Shri Shreni,

Sub: Issue of HSD Oil from loco feeding points to power cars.

In reference to your telephonic discussions with the undersigned on date regarding fuelling of power cars of Rajdhani/Shatabdi trains from existing loco feeding points, I am sending herewith copies of Board's letters no.89/Fuel/282/20 dated 21.11.88 & 16.8.89. Board's letter dated 16.8.89 permits supply of fuel to power cars of Rajdhani/Shatabdi trains from existing loco feeding points.

With regards,

Yours sincerely,

DA: As above

- S/d -

(D.D. Pahuja)

Shri U.C.D. Shreni,
CESE,
South Eastern Railway,
Garden Reach,
Calcutta.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.94/Fuel/282 New Delhi, dt. 28.3.1994

The General Managers,
South Eastern Railway, Calcutta;
Northeast Frontier Railway, Guwahati;
Southern Railway, Madras.

Sub: Issue of HSD Oil from loco fuelling point to Generator Cars with underslung tanks.

Issue of HSD Oil from loco fuelling points for other than traction purpose is banned in terms of Member Traffic's d.o. No.58/Fuel/282/20 dated 21.11.1988 (copy enclosed).

'The matter has been further reviewed and Board has decided that generator cars of Rajdhani/Shatabdi Express trains having underslung tanks may be issued HSD Oil from loco fuelling points subject to the following conditions. ;

(i) HSD oil being issued directly into the underslung tanks of the generator cars and not in barrels/drums.

(ii) Proper accountal being kept both by issuing as well as consuming departments.

Please acknowledge receipt.

- Sd -
(D.K. Singh)
Director, Mech. Engg.(Fuel)
Railway Board.

Copy to :

DEE(G), Railway Board for information and necessary action.

- Sd -
(D.K. Singh)
Director, Mech. Engg.(Fuel),
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.94/Elec(G)/113/1 New Delhi, dated :14.6.1994

The General Manager(Elec.),
All Indian Railways.

Sub: Derailment of 2521 Up NE Superfast Express between Karhagola Road and Bakhri station of North Eastern Railway on 16.11.92.

Recommendation of CRS, NE Circle, Lucknow in connection with above accident is reproduced below :-

"Emergency Lighting Equipment was not loaded at Katihar on this train going to N.E. Railway. Practice of some railways to load and unload Emergency Lighting Equipment in the brakevan at intermediate stations is not effective in ensuring its availability at all times.

The practice of loading Emergency Lighting Equipment as a train equipment by the Primary Maintenance Station for the entire run of the train to be unloaded and reloaded for return journey by the terminating station be enforced by reiterating instructions and conducting checks."

In view of above recommendations all the railways are advised to load emergency lighting equipment as a train equipment at primary maintenance station for the entire run of the train and it may be unloaded and reloaded for return journey by the railway at which the train terminates. Recommendation of CRS/NE Circle, LKO as reproduced above may be implemented and compliance reported to this office. Please acknowledge receipt of this letter.

- Sd -
(D.D. Pahuja)
Director Elec. Engg. (G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 95/Elec.(G)/137/3 New Delhi, dt. 22.3.1995

The General Manager,
Central, Eastern, Northern
North Eastern, Northeast Frontier,
Southern, South Central, South Eastern,
and Western Railways.

Sub: Smoke in AC coach no.14033 of 4229 Up (Lucknow Mail) between Pitamberpur and Rasoia stations on the night of 12/13.1.95.

There was a mishap in 4229 Up (Lucknow Mail) on the night of 12/13.1.95 when AC sleeper coach no.14033 was filled with smoke, causing suffocation between Pitamberpur and Rasoia stations of Northern Railway. Investigations by Northern Railway reveal that the smoke emanated from the canvas duct connecting evaporator coil air output to the main duct. The fire extinguisher available in the affected coach as well as the one in the adjoining coach was found ineffective. Finally the situation was brought under control using the fire extinguisher available with the Guard. Detailed investigations reveal that the blower motor stopped functioning, the air heater continued to get supply and this caused canvas duct to catch fire. It appears that the vane relay which is actuated by the air output from the blower and in turn energises the proving circuit has either been bypassed or become defective, causing air heater contactor to remain in 'ON' position. In addition to above, the hooter provided inside the coach attendant room, meant to warn the attendant in the event of heater receiving supply even when the blower contactor fails or evaporator motor stops, did not appear to have worked in this case.

2. From the above incident, it is quite clear that the safety devices, viz. blower vane relay along with proving relay and hooter circuits were not properly tested during primary maintenance in the depot. The escorting staff were not aware of the functioning of above essential protection devices. Further, the fire extinguisher provided in the coach was also found to be ineffective at the time of such extreme emergency. Northern Railway has been asked to fix up responsibility in this case.

3. You are advised to launch a special drive under the charge of an officer for checking above mentioned protective circuits in all AC coaches in the primary as well as secondary maintenance depots. Please ensure that no AC coach is pressed into service without proper testing of essential protective devices/circuits. The fire extinguishers should also be tested/recharged and staff trained in their usage.

4. Please acknowledge receipt of this letter.

DA/Nil

- Sd -
(M.Rangachari)
Exec.Director Electrical Engineering
Railway Board

Copy to : 1) The Director General (Elec.), RDSO, Lucknow.
2) The General Manager(Elec.), ICF, Madras
They are advised to examine and reiterate maintenance instructions to the Railway in this regard.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.94/Elec.(G)/165/3 New Delhi, dt. 28.6.1995

The General Managers,
All Indian Railways.

The Chief Elec. Engineers and
The Chief Mech. Engineers
All Indian Railways.

Sub: 'Sick' marking of coaches – evolving a rational system.

Instances have come to the notice of the Board of 'sick' marking of coaches on electrical and mechanical accounts in an indiscriminate manner. In fact, cases exist where a coach marked 'sick' on electrical/mechanical account was attended to and when given fit, it was thereafter marked 'sick' on mechanical/electrical account making the coach ineffective for a much longer period than really necessary.

Apart from generating larger ineffectiveness of coaches by such 'sick' marking, it creates a lot of additional work in detaching the 'sick' coach from the rake on the platform just prior to departure of the train even from starting station and consequently disrupting the passenger rake links and at times causing inconvenience to the □raveling public. Besides, this leads to 'missing' coaches and movement of such coaches to the owning railway in a deteriorated condition.

In order to put an end to this unhealthy practice, it is imperative that proper co-ordination is exercised by the personnel of both the mechanical and electrical disciplines in the depots/coaching maintenance. Lines/platforms so that the coaches/rakes are examined and repaired jointly and if a coach is marked 'sick' on one account, it is attended to both electrically and mechanically to make it 'fit' in all respects. This, it is expected, would eliminate detachment of coaches from the rakes and integrity of rakes maintained.

A suitable system should be evolved by the CME and CEE together for issuance of a joint certificate by the TXR and the ELC incharge of coach maintenance in regard to the fitness of a coach marked 'sick' either on electrical account or on mechanical account instead of the fitness being certified separately or individually.

The receipt of this letter may please be acknowledged.

- Sd -
(Noel Lobo Prabhu)
Adviser/Electrical
Railway Board

- Sd -
(Jasbir Pal Singh)
Adviser/Mechanical
Railway Board

Government of India
Ministry of Railways
(Railway Board)

No. 95/Elec. (G)/138/6 New Delhi, Dated 18.2.1996.

General Managers,
All Indian Railways.

Sub:- Escorting staff on Rajdhani Express trains.

Ref:- Board's letter no. 83/Elec.(I)/138/3 dt. 25.10.85.

The issue of bringing in Uniformity in escorting staff for various services on Rajdhani Express have been under consideration in the Board office for quite some time. Board in its meeting held on 14th Nov. 1996 on this issue have decided to standardise the escorting staff on Rajdhani Express trains.

The staff strength for escorting of Rajdhani trains for electrical department is as under:-

SN	Category	Number and Name of Trains				
		2951/2952 Bombay Raj.	2953/2954 A.K Exp.	2301/2302 2305/2306 HWH (Patna & Gaya)	2421/2422 BBS Raj. 2423/2424 GHY-Raj.	2309/2310 PNBE Raj 2425/2426 JAT Raj. 2429/2430 SBC Raj. 2431/2432 TVC Raj. 2633/2634 MAS Raj.
1.	Electrical Supervisor	1	1	1	1	1
2.	AC Fitters	2	2	2	2	2
3.	AC Mechanic Elec. Power Fitter	2	2	2	2	2
4.	Oil Engine Driver	4	4	4	4	4
5.	AC Coach Attendant	14	6	14	8	8
	Total Load	23 (18 coaches)	15 (13 coaches)	23 (18 coaches)	17 (12 coaches)	17 (11 coaches)

These instructions should be followed with immediate effect and compliance may be reported to Board's office.

- Sd -
(S.K. Agarwal)
Director/Elec.Engg.(G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.95/Elec.(G)/138/8 New Delhi, dated : 29.3.96

Director General (Elec),
RDSO, Lucknow

Sub: Provision of fluorescent light fittings in conventional coaches.

The subject of provision of fluorescent light fittings in passenger coaches in lieu of incandescent lamps was discussed in the MSG meeting held at ICF in February '96. C.Rly has already started replacing incandescent lamps with fluorescent tube lights in conventional coaches. All the Railways favoured provision of fluorescent light fitting.

With a view to improve illumination level in passenger coaches, RDSO are advised to revise the existing specification and prescribe provision of fluorescent light fittings in lieu of incandescent lamps in coaches. The specification and likely suppliers for the same may be advised to Railway and Production Units.

Please confirm compliance.

- Sd -
(D.D. Pahuja)
Director Electrical Engineering
Railway Board

Copy to :

General Manager (Elec),
I.C.F, Madras & R.C.F, Kapurthala.

General Managers (Elec),
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Calcutta.
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
S.C. Railway, Secunderabad.
S.E. Railway, Garden Reach, Calcutta.
Western Railway, Churchgate, Mumbai.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.96/TG.I/20/23 New Delhi, dated: 26.12.96

The General Manager,
All Zonal Railways.

Sub: Deployment of escorting staff on Rajdhani Express trains.

With a view to standardise the complement of escorting staff on Rajdhani Express trains, the strength of the staff of different departments escorting various Rajdhani Express Trains was recently reviewed in order to prescribe a uniform scale of staff to be deployed by the railways in Rajdhani Express trains, the matter was considered at a Board meeting and it has been decided that the following yardsticks should be followed:-

1. Commercial and Catering Staff:

i) One catering supervisor in each pantry car.
ii) Two catering staff per each passenger carrying coach.
iii) One Train Superintendent and three Ticket Checking staff for trains running with 18 coaches and one Train Superintendent., and two Ticket Checking staff for other trains.

II. Mechanical Staff:-

i) One supervisor.
ii) One fitter.
iii) One safaiwala for six coaches; in case of IAC one Safaiwala for 1/2 coach.

III. Electrical Staff:

i) One Supervisor for each generator car.
ii) Two AC fitter.
iii) Two Oil Engine Drivers.
iv) Two AC Mechanics
v) One AC coach attendant in each coach .

S&T Department: One mechanic.

The yardsticks as approved by the Board for the deployment of different categories of staff in the existing Rajdhani Express trains including in the August Kranti Rajdhani Express train are attached herewith as per Annexure.

Board desire that necessary action may be taken immediately and all concerned may be advised for strict adherence of these norms. Acknowledgement of receipt of this letter may be sent by return and compliance report in due course for information of Board.

Board further desire that norms for Shatabdi Express also be finalised. As such, please furnish detailed information of staff being deployed by railways in the Shatabdi Express trains, basis for deployment, and suggestions etc. by first week of January, 1997 to submit the proposal for decision of Board.

- Sd -
(P.S NERWAL)
Director, Traffic Commercial (G)
Railway Board.

Copy to:-

EDME(Chg), EDEE(G), ED(S&T), EDF(C), EDE(IR), Ticket Checking Cell, V(SS) with 20 spares & O&M with 10 spares F(C). AIRF & NFIR with 35 spare copies each.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.95/Elec.(G)/165/6 New Delhi, dt. 7.1.1997

The General Manager (Elec.),
All Indian Railways.

Sub: Special Drive for Checking Train Lighting and Air-Conditioning in coaches.

The trend of failures of train lighting and air-conditioned coaches indicate that 40% of failures occur during the summer months.

With a view to overcome and take necessary steps to bring down the failures in the ensuing summer of '97 Board desire that Zonal Railways should conduct a special drive from 15.1.1997 to 10.2.97 for checking and attending to defects and deficiencies of lights, fans, air-conditioning and power generation equipments in coaches during maintenance in the TL and AC depots.

This drive should cover inspection of all primary and secondary depots by CESEs and Dy. CEEs incharge of train lighting and air-conditioning.

It should be ensured that all the rakes of Mail and Express trains are checked at the time of primary/secondary maintenance in the depots. Train rakes appearing repeatedly in punctuality loss statement and having long journeys should be paid special attention for proper generation during run, replacement of old/defective battery cells, change of carbon brushes and proper marshalling of 24V and 110V coaches.

The condensers of all AC coaches should be specifically cleaned, suction/delivery pressure checked and gas should be charged wherever necessary. No. AC coach should be permitted to run from terminal depot with one AC plant of alternator defective/non-functioning.

A check list for inspection of TL & AC equipments is enclosed for guidance in Annexure. The Railway should draw up their own proforma for the purpose of checking and monitoring at Head Office level.

This opportunity may be availed to ensure that stationery plants such as battery chargers, distilled water plant and testing machinery etc. are attended to and put in proper working order. Adequate stock for consumable store viz. belts, fastners, battery cells, carriage fan brushes and springs, fuses, refrigerant gas, DC motor brushes and other major spares are built up so that no difficulty is experienced during ensuing summer and public complaints on account of defects/deficiencies in TL & AC equipments are reduced to bare minimum.

CEEs are advised to review personally the efforts made by each Sr. DEE towards summer preparedness with a view to □inimize failures in summer.

A special report highlighting the major defects/deficiencies noticed and action taken to set them right should be sent to Board by 20.2.97.

Please acknowledge receipt of this letter.

DA: As above.

- Sd
(A.K. Vohra)
Exec.Director Elec. Engg.(G)
Railway Board

Copy to : General Managers (Elec.), All Indian Railways

Annexure to Board's letter no. 95/Elect.(G)/165/6 dated 7.1.97

Check List for inspection of TL & AC Equipment in coaches by Divisional Electrical Officers.

1. Functional Aspects

1.1 Proper functioning of all lights including berth lights and all fans for their noiseless working.

1.2 Existence of proper fuses, controlling switches/MCBs at the prescribed location.

1.3 Provision of Switch Board Panel Covers.

1.4 Working of Emergency Feed Terminals.

1.5 Proper state of charge of batteries.

1.6 Normal generation from the alternator-cum-regulator/dynamos.

1.7 Availability and proper functioning of emergency train lighting box with the Guard.

1.8 Normal working of Refrigeration equipment including motors, etc.

1.9 Normal working of refrigeration and AC and Power Control Panels.

1.10 Cleaning of Air filters.

1.11 Jet water cleaning of condenser coils and evaporator coils.

1.12 Proper marshalling of 110V & 24V coaches.

1.13 Any other item.

2. Safety Aspects :

2.1 Checking of suspension arrangement of Dynamo/brushless alternator such as provision of safety chain, locking of suspension pins, etc.

2.2 Provision of fuses and other protection gear as per approved rating.

2.3 Checking of Axle Pulley.

2.4 Wiring and incidence of any earth leakage.

2.5 Proper connection of inter-vehicular coupler wires.

2.6 Existence of any loose or temporary connections, hanging wires/exposed joints etc.

3.0 Implementation of fire prevention measures as prescribed by RDSO in all coaches.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.96/TG.I/20/23 New Delhi, dated: 12.2.97

The General Managers,
All Zonal Railways.

Sub: Deployment of escorting staff on Rajdhani Express trains.

Please refer to Board's letter of even number dated 26.12.96 on the above noted subject.

The yardsticks provided for the deployment of Electrical staff vide board's letter referred to above may be modified as under :

	As notified		As to be modified
i)	One Supervisor for each generator car	i)	One Supervisor
ii)	Two AC Fitters	ii)	Two AC Fitters
iii)	Two Oil Engine Drivers	iii)	Four Oil Engine Drivers
iv)	Two AC Mechanics	iv)	Two AC Mechanics/Elect Power Fitters
v)	One AC Coach Attendant in each coach	v)	One AC Coach Attendant in each coach

The staff strength given in the Annexure of the letter will remain unchanged as the modification has been made in conformity of the same.

Necessary action may be taken in the matter and all concerned may be advised for strict adherence of these norms. Acknowledgement of receipt of this letter may be sent by return and compliance reported in due course for information of Board.

- Sd -
(O.P. Chawla)
Joint Director/Traffic Commercial(G)

Copy to :-

EDME(Coaching), EDEE(G), ED(S&T), EDF(C), EDE(IR), Ticket Checking Cell, V(SS) with 20 spares & O&M with 10 spares, AIRF & NFIR with 35 spare copies each.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

BY TELEMAX/POST COPY
ISSUED ON 3.4.1998

GENERAL MANAGERS,
CENTRAL RAILWAY/MUMBAI,
EASTERN RAILWAY/CALCUTTA,
NORTHERN RAILWAY/NEW DELHI,
N.E.RAILWAY/GORAKHPUR,
N.F. RAILWAY/GUWAHATI,
SOUTHERN RAILWAY/CHENNAI,
S.C. RAILWAY/SECUNDERABD,
S.E. RAILWAY/CALCUTTA,
WESTERN RAILWAY/MUMBAI.

NO.96/ELEC(G)/114/4 (.) RECENTLY THERE HAS BEEN AN INCIDENT ON N.RLY. WHEN PATNA RAJDHANI WAS STARTED WITH ONE POWER CAR FROM NEW DELHI STATION AS ONE OF THE INCOMING POWER CARS WAS FOUND DEFECTIVE(.) THIS DECISION LEAD TO PASSENGERS AGITATION (.) TRAIN HAD TO BE BACKED INTO STATION AREA FOR PROVIDING SECOND POWER CAR (.) IN ORDER TO AVOID RECURRENCE OF SUCH INCIDENCES, BOARD (ML & MT) HAVE DECIDED THAT RAJDHANI/SHATABDI EXPRESS TRAINS SHOULD ALWAYS BE WORKED WITH TWO POWER CARS (.) THE COMPLIANCE OF ABOVE INSTRUCTIONS MAY BE ENSURED (.)

VOHRA /RAILWAYS.

COPY BY POST IN CONFIRMATION.

(A.□. s/d -

(A.K. VOHRA)
EXEC.DIRECTOR ELECT.ENGG(G),
RAILWAY BOARD

COPY TO : CHIEF ELECTRICAL ENGINEERS, ALL INDIAN RAILWAYS.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAY
(RAILWAY BOARD)

No. 95/Elec.(G)/165/5

New Delhi, dated: 14.5.1998

Chief Electrical Engineers,

1. Shri P. Ponnuswamy, C.Rly., Mumbai.
2. Shri Alokendu Sen, E.Rly., Calcutta.
3. Shri S.C. Nagpal, N. Rly., New Delhi.
4. Shri Binod Prasad, N.E. Rly., Gorakhpur.
5. Shri H.B. Singh, N.F. Rly., Guwahati.
6. Shri D.K. Bansal, S. Rly., Chennai.
7. Shri S.C. Goel, S.C. Rly., Secunderabad.
8. Shri V.K. Agarwal, S.E. Rly., Calcutta.
9. Shri V.N. Garg. W. Rly., Mumbai.

Sub :-Provision of 3 phase leads in AC coaches.

During the inspections of Rajdhani/Shatabdi Express trains and also during analysis of punctuality loss cases, it has been noticed that escorting staff carry only one set of charging leads and at time are without leads. The deficiency gets highlighted during failure of AC coach power supply, as feed can not be extended which lead to public complaints and at times punctuality loss.

In view of this, Board desire that each power car should have two sets of leads in Rajdhani/Shatabdi trains (with EOG coaches) and one set of lead in every SG AC coach of all the trains for pre-cooling and also for emergency use.

It is therefore advised these Instructions may be brought to the notice of all concerned and compliance should be ensured.

DA: Nil

- Sd -
(A.K.Vohra)
Exec. Director Elect.Engg.(G),
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

A.K. JAIN
Additional Member (Elect.)

D.O.No.98/Elect.(G)/138/3 New Delhi, dated: 26-5-1998

My dear (by name),

Sub: Performance review of AC/TL coach with CESEs.

Arising out of steep fall in punctuality performance on account of TL and AC, it had become necessary to have a performance review with CESEs of all the Zonal Railways which was carried out on 13.5.98, 14.5.98 & 18.5.98 in the Board's Office. All the issues were discussed at length with individual CESEs.

As a result of this review it is felt that following items require immediate attention and implementation :-

1. CESEs of the Railways should interact with their counterparts in other Railways in which trains move on daily basis. The CESE of territory railway should advise the owning railway regarding all types of unusual occurrences and obtain feed back in due course.
2. All the AC coaches should be pre-cooled before placement of rakes on platform. On the platforms, pre-cooling of ccaches should be done by escorting staff at stations before start of the trains as this is the time when passengers require maximum and immediate comfort level. This will ensure avoidance of bulk of passenger complaints.
3. Escorting staff should be given 2 leads of adequate length in each power car for EOG coaches and one lead in each SG/AC coaches for pre-cooling as well as emergency use.
4. From primary maintenance depot no coach should be sent with equipments in isolated condition. Unit spares should be identified and kept at primary maintenance depots and the defects in coaches should be attended. At secondary maintenance depot as well as en-route escorting staff will report and seek assistance in the event of trouble on line.
5. It is learnt that TL coaches are being turned out from primary maintenance depots with emergency feed terminals (EFTs). Please ensure that no coach is sent with EFTs, as these are only meant for emergency use.
6. The knowledge of all the ACCIs & ACCAs should be checked regularly regarding operation of the AC coach equipment as well as handling of the situation in case of failure of the equipment. ACCIs/ACCAs MUST maintain the log book and enter all the unusual occurrences.
7. RDSO should prepare a comprehensive list of modifications/SMIs issued so far to improve the reliability of SG AC coaches and circulate to all divisions.
8. RDSO has already done quality audit of several depots. Railways should refer to these reports and ensure that quality of maintenance and standard is improved.
9. Local staff/officers at secondary maintenance depots are not aware of the problems with the incoming rakes. A system need to be set up to have proper feed back on secondary maintenance rakes.

10. Several works for AC coach maintenance facilities have been sanctioned but their progress is slow. CESEs should periodically review the performance and ensure that the works are completed in time.

11. RDSO should issue comprehensive instructions for maintenance of inverters, SMF batteries, alternators, regulators and RMPUs. All the maintenance instructions issued by RDSO for AC & TL coaches should be sent directly to Sr.DEEs in all the divisions and they should by placed on mailing list on permanent basis.

12. It came to the notice that a no. of punctuality loss cases were not on Electrical account which could have been avoided. Liaison between CESEs and CPTMs should be maintained.

The above instructions should be followed with immediate effect.

With best wishes.

Yours sincerely,

- s/d -
(A.K. Jain)

1. Shri P. Ponnuswamy, CEE, C.Rly., Mumbai.
2. Shri Alokendu Sen, CEE, E.Rly., Calcutta.
3. Shri S.C. Nagpal, CEE, N. Rly., New Delhi.
4. Shri Binod Prasad, CEE, N.E. Rly., Gorakhpur.
5. Shri H.B. Singh, CEE. N.F. Rly., Guwahati.
6. Shri D.K. Bansal, CEE, S. Rly., Chennai.
7. Shri S.C. Goel, CEE, S.C. Rly., Secunderabad.
8. Shri V.K. Agarwal, CEE, S.E. Rly., Calcutta.
9. Shri V.N. Garg. CEE, W. Rly., Mumbai.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAY
(RAILWAY BOARD)

No. 95/Elec.(G)/125/1 New Delhi, dt: 3.6.1998

Chief Electrical Engineers,
1. Shri P. Ponnuswamy, C.Rly., Mumbai.
2. Shri Alokendu Sen, E.Rly., Calcutta.
3. Shri S.C. Nagpal, N. Rly., New Delhi.
4. Shri Binod Prasad, N.E. Rly., Gorakhpur.
5. Shri H.B. Singh, N.F. Rly., Guwahati.
6. Shri D.K. Bansal, S. Rly., Chennai.
7. Shri S.C. Goel, S.C. Rly., Secunderabad.
8. Shri V.K. Agarwal, S.E. Rly., Calcutta.
9. Shri V.N. Garg. W. Rly., Mumbai.

Sub: Steps to control line failures on TL and AC account.

The punctuality loss cases for the month of May 98 have been reviewed. Board (ML) desire that Railways should immediately undertake following steps to reverse the present trend :-

(1) While turning out rakes from primary maintenance depots it should be ensured that Alternators are fitted with full complement of V-belts.

(2) Sufficient spares should be built at primary maintenance depots for frequently failing components of (i) inverters, (ii) alternators & (iii) regulators for alternators.

(3) AC coaches are not sent out with battery cells in isolated/by-passed condition.

(4) ACCI should be given training in essentials aspects of his duty.

Please ensure compliance.

Sd/-

(A.K.Vohra)
Exec. Director/Elec.Engg.(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.98/Elect(G)/138/3 New Delhi, dated: 12.6.1998

Chief Electrical Engineer,
Central Railway, CSTM, Mumbai;
Eastern Railway, Fairlie Place, Calcutta;
Northern Railway, Baroda House, New Delhi;
North Eastern Railway, Gorakhpur, U.P.;
Northeast Frontier Railway, Guwahati;
Southern Railway, Park Town, Chennai;
S.C. Railway, Secunderabad;
S.E. Railway, Calcutta, Garden Reach, Calcutta;
Western Railway, Churchgate, Mumbai.

Sub: Pre-cooling of AC coaches.

There have been lots of complaints regarding AC coaches by passengers that coaches are not pre-cooled properly when they enter the coach at platform from the starting station. Directions have been issued vide AM/L's DO No.98/Elect(G)/138/3 dated 26.5.98 to all the CEEs that "***All the AC coaches should be pre-cooled before the placement of rakes on platforms. On the platforms, pre-cooling of coaches should be done by the Escorting Staff at stations before the start of train***".

During the CESEs meeting of CR, ER, NR, SR & SCR on 8/9.6.98, held in Board's Office, the issue of pre-cooling of coaches again came up for discussions. CESEs advised that at Secondary Maintenance Depots, different railways have different practices and in the absence of uniform policy pre-cooling at places other than platform has suffered.

This matter has once again been considered by the Board and it has been decided that :

(i) All the AC coaches should be pre-cooled properly before the placement on platforms whether it is primary maintenance train or secondary maintenance train.

(ii) All AC coaches on Platform, will be pre-cooled by escorting staff (when called for, maintenance staff will assist). Special care must be given where rakes are moved from far away places, like on SE Rly from Santragachi.

(iii) At locations other than platform i.e. yards, stabling lines, washing lines and sick lines etc. pre- cooling shall be done by the maintenance staff, irrespective of the primary/secondary maintenance depot.

Railways must ensure that the above directions are brought to the notice of all concerned.

Sd-
(A.K. Vohra)
Exec.Director Elect.Engg.(G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.95/Elect(G)/165/5 New Delhi, dated: 17.8.1998

Chief Electrical Engineer,
Central Railway, CSTM, Mumbai;
Eastern Railway, Fairlie Place, Calcutta;
Northern Railway, Baroda House, New Delhi;
North Eastern Railway, Gorakhpur, U.P.;
Northeast Frontier Railway, Guwahati;
Southern Railway, Park Town, Chennai;
S.C. Railway, Secunderabad;
S.E. Railway, Calcutta, Garden Reach, Calcutta;
Western Railway, Churchgate, Mumbai.

Sub: Conversion of AC coaches with 1100 AH SMF 54 cells into 56 cells.

Board vide letter of even no. dated 12.6.98 had fixed railway-wise targets for conversion of AC coaches with 1100 AH SMF Battery from 54 cells to 56 cells during 1998-99. The issue was discussed during CEE's conference held in Board's office on 6/7.8.98 and targets for conversion were revised which are as under :

Rly	Coaches with 54 cells	Target for conversion	Revised Target
CR	44	Dec. 1998	Dec.1998
ER	25	Oct. 1998	Oct. 1998
NR	34	Aug. 1998	Sep.1998
NER	20	Sep. 1998	Dec.1998
NFR	12	Sep. 1998	Dec.1998
SR	54	Aug. 1998	Dec.1998
SCR	40	Oct. 1998	Sep.1998
SER	20	Aug. 1998	Sep.1998
WR	26	Sep. 1998	Dec.1998
Total	275		

Railway should plan to complete the conversion work by the target dates as mentioned above. Monthly progress of work may be furnished regularly in monthly PCDO of CEE to Member Electrical.

(A.K. Vohra)
Exec.Director Elect.Engg.(G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.95/M(C)/165/11 New Delhi, dated: 20.8.98

The General Managers,
All Indian Railways,

The Director
CAMTECH
Maharajpur,
Gwalior

Sub: Integrated Maintenance of Coaching stock.

Adequate instructions already exist from the Board for providing Integrated Maintenance to coaching stock on Indian Railways. The last such instructions were contained in Shri C.L. Kaw, the then Chairman Railway Board's DO letter 95/M(C)/165/1 dated 12.8.96 addressed to General Managers. An essential component of such integrated maintenance is development of integrated maintenance facilities at the various maintenance points.

It is a matter of concern that inspite of repeated stress on this subject, adequate measures have yet to be taken on some of the Railways to ensure development of integrated maintenance infrastructure. At various locations, separate maintenance facilities have either been developed or are in the process of being developed at physically separated locations thereby necessitating dual placement of coaching stock.

Board (MM & ML) have taken a serious note of this trend and it is necessary that following action is taken immediately by the Railways :-

1. All future development of coaching maintenance facilities must conform to the concept of integrated infrastructure both for the washing lines as well as maintenance facilities and be planned jointly by Mechanical & Electrical Departments. CAMTECH should develop modular concept plan for this purpose and obtain Board (MM & ML)'s approval at the earliest.

2. Similarly in the coaching workshops, CWMs/DyCMEs, incharge of the workshops must ensure that the infrastructural inputs required by the workshops in regard to both mechanical and electrical inputs are planned by them in an integrated manner to meet the anticipated workload. All such proposals should be jointly formed by CME and CEE before submission to the Railway Board. In Board all such proposals will be similarly scrutinised.

3. Wherever the on-going works do not conform to the above concept, the plans should be immediately reviewed jointly by CME and CEE with a view to ensure such compliance. This should not need any material modification/change of time frame.

4. In respect of existing facilities, Railways should review and find ways and means of making optimum use of the available infrastructure keeping in view the growth of AC coaches and without causing disruption to existing system.

This issues with the approval of MM and ML.

Kindly acknowledge receipt and confirm compliance to the instructions contained above.

- Sd -
(Vinod Sharma)
Exc. Dir. Mech. Engg.(Chg)
Railway Board

GOVERNMENT OF INDIA (BHARAT SARKAR)
MINISTRY OF RAILWAYS (RAIL MANTRALAYA)
(RAILWAY BOARD)

No. 97/TG-V/17/P. New Delhi, dated. 22.9.98

The General Managers,
All Zonal Railways.

Sub:- Supply of bed rolls in AC 3-tier coaches.

Some of the Railways have reported that the Electrical Coach Attendants are reluctant to take the bed rolls in sufficient quantities to meet the requirement of all the passengers of AC 3-tier coaches. They insist that they will stack and supply only 46 bed rolls instead of 64 in these coaches. As a result, the bed rolls are supplied only to 46 passengers and the remaining passengers remain without the bed rolls. This is causing lot of inconvenience to the passengers.

2. Board desire that it should be made mandatory for the Coach Attendants of AC 3-tier coaches to receive, stack and supply the requisite number of bed rolls to all the passengers of AC 3-tier coaches.

Please acknowledge receipt and ensure compliance.

- Sd -
(P.S Nerwal)
Director Traffic Commercial (G)
Railway Board.

Copy to:-1. The Chief Commercial Managers,
All Zonal Railways.

2. The Chief Electrical Engineers,
All Zonal Railways.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.98/Elec.(G)/138/5 New Delhi, dated: 7.10.1998

Chief Electrical Engineers,
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Calcutta.
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
S.C. Railway, Secunderabad.
S.E. Railway, Garden Reach, Calcutta.
Western Railway, Churchgate, Mumbai.

Sub: Action Plan for improvement in AC Coaches.

There have been a no. of failures of AC Coaches during 1998-99 and Board have taken a serious view of these failures. The position has continuously been reviewed by Board with CESEs and CEEs in different meetings. Railways have been directed to take necessary steps to improve the reliability of AC Coaches. This has become extremely important in view of the fact that about 250 AC Coaches each year have been inducted into the system during last 3 years and 340 are expected to be inducted during 1998-99. The decisions already conveyed to improve reliability of AC coaches have been consolidated and an action plan covering 12 important items has been prepared and a copy is enclosed.

Board desire that status of each item may be reviewed by CEEs personally and action taken may be sent to Board's Office latest by 31st October 1998 and in future this may be included as an annexure to CEE's PCDO to ML.

DA: As above
(A.□. s/d –

(A.K. Vohra)
Exec.Director, Elect.Engg.(G)
Railway Board

Annexure to Board's letter no. 98/Elect.(G)/138/5 dated 7.10.98
ACTION PLAN ON MAINTENANCE OF AC COACHES.

1. CESEs of the Railways to interact with their counterparts in other Railways to advise the unusual occurrences and obtain feed back.

2. All the AC coaches to be pre-cooled before placement of rakes on platform. This is the time when passengers require maximum and immediate comfort level. Pre-cooling cum emergency leads should be provided in all SG AC coaches (1 in each coach) and power cars (2 in each power car).

3. No train to leave the Primary Depot with EFTs or equipments in isolated condition.

4. Defects in the coaches to be noticed immediately after arrival of train and remedial action taken accordingly. Escorting staff should report at secondary maintenance depot and advise the status of coach and should sign the register with Depot and Depot staff to sign the Log Book with Escorting Staff.

5. All AC coaches from Primary depot should go with both Alternators working. If an Alternator cannot be replaced/repaired at the secondary maintenance depot, decision to send coach with one Alternator to be taken at officer's level. Second Alternator to be fully functional with full generation and the coach/rake to be properly pre-cooled.

6. AC coaches should go from Primary Depot with 6+6 belts on the Alternators and minimum 5+5 from Secondary Depot. Adequate facilities to be built up for changing the belt on rake itself.

7. The knowledge of all the ACCIs & ACCAs should be checked regularly regarding operation of the AC coach equipment as well as handling of the situation in case of failure of the equipment. ACCIs/ACCAs MUST maintain the log book and enter all the unusual occurrences. Training of AC staff of one week duration to be standardised by the Railways.

8. Drive system for generation testing and Regulator setting to be introduced for alternators at all Primary Depots.

9. Unit Exchange Spares (UES) should be available in all depots. Each depot should have authorised holding of UES. Register should be available for each major UES at all the depots.

10. All the major depots should carry out failure analysis of major equipments and the information should be sent to RDSO periodically.

11. The power supply system for pre-cooling to be augmented in view the increasing number of AC coaches in the depots. Railways to examine and take corrective action.

12. Railways to revise their EACs (Estimated Annual Consumption) of the material because of increasing AC Coach holding.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.98/Elec.(G)/165/5 New Delhi, dated: 8.10.1998

Chief Electrical Engineers,
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Calcutta.
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
S.C. Railway, Secunderabad.
S.E. Railway, Garden Reach, Calcutta.
Western Railway, Churchgate, Mumbai.
ICF, Perambur, Chennai.
Rail Coach Factory, Kapurthala.

Sub: Maintenance contracts for equipments for AC Coaches.

The AC Coach holding on Indian Railways has been increasing and about 230 coaches each year have been inducted into the system during the last 3 years and 340 AC coaches are proposed to be manufactured during 1998-99. The infrastructure facilities have not been created to the desired level and Railways have been facing problems. Some of the Railways had to resort to maintenance of some of the equipments through contract, though not fully satisfactory. This issue of maintenance of equipments through contract was discussed during the CEEs Conference held in Board's Office in August 1998.

During the conference an opinion emerged that, with Annual Maintenance Contract there is very little incentive for the Contractor to maintain the equipment in good fettle from long term point of view. A maintenance contract, should therefore, be for a longer duration (3 to 5 years) with appropriate PVC if required, and should have suitable clause to ensure that the equipment is in good fettle at the end of the contract. For this, some kind of warranty after conclusion of the contract can be built in the maintenance contracts with the OEMs.

Opinion also emerged that cost of maintenance contract for a reasonable period by the OEMs can be kept in view while evaluating the original procurement action, for which OEMs will have to indicate the cost alongwith their original offers.

The Zonal Railways and Production Units need to keep these guidelines in view while procuring vital equipments and entering into maintenance contract.

- s/d -
(A.S. Janghu)
Jt. Director, Elect. Engg. (G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.96/Elec.(G)/165/5 New Delhi, dated: 02.11.1998

General Manager (Elec.),
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Calcutta.
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
S.C. Railway, Secunderabad.
S.E. Railway, Garden Reach, Calcutta.
Western Railway, Churchgate, Mumbai.

Sub: Testing facilities for regulator setting and alternator generation.

AC coaches are increasing at a very fast pace and about 250 AC coaches have been inducted into the system each year during last 4 years. Board have also decided to manufacture 340 AC coaches during 1998-99 and 320 during 1999-2000. However, adequate testing facilities are not available to meet with rapid growth of AC coaches. The regulator setting and alternator generation testing facilities which are extremely essential are available only in few depots. The regulator setting is required to be done every 3 months for proper maintenance of the AC coaches. It has been observed that alternator generation test and regulator setting is done by running the coach on test trial. In case alternator generation is not found adequate, the alternator is changed and same process of generation testing is repeated by running the coach. The regulator setting is also not properly done which result in either under-setting or over-setting which damages the battery and other AC equipments. Board have taken a serious view of such practices.

It has been decided that all the depots maintaining AC coaches should be provided with variable speed drive regulator setting facilities and alternator load balancing facilities. These facilities should be made integral part of all the AC depots (existing or under construction or to be constructed) and also Board desire that these facilities should be created by March 1999.

- Sd -
(A.K. Vohra)
Exec. Director, Elect. Engg. (G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.98/Elec.(G)/138/5 New Delhi, dated: 2.11.1998

General Managers (Elect.),
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Calcutta.
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
South Central Railway, Secunderabad.
South Eastern Railway, Garden Reach, Calcutta.
Western Railway, Churchgate, Mumbai.

Sub: Power Supply for charging and pre-cooling of AC coaches.

As on 1.4.98 about 2100 AC coaches were running into the system and AC coach holding has increased rapidly as about 250 AC coaches have been inducted into the system each year during last 4 years. Another 340 AC coaches shall be added to the fleet during 1998-99. During 1999-2000, Board have decided to manufacture 321 AC coaches. In the summer of 1998-99, AC coaches were neither pre-cooled before departure of train nor their batteries were properly charged. This led to large no. of public complaints and failure of AC coaches. During the review of depots it has come to light that augmentation of power supply has not been done and present power supply system is highly inadequate for pre-cooling and battery charging of AC coaches. One AC coach consume about 50 KW (pre-cooling 30-35 KW and battery charging 15-20 KW) power. Railways were advised vide Board's letter no.95/Elec(G)/165/5 dated 7.10.98 to examine the power supply systems and take a corrective action (Item no.11 of Action Plan). Board have taken a serious view of the non-augmentation of power supply system in spite of increase in AC coach holding.

In view of above, Board desire that power supply arrangements may be augmented at all AC depots for pre-cooling and battery charging of AC coaches. Adequate standby power supply arrangements should also be made for use during emergency period. The work of augmentation of power supply at the depots should be completed by March 1999.

Compliance report should be sent to Board.

Kindly acknowledge receipt of the letter.

- Sd -
(A.K. Vohra)
Exec.Director, Elect.Engg.(G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.98/Elec.(G)/113/Safety New Delhi, dated: 4.1.1999

Chief Electrical Engineers,
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Calcutta.
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
S.C. Railway, Secunderabad.
S.E. Railway, Garden Reach, Calcutta.
Western Railway, Churchgate, Mumbai.

Sub: Provision of emergency lighting equipment in Passenger Trains and search light with portable generators in Relief Trains.

Instructions already exist for provision of emergency lighting equipment in all passenger trains running at night and search light with portable generators in relief trains.

The matter has been reviewed in Railway's Safety Review Committee. It is again re-iterated that emergency lighting equipments should be provided in all passenger trains running at night and search light with portable generators in relief trains.

Compliance of above instructions may be ensured.

- Sd -
(A.S. Janghu)
Jt. Director, Elect. Engg. (G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.98/Elec.(G)/113/Safety New Delhi, dated: 1.2.1999

Chief Electrical Engineers,
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Calcutta.
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
S.C. Railway, Secunderabad.
S.E. Railway, Garden Reach, Calcutta.
Western Railway, Churchgate, Mumbai.

Sub: Periodical inspection of emergency lighting equipment provided in Accident Relief Trains.

Ref: Board's letter of even no. dated 4.1.99.

Instructions already exist for provision of emergency lighting equipment with portable generators in relief trains.

The matter has been reviewed in Railway's Safety Review Committee. It is again reiterated that periodical inspection of emergency lighting equipments should be checked by concerned staff and officers of Electrical Department. It is recommended that one or two luminaries may be considered for permanent mounting on the crane body and arm for spot illumination.

It is further recommended that power car should be suitably marshalled so that immediate and better lighting can be ensured at site.

Compliance of above instructions may be ensured.

- Sd -
(A.S. Janghu)
Director, Elect. Engg. (G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 98/Elec.(G)/138/2 New Delhi, dt. 16.3.1999

Chief Electrical Engineers,
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Calcutta.
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
S.C. Railway, Secunderabad.
S.E. Railway, Garden Reach, Calcutta.
Western Railway, Churchgate, Mumbai.

Sub: Supply of bed rolls in AC coaches.

Electrical escorting staff manning the AC coaches are required to perform the duties of taking custody and distribution of bed rolls in all types of AC coaches (i.e. 1AC, 2AC, 3AC & Composite). Vide Board's letter No.97/TG-V/17/P dated 22.9.98 (copy enclosed) Railways have already been advised regarding this issue.

Board desire that instructions may be issued to all the AC Coach Attendants to receive, stack and supply the bed rolls to all the passengers in all types of AC coaches..

DA: As above

(A.S. Janghu)
Director Electrical Engineering(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.97/Elec(G)/114/1 New Delhi, dated : 23.3.1999

Chief Electrical Engineers,
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Calcutta.
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
S.C. Railway, Secunderabad.
Western Railway, Churchgate, Mumbai.

Sub: AC Coach Log Book Trouble Shooting Instructions.

Railways have been advised to prepare a standard Log Books to be provided on all the AC coaches. The format prepared by WR was circulated during MSG meeting held at Udaipur in Nov'98. Now it has been decided that the log books should also contain trouble shooting instructions in yellow colour pages for easily identification.

In view of above, Board desire that all the log books in AC coaches should contain trouble shooting directory also. South Eastern Railway has already done this.

The compliance may be sent to Board.

DA: As above

(A.K. Vohra)
Exe.Director Electrical Engineering(G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.98/Elec.(G)/180/6 New Delhi, dt. 13.4.1999

The General Managers,
All Indian Railways.

Sub: Provision of fluorescent light fittings in conventional coaches.

During MSG meeting held on Feb'96 at ICF and during CEE's Conference held on 30.9.96, it was decided to provide fluorescent light fittings in conventional passenger coaches in lieu of incandescent lamps to improve illumination level in passenger coaches. Accordingly, fluorescent tube lights are being provided in newly built passenger coaches by ICF & RCF from May'96 & June'97 respectively. Railways have also selectively provided fluorescent tube lights alongwith the conversion of coaches from 24 V to 110 V system.

During the Railway Budget 1999-2000, Hon'ble Railway Minister has declared the year 1999-2000 as "Passenger Year" and he desired that improved amenities are provided on all passenger trains.

In view of above, the matter has been considered and Board have decided that all coaches in Mail/Express trains should be provided with fluorescent tube light fittings to improve level of illumination. This work should be done during POH and completed within next 18 months.

- Sd -
(A.K. Vohra)
Exec. Director Electrical Engineering
Railway Board

Copy for information and necessary action to:

Chief Electrical Engineers,
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Calcutta.
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
S.C. Railway, Secunderabad.
S.E. Railway, Garden Reach, Calcutta.
Western Railway, Churchgate, Mumbai.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.95/Elec.(G)/114/11 New Delhi, dt. 12.7.1999

General Manager, ICF, Chennai
General Manager, RCF, Kapurthala.

Sub: Inadequate linen space on initially built ACCN coaches.

Vide Board's letter no. 92/M(C)/202/6 dated 21.6.99, ICF & RCF have been advised for development of 'underslung inverters' on the basis of ED's committee recommendations which is as under:

"The long term solution for identified 52 ACCN coaches with inadequate linen space lies in the development of underslung invert4ers for these coaches as the on-board space occupied by the inverter may be released for use as linen room. It is suggested that the process of development of underslung inverter may be expedited, and, whenever developed, the initial supplies may be fitted on the identified 52 ACCN."

In view of above, no action should be taken on Board's letter no. 92/M(C)/202/6 dated 21.6.99 in regard to development/procurement of 25 KVA underslung inverters.

Kindly acknowledge receipt of the letter.

- Sd -
(A.S. Janghu)
Director Electrical Engineering
Railway Board

Copy to:

Chief Electrical Engineers,
ICF, Chennai & RCF, Kapurthala.

Director General, RDSO, Manak Nagar, Lucknow for information and n.a.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.95/M(C)/165/11 New Delhi, dt. 9.8.1999

The Director,
CAMTECH,
Gwalior.

Sub: Standardisation of infrastructure in coaching maintenance depots.

Ref: Director/CAMTECH's letter no. IRCAMTECH.GWL.DIR.CORR dated 6.4.99.

In super session of previous instructions Board (MM & ML) have approved the Standard Integrated Modular pit line facility layout alongwith the list of equipments for both Mechanical and Electrical maintenance with the comments given in the Annexure which must be followed for all new coaching depots and also for up gradation of existing facilities. Please incorporate the changes given in the comments and publish standard plan for a modular pit line complex for coach maintenance and circulate the same to all concerned within next 30 days. The publication may be appended to the next edition of Coaching Maintenance Manual.

Sd/-

(Ravinder Gupta)
Director, Mechanical Engg. (Chg.)
Railway Board.

Copy to EDEE/G, Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.95/Elec.(G)/114/3

New Delhi, dt. 27.8.1999

General Manager,
Integral Coach Factory,
Perambur,
Chennai.

Sub: Manufacture of RMPU type AC coaches by ICF.

Ref: I) ICF's letter nos. MD/DSS/AC/DEV/RMPU/180-A dated 29.3.95 & 4.11.97, MD/DSS/AC/AC-DC/EMU/167-C dated 14.8.99 & MD/DSS/AC/DEV/ RMPU/180 dated 18.8.99 & 20.8.99.

ii) RDSO's report no. EL/7.2.2 dt. 24.1.95 & 1.6.98.

ICF's proposal to manufacture RMPU type AC coaches as contained in the letters referred above seeking Board's policy directives on the same have been examined in consultation with RDSO, who vide their report no. EL/7.2.2 dated 1.6.98 have recommended manufacture of 100% RMPU type AC coaches by ICF & RCF. RCF is already manufacturing 100% RMPU type AC coaches.

In view of the above, Board have decided that 100% RMPU type AC coaches shall be manufactured by ICF during 1999-2000 and onwards.

Receipt of the letter may kindly be acknowledged.

Sd -
(A.K. Vohra)
Exec. Director Electrical Engineering
Railway Board

Copy for information and necessary action to:

1. Chief Electrical Engineers, ICF/ Chennai & RCF/Kapurthala.
2. ED(PS&EMU), RDSO, LKO.
3. Copy in case file no. 99/Elect(G)/165/1 – compendium of instructions.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.97/Elec.(G)/180/7 New Delhi, dated: 2.9.1999

Chief Electrical Engineers,
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Calcutta.
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
S.C. Railway, Secunderabad.
S.E. Railway, Garden Reach, Calcutta.
Western Railway, Churchgate, Mumbai.

Sub: 16 points Action Plan for AC & TL Coaches.

12 point action plan for AC & TL coaches finalized by Board in October, 1998 has paid rich dividends and there has been 60% improvement in failure of AC coaches. The items of action plan were again reviewed in CESE's conference held in Board's office on 2/3.8.99 and the 16 point action has been finalized (copy enclosed).

Board desire that status of each item may be reviewed by CEEs personally and compliance may be reported through CEE's PCDO to ML every month.

DA: As above

s/d –
(A.K. Vohra)
Exec.Director, Elect.Engg.(G)
Railway Board

Copy for information to:-

1. ED(PS&EMU), RDSO, LKO.
2. Director, IRIEEN, Nasik.

16 POINT ACTION PLAN ON MAINTENANCE OF AC COACHES.

1. CESEs of the Railways to interact with their counterparts in other Railways to advise the unusual occurrences and obtain feed back.

2. All the AC coaches to be pre-cooled before placement of rakes on platform. This is the time when passengers require maximum and immediate comfort level. Pre-cooling cum emergency leads should be provided in all SG AC coaches (1 in each coach) and power cars (2 in each power car).

3. No train to leave the Primary Depot with EFTs or equipments in isolated condition.

4. Defects in the coaches to be noticed immediately after arrival of train and remedial action taken accordingly. Escorting staff should report at secondary maintenance depot and advise the status of coach and should sign the register with Depot and Depot staff to sign the Log Book with Escorting Staff.

5. All AC coaches from Primary depot should go with both Alternators working. If an Alternator cannot be replaced/repaired at the secondary maintenance depot, decision to send coach with one Alternator to be taken at officer's level. Second Alternator to be fully functional with full generation and the coach/rake to be properly pre-cooled.

6. AC coaches should go from Primary Depot with 6+6 belts on the Alternators and minimum 5+5 from Secondary Depot. Adequate facilities to be built up for changing the belt on rake itself.

7. The knowledge of all the ACCIs & ACCAs should be checked regularly regarding operation of the AC coach equipment as well as handling of the situation in case of failure of the equipment. ACCIs/ACCAs MUST maintain the log book and enter all the unusual occurrences. Training of AC staff of one week duration to be standardised by the Railways.

8. Drive system for generation testing and Regulator setting to be introduced for alternators at all Primary Depots.

9. Unit Exchange Spares (UES) should be available in all depots. Each depot should have authorised holding of UES. Register should be available for each major UES at all the depots.

10. All the major depots should carry out failure analysis of major equipments and the information should be sent to RDSO periodically.

11. The power supply system for pre-cooling to be augmented in view the increasing number of AC coaches in the depots. Railways to examine and take corrective action.

12. Railways to revise their EACs (Estimated Annual Consumption) of the material because of increasing AC Coach holding.

13. Cleating of alternator field and phase wires to be properly checked at primary depot.

14. Full load and no load voltage of each cell of SMF batteries to be recorded (weeded out weak cell) every month for subsequent 3 months and if there is no abnormal variation in voltage, it should thereafter be recorded once in 3 months.

15. Working of thermostat should be monitored and recorded in log book. If thermostat is not found in working condition, the same should be attended/replaced by primary depot.

16. Working of WRA should be checked on arrival of train at primary/secondary depot and its working should be ensured before placement of rake at the platform.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 99/TG.V/12/2 New Delhi, dt. 13.9.99.

The General Managers,
All Zonal Railways.

(Commercial circular no. 29 of 1999)

Sub: Deployment of escorting staff on Rajdhani/Shatabdi express/Rajdhani type nominated trains/other superfast and mail/express trains.

With a view to standardize the complement of escorting staff on Rajdhani/Shatabdi expresses, Rajdhani type nominated trains and other superfast and mail/express trains, instructions were issued vide Board's letter of even number dated 9.6.99 specifying the strength of staff of different departments for escorting these trains. However, the matter has been further reviewed in Board's office and it has decided that the norms as formulated in the enclosed statement be followed by all the departments on all Zonal Railways.

Board desire that necessary action may be taken immediately and all concerned be advised for strict adherence of these norms. This supercedes all previous instructions on the subject.

No extra posts should be created for manning as per these norms.

Railways must ensure that staff in excess of the approved norms should not travel on the trains and any violation of the same shall be viewed seriously. These instructions should be brought into force w.e.f. 15.10.99.

This issues with the concurrence of Catering, Electrical, Mechanical & Telecom Directorates of Railway Board.

Please acknowledge receipt and ensure compliance.

Sd/
(Dr. P.K. Goel)
Exec. Director, Passenger Marketing,
Railway Board.

Copy to: ED(C&T), EDME/Chg., EDEE(G), ED(Telecom), Railway Board.

DEPLOYMENT OF STAFF ACCOMPANYING TRAINS

Type of train	Total no. of coaches	No. of pass. coaches	Maximum escorting staff permitted				
			Commercial	Elect.	Mech.	Telecom	Catering
Shatabdi Express	11(incl. 2 WLRRMs)	9	• 1 TS + 3 TTEs	• 1 Supervisor • 1 ACCI per 6 coaches (AC fitter/ elect. Power fitter/AC mechanic categories to be multi skilled) • 2 oil engine drivers per working power car	• 1 supervisor • 1 fitter • 2 safaiwalas	• 1 TCM	• 1 CIC, 1CS • 9 bearers • 5 helpers
Rajdhani Express	11(incl. 2 WLRRMs & 1 pantry car)	8	• 1 TS + 2 TTEs	• 1 Supervisor • 1 ACCI per 6 coaches (AC fitter/ elect. Power fitter/AC mechanic categories to be multi skilled) • 2 oil engine drivers per working power car. • 8 AC coach attendants with full comml. Duties or 4 AC coach attendants without commercial duties.	• 1 supervisor • 1 fitter • 2 safaiwalas	• 1 TCM • 1 Khalasi	• 1 CIC, 1 CS • 1 cook • 1 Asstt. Cook • 2 cleaners • 2 waiters • 1 helper for IA • 7 waiters & 4 helpers for other classes
Rajdhani Express	13(incl. 2 WLRRMs & 1 pantry car)	10	• 1 TS + 3 TTEs	• 1 Supervisor • 1 ACCI per 6 coaches (AC fitter/ elect. Power fitter/AC mechanic categories to be multi skilled) • 2 oil engine drivers per working power car. • 10 AC coach attendants with full comml. Duties or 5 AC coach attendants without commercial duties.	• 1 supervisor • 1 fitter • 2 safaiwalas	• 1 TCM • 1 Khalasi	• 1 CIC, 1 CS • 1 cook • 1 Asstt. Cook • 2 cleaners • 2 waiters • 1 helper for IA • 9 waiters & 5 helpers for other classes
Rajdhani Express	18(incl. 2 WLRRMs & 2 pantry car)	14	• 1 TS + 3 TTEs	• 1 Supervisor • 1 ACCI per 6 coaches (AC fitter/ elect. Power fitter/AC mechanic categories to be multi skilled) • 2 oil engine drivers per working power car. • 14 AC coach attendants with full comml. Duties or 7 AC coach attendants without commercial duties.	• 1 supervisor • 1 fitter • 2 safaiwalas	• 1 Mechanic • 1 Khalasi	• 1 CIC, 1 CS • 1 cook • 1 Asstt. Cook • 4 cleaners • 2 waiters • 1 helper for IA • 13 waiters & 7 helpers for other classes

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 99/Elect(G)/180/6 New Delhi, dt. 27.11.00.

The General Managers,
All Indian Railways.

Sub: Provision of fluorescent light fittings in BG TL coaches.

In continuation of this office letter of even number dated 13.4.99. Board have decided that all the remaining BG Mail/Exp. passenger coaches with incandescent lamps should be provided with fluorescent tube lights and fittings. This work should be done during POH in workshop spread over a period of 5 years under "Revenue".

This is in super session of Board's letter no. 95/F(S)II/1/1 dated 17.11.00 and issues with the concurrence of Finance & Mechanical Dte. of Ministry of Railways.

Please acknowledge receipt.

Sd/-
(S. K. Saxena)
Director Elect. Engg. (G)
Railway Board.

Copy for information & necessary action to:

1. **CEE/ All Indian Rlys.**
2. **CME/ All Indian Rlys.**

Sd/-
(S. K. Saxena)
Director Elect. Engg. (G)
Railway Board.

Copy for information & n.a to:

FA & CAOs/ All Indian Rlys.

Sd/-

For Financial Commissioner/ Rlys.

Copy to: DF(S)I, F(S)I, F(X)II, M(W) , Railway Board for information please, in file no. 99/Elect(G)/165/1 – compendium of instructions for ACTL coaches.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 96/Elect(G)/114/7 New Delhi, dt. 12.2.01.

Chief Electrical Engineer,
Southern Railway, Chennai.

Sub: Replacement of CFC Refrigerant (R-12) with suitable environment friendly refrigerant in AC coaches mounted with under slung AC equipment.

Ref: RDSO's letter no. EL/7.1.106/D9 dated 6.2.01.

CFC refrigerant R-12 is being currently used on conventional AC coaches fitted with under slung AC equipment and further production of such coaches has been stopped since April, 2000. As per Montreal Protocol the deadline for phasing out CFC refrigerant R-12 is 2010 and that of HCFC refrigerant R-22 is 2040. Due to phasing out of R-12 it has become essential to replace CFC 12 refrigerant with a suitable cost effective environment friendly refrigerant at the earliest.

RDSO is presently considering two alternatives as 'drop in' replacement of CFC refrigerant (R-12).

a) Drop in replacement by R-22.
b) Drop in replacement by R-134-A.

Board (ML) have decided that Southern Railway should convert 5 under slung coaches each replacing R-12 with R-22 and R-134 A refrigerants respectively to enable RDSO to gain field experience (copy enclosed).

While converting the coaches (preferably working on Southern Railway circuit) for field trials Southern Railway may draw experience from the two under slung AC coaches already provided with R-22 refrigerant and are currently in service in Southern Railway. For conducting these trials Southern Railway may consult RDSO & ICF as and when necessary. Results of the trials may be intimated to RDSO at regular intervals so that based on this experience RDSO can firm up their views for series replacement of R-12 well before the deadline set in by Montreal Protocol.

Sd/-
(A. K. Vohra)
Exec. Director Elect. Engg. (G)
Railway Board.

Copy to EDPS/RDSO, Lucknow. RDSO should get in touch with Southern Railway and monitor the performance of coaches provided with drop in replacement for field trials.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD).

No. 99/Elect(G)/165/116 New Delhi, dt. 14.2.01.

The General Managers,
All Indian Railways & Production Units.

Sub: Approval of sources for procurement of items pertaining to train lighting and AC coaches.

Ref: Railway Board's letter nos. 99/RS(G)/709/1 dated 6.9.99 & 16.9.99 – proper maintenance of assets/quality maintenance of stores.

Guidelines have been issued to the Railway regarding procurement of quality materials from time to time. Railways have been seeking clarifications from RDSO/Railway Board about the agencies responsible for assessing capacity/capability of new sources for certain items. The matter has been examined in detail in respect of procurement of electrical items for train lighting and AC coaches. With a view of have unambiguous responsibility between RDSO, ICF, RCF & he Zonal Railways Board have decided as under:-

2. Essentially items have been clubbed in following groups clearly laying down responsibility for different activities. Details are enclosed as Annexure 'A'.

i) Items where the entire responsibility of preparation of specification, capacity/capability assessment, prototype testing and development of sources lies with RDSO. The details are in para A.

ii) Items where responsibility of preparation of specification, capacity assessment and approval of sources and prototype testing is with ICF/RCF. Now it is proposed that preparation of specifications and prototype testing will be done by RDSO as given in para B.

iii) Items where responsibility of preparation specification lies with RDSO. However, capacity/capability assessment, prototype testing and development of adequate sources lie with ICF/RCF. Details are at para C.

iv) Items where drawings/specifications were either approved by RDSO or ICF or are not used for manufacture of new coaches at present due to change in technology and are required as spares for the Railways like underslung equipment for air conditioned coaches, Zonal Railways will follow RDSO/RCF's drawings/specifications and approved list. The details are at para D.

v) Items other than those mentioned at para 2(i), (ii), (iii), & (iv) above and required by Zonal Railways, the entire responsibility of preparation of specification/drawings lies with the Zonal Railways subject to issue of instructions from time to time.

3. While approving the sources for development/regular orders following guidelines should be followed by RDSO/RCF/ICF/Zonal Railways:

3.1 Guidelines as contained in Board's letter no. 99/RS)G)/709/1 dated 6..9.99 and 16.9.99 be followed completely.

3.2 There should be free exchange of information between Zonal railways/ICF/RCF/RDSO.

3.3 RDSO should finalise list of approved suppliers for equipments/items as detailed in para A of the Annexure within six months from the date of issue of instructions. Till such time ICF/RCF/Zonal railways will continue to follow the existing list of approved suppliers for such items.

3.4 RDSO/ICF/RCF and Zonal railways will ensure that specifications for procurement of equipment/components for train lighting and AC applications have provisions for embossing/writing/benching the month and year of manufacture and manufacturer's name on the items/equipments which should form part of inspection. Railway workshops while reporting failures must clearly bring out the sources.

3.5 Performance reports to RDSO/ICF/RCF in respect of items under development need to be signed at the SAG level from headquarters. RDSO to clearly define parameters for monitoring of items under development.

3.6 Railways will follow the drawings and specifications for critical and vital safety items, which have been prepared by RDSO/ICF/RCF as applicable in the past.

3.7 In respect of items/equipments where RDSO/PU's drawings/specifications are not available the Railways will prepare such specifications/drawings and get these cleared by RDSO in due course.

3.8 Wherever change over of agencies for approval of firm is involved continuity of sufficient number of part I firms should be ensured.

This issues in consultation with Stores Directorate of Ministry of Railways.

DA: As Above.

Sd/-
(A. K. Vohra)
Executive Director Elect. Engg. (G)
Railway Board.

Copy to:-

1. CEEs, All Indian Railways.
2. COS, All Indian railways.
3. CEE/ ICF, Chennai. This disposes of his letter No. MD/DSS/SPEC/211 dated 5.5.00.
4. CEE, RCF, Kapurthala. This disposes of his letter no. ED-2009 dated 24.4.00.
5. ED(PS&EMU), RDSO, Lucknow. This disposes of his letter no. EL/8.1.10 dated 5.4.00 & No. EL/8.5.20.IA dated 4.1.01 & 5.2.01.
6. AM(RS), Railway Board.

Annexure A

Annexure to Board's letter no. 99/Elect(G)/165/116 dated 14.2.01.

(A) Items where preparation sspecification/drawings/capacity assessment and prototype are to be undertaken by RDSO.

Eqpt.	Preparation of drawings/specifications		Cap/capability assessment & approval of sources for dev./regular orders		Placement of developmental orders		Prototype clearance	
	E	R	E	R	E	R	E	R
Alternator & regulator	RDSO	RDSO	RDSO	RDSO	RB	RB	RDSO	RDSO
'V' belt	RDSO	RDSO	RDSO	RDSO	ICF/RCF/Rly	ICF/RCF/Rly	RDSO	RDSO
Battery VRLA	RDSO	RDSO	RDSO	RDSO	RB	RB	RDSO	RDSO
Battery flooded type	IS & RDSO	IS & RDSO	RDSO	RDSO	RB	RB	RDSO	RDSO
Elastomeric copper cable	RDSO	RDSO	RDSO	RDSO	ICF/RCF	ICF/RCF	RDSO	RDSO
Roof mounted AC package unit	RDSO	RDSO	RDSO	RDSO	RB	RB	RDSO	RDSO
AC control panel for RMPU	RDSO	RDSO	RDSO	RDSO	RB	RB	RDSO	RDSO
Train lighting lamps	IS & RDSO	IS & RDSO	RDSO	RDSO	RB	RB	RDSO	RDSO
RC fans	IS &RDSO	IS & RDSO	RDSO	RDSO	RB	RB	RDSO	RDSO
25 kVA inverter	RDSO	RDSO	RDSO	RDSO	RB	RB	RDSO	RDSO
Inverter for TL coaches	RDSO	RDSO	RDSO	RDSO	ICF/RCF/RDSO	ICF/RCF	RDSO	RDSO
Electronic ballast for 110V DC	RDSO	RDSO	RDSO	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	RDSO
Electronic ballast for 110V AC	RDSO	RDSO	RDSO	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	RDSO

Mercury in glass thermostats with holder assembly	RDSO	RDSO	ICF/RCF	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	RDSO
Electronic thermostat	RDSO	RDSO	ICF/RCF	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	RDSO
Water raising apparatus	ICF/RCF	RDSO	ICF/RCF	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	RDSO
Relays	ICF/RCF	RDSO	ICF/RCF	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	RDSO
MCBs	RDSO	RDSO	RDSO	RDSO	ICF/RCF/Rlys	ICF/RCF /Rlys	ICF/RCF/ Rlys	RDSO
Alternator pulley	RDSO	RDSO	RDSO	RDSO	ICF/RCF/Rlys	ICF/RCF /Rlys	ICF/RCF/ Rlys	RDSO
Axle pulley	RDSO	RDSO	RDSO	RDSO	Rlys	Rlys	Rlys	
Belt tensioning device	RDSO	RDSO	RDSO	RDSO	Rlys	Rlys	Rlys	RDSO
Air filters for AC system	RDSO	RDSO	RDSO	RDSO	Rlys	Rlys	Rlys	RDSO

(B) Items where drawings/specifications have been prepared by ICF/RCF and are procuring this item at present as per their approved list. Now it is proposed that RDSO should go through these specifications with a view to standardize and issue one common specification. The source approvals, capacity assessment/ development for such items will continue to be as at present. However, prototype testing will be done by RDSO.

Eqpt.	Preparation of drawings/specifications		Cap/capability assessment & approval of sources for dev./regular orders		Placement of developmental orders		Prototype clearance	
	E	R	E	R	E	R	E	R
Vane relay	ICF/ RCF	RDSO	ICF/RCF	ICF/RCF	ICF/ RCF	ICF/RCF	ICF/RCF	ICF/RCF
Pre cooling transformer cum rectifier unit	ICF/ RCF	RDSO	ICF/RCF	ICF/ RCF	ICF/ RCF	ICF/RCF	ICF/RCF	ICF/RCF
Step down transformer 50 kva, 750/415V3 phase	RDSO	RDSO	ICF/RCF	ICF/ RCF	ICF/ RCF	ICF/RCF	ICF/RCF	ICF/RCF
Distribution trasnsformer 3 kva, 415/190 V 3 phase	ICF	RDSO	ICF/RCF	ICF/ RCF	ICF/ RCF	ICF/RCF	ICF/RCF	ICF/RCF

(D) For items where drawings/specifications were either approved by RDSO or ICF but are not used for manufacture of new coaches at present due to change in technology and are required as spares for the Railways like underslung equipments for air-conditioned coaches, Zonal Railways will follow RDSO/ICF drawings/specifications approved sources.

S No.	Equipment
(i)	Refrigerant compressor- open type
(ii)	Compressor motor (110V dc/415V 3 phase ac)
(iii)	Condensor motor (110V dc/415V 3 phase ac)
(iv)	Evaporator motor (110V dc/415V 3 phase ac)
(v)	AC control panel
(vi)	Power panel
(vii)	Comp motor tyre coupling
(viii)	Condensor fan unit
(ix)	Refrigerant condensor unit
(x)	Condensor fan
(xi)	Dehydrator cum filter
(xii)	Refrigerant Evaporator Unit
(xiii)	Evaporator blower fan
(xiv)	Evaporator heater
(xv)	Refrigerant copper pipe bends etc.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 98/Elect(G)/107/2 New Delhi, dt. 23.3.01

The General Manager,
ICF,
Chennai.

The General Manager,
RCF,
Kapurthala.

Sub: Provision of 3rd fan in GS coaches.

ICF's proposal for provision of 3rd fan per bay in GS coaches as contained in their letter No. MD/DSS/TL/192 dated 2.12.2000 and as raised by Parliamentary Standing Committee on Railways during the visit of Study Group II to ICF on 15.11.00 has been examined. It has been decided that initially ICF & RCF will manufacture 5 GS coaches with 3 fans per bay. Number of these coaches alongwith the allottee Railway should be advised to RDSO under intimation to this office for evaluating the efficacy of 3 fans giving relief to passengers with corresponding increase in noise level.

(S K Saxena)
Director Elect. Egg. (G)
Railway Board.

Copy to:-

1. CEE, RCF Kapurthala.
2. CEE, ICF, Chennai. This disposes of ICF's letter No. MD/DSS/TL/192 dated 2.12.00.
3. The Exec. Director (PS&EMU), RDSO, Lucknow w.r.t. his letter No. EL/6.12.39/D9 dated 14.3.01.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 98/M©/140/10 New Delhi, dt. 20/24.4.01

The General Manager,
All Indian Railways

Sub: Provision of Traffic & Maintenance Spares for coaching stock.

It has been observed that various Railways are following differing percentages for provision of Maintenance and Traffic spares while working out the requirements of Coaching Stock. The position has been jointly reviewed by Coaching and Mechanical Directorates in Board's office and it has been decided that the requirements of spares as a percentage of bare requirements should be worked out in accordance with the details tabulated below. These provisions should be followed with immediate effect and the actual requirements re-worked by the Zonal railways. These instructions are in super cession of all previous instructions on the subject issued either by Coaching Directorate or Mechanical Dte. of Board's office.

Provision of Spares as A% of Bare reqts.

Gauge	Coach type	Permitted maintenance spares	Permitted traffic spares	Permitted total spares
BG	Non AC	10%	12.5%	
	AC (Other than Raj/Shatabdi)	12%	12.5%	24.5%
	AC (Raj/Shatabdi)	12%	5%	17%
MG	Non AC	10%	5%	15%
	AC	12%	3%	15%

The provision of maintenance spares should be worked out on Divisional basis and traffic spares on Zonal railway basis and such spare coaches should be based at depots/stations to be decided by the concerned CME/COM.

Compliance of these instructions be ensured by all the Zonal Railways and a feedback on review of total requirements vis-à-vis holdings as on 1.5.2001 be submitted to Board latest by 31.5.2001.

Sd/-
(M.N. Chopra)
ED (Coaching)

Sd/-
(R. Mehrotra)
EDME(Coaching)

Copy to: CMEs & COMs, All Indian Railways.

Director General,
RDSO,
Manak Nagar,
Lucknow.

Sub: Issue of separate specification for 25 KVA inverter for AC coaches viz. On Board & Underslung version.

Ref: Your letter no.EL/7.7.7.8 dated 7.2.2001 & 15.8.2001.

In view of the advantages enumerated by RDSO vide their letter under reference, Board (ML) has approved the procurement of 30% of the quantity of 25 KVA inverters for AC coaches with underslung version from the next contractual period i.e. 2002-03. The quantity of underslung inverters shall be increased to 50% during 2003-04, 75% during 2004-05 and 100% during 2005-06 depending upon the initial/life cycle costs and technical performance advantages/satisfaction. It has also been decided that RDSO shall issue separate technical specifications for two version of inverters viz. On Board & Underslung.

In view of the above, you are advised to issue separate specifications for On Board & Underslung type of 25 KVA inverters for AC coaches at the earliest.

Sd/-
(R.P.Rehan)
Executive Director Elec.Engg(G)
Railway Board.

Copy to: (1)GM/RCF -for making necessary modification in the mechanical design of AC coaches. This is in reference to your letter no. ED-2009 dt.11.8.2001.
(2) GM/ICF – for similar necessary action please.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

.No.2001/Elec(G)/165/3 New Delhi, dated: 7.9.2001

General Managers
All Indian Railways/Production Units.
Metro Railway, Kolkata
DG/RDSO, Lucknow

Sub: Decentralisation of procurement of Electrical items.

The issue of decentralization of Electrical items being procured at Board's level was under consideration since quite some time. With a view to reduce the lead time in procurement of stores, following electrical items hitherto being procured at Board's level have been decentralized in terms of Board's letter no.99/RS(G)/779/13 dated 4.9.2001 (copy enclosed):

1. Lead Acid Batteries 8 Volt/450 AH for BG Diesel Locos.
2. Lead Acid Batteries 8 Volt/290 AH for MG Diesel Locos.
3. Lead Acid Train Lighting batteries 120 AH for coaches.
4. Lead Acid batteries 210 AH & 800 AH batteries for AC coaches.
5. Brushless Alternators 4.5 K.W for Train Lighting.
6. Brushless Alternators 25 KW for AC coaches.
7. Train Lighting Lamps for coaches and Loco Headlight lamps.
8. RC Fans (all types) for coaches
9. Power Transformer.

While the above decision provides for greater and desired flexibility and leverage for effective and timely material management, it also devolves higher responsibility on the part of the Railways in terms of quality, cost and inventory control. Keeping the above objective in view, the guidelines mentioned below shall be followed while procuring these stores at Railways level:

(i) Effective discharge of the responsibility of reasonableness of rates shall be ensured. In this context, technology efficient tools such as e-mail, telephone and Fax communication should be used for collective date from other units/Railways.

(ii) Procurement to be made only from RDSO's approved sources as per Part-I & Part-II list of approved suppliers issued by RDSO and as per extant instructions & guidelines issued by Railway Board from time to time on the subject.

(iii) Board's instructions regarding approval of sources of items pertaining to Train Lighting and AC coaches have already been circulated vide Board's letter no. 99/Elec(G)/165/16 dt.14.2.2001 (copy enclosed). It is reiterated that the provisions regarding preparation of specification/capability assessment, prototype testing, development of new sources and other guidelines as contained in Board's aforesaid letter shall be strictly adhered to.

DA: as above.

Sd/-
(R.P.Rehan)
Executive Director Elec.Engg.(G)
Railway Board.

Copy for information and necessary action to:

1. Chief Electrical Engineers, All Indian Railways, Production Units & Metro Railway/Kolkata.
2. C.O.S, All Indian Railways, Production Units & Metro Railway/Calcutta..
3. FA & CAO, All Indian Railways, Production Units & Metro Railway/Kolkata

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 99/Elect.(G)/165/2 New Delhi, dt. 3.10.01

Executive Director (PS&EMU),
RDSO,
Manak Nagar,
Lucknow.

Sub: Inspection of electrical equipment of AC & TL coaches by RDSO.

Ref: RDSO DO letter no EL/8.5.10.1A dated 5.9.01.

Further to this office letter of even number dated 9.10.00, it has been decided that henceforth the inspection of RMPUs for AC coaches shall be carried out by RITES subject to the following:

1. Whenever there is change in specification the inspection shall revert back to RDSO till the product to such specification stabilises (to be determined by RDSO).
2. Thereafter, inspection can be done by RITES/ Production Units subject to inspection of first lot (a minimum of 10 nos. to be offered for inspection) against each order by Railway Board to be inspected and cleared by RDSO.
3. RDSO will carry out necessary tests periodically to maintain the quality of the product.

Sd/-
(R. P. Rehan)
Exec. Director Elect. Engg. (G)
Railway Board.

Copy to: EDRS (C)/Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 99/Elect.(G)/165/2 New Delhi, dt. 12.10.01

Chief Electrical Engineers,
All Indian Railways.

Executive Director (PS&EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Inspection of electrical equipment of AC & TL coaches by RDSO.

The issue regarding nomination of inspecting agencies for carrying out acceptance test for number of electrical items for Air condition and Train Lighting coaches was under consideration of Board since quit sometime. After careful consideration, it has now been decided that henceforth the inspection of following electrical items of AC & TL coaches against the contracts placed by Railway Board/Production Units & Zonal Railways shall be carried out by M/s RITES.

1. 25 KVA inverters for AC coaches.
2. RMPU for AC coaches.
3. 1100 Ah VRLA batteries for AC coaches.
4. 120 Ah, 210 Ah, 450 Ah & 800 Ah lead acid batteries for AC & TL coach application.
5. 4.5 KW & 25 KW alternators for AC & TL coaches.
6. Railway carriage fans.

However, the above inspection by RITES shall be subject to the following:

a. Whenever there is change in specification for the above items the inspection shall revert back to RDSO till the product to such specification stabilises (to be determined by RDSO).
b. RDSO shall also carryout necessary tests from time to time as considered necessary to maintain the quality of the product (to be determined by RDSO).

Kindly acknowledge the receipt of this letter.

Sd/-

(R. P. Rehan)
Exec. Director Elect. Engg. (G)
Railway Board.

Copy to: 1. COS, All Indian Railways, ICF & RCF for necessary action.
2. MD, RITES, ND for kind information.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 2001/Elect.(G)/170/7 New Delhi, dt. 29.10.01

General Managers,
All Indian Railways.

Sub: Resting facilities for AC coach attendants and incharges.

In continuation with the Board's letter no. E(LL)83/HER/1-2 dated 27.6.85, it is reiterated that escorting staff attached with AC coaches may take rest in the AC coach itself wherever rest facilities are not available in the nature of running/rest room. To avoid any harassment during stay in AC coaches, it is advised that Zonal Railways shall issue identity cards with authorisation to all AC escorting staff permitting them to take rest only at destination stations in one of the AC coach of the train, earmarked for the purpose by the Railway.

This issues in consultation with Security Dte of Railway Board.

Sd/-
(R. P. Rehan)
Exec. Director Elect. Engg. (G)
Railway Board.

Copy forwarded for information & n/a to: CEEs/ All Indian Railways.

Sd/-
(R. P. Rehan)
Exec. Director Elect. Engg. (G)
Railway Board.

Copy forwarded for information & n/a to: CSCs/ All Indian Railways – To issue necessary directives to RPF personnel.

Sd/-
(R. P. Rehan)
Exec. Director Elect. Engg. (G)
Railway Board.

Copy to:- 1. The General Secy., NFIR, ND.
2. The General Secy., AIRF, ND.
3. All Member of Departmental & National Council.
4. Secretary, Staff side, National Council, 13-C Ferozeshah Rd, ND.

Sd/-
For Secretary, Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 98/Elect.(G)/114/3 Pt. New Delhi, dt. 27.11.01

Director General,
RDSO,
Manak Nagar,
Lucknow.

Sub: Issue of separate specification for 25 KVA inverter for AC coaches viz. on board & underslung version.

Ref: Your letter no. EL.7.7.8 dated 7.2.01 & 15.5.01.

In view of the advantages enumerated by RDSO vide their letter under reference, Board (ML) has approved the procurement of 80% of the quantity of 25 KVA inverters for AC coaches with underslung version from the next commercial period i.e. 2002-03. The quantity of underslung inverters shall be increased to 50% during 2003-04, 75% during 2004-05 and 100% during 2005-06 depending upon the initial/life cycle costs and technical performance advantages satisfaction. It has also been decided that RDSO shall issue separate technical specifications for two version of inverters viz. on board & underslung.

In view of the above, you are advised to issue separate specification for on board & underslung type of 25 KVA inverters for AC coaches at the earliest.

Sd/-
(R. P. Rehan)
Exec. Director Elect. Engg. (G)
Railway Board.

Copy to: 1. GM/RCF – for making necessary modification in the mechanical design of AC coaches. This is in reference to your letter no. ED-2009 dt. 11.8.01.
2. GM/ICF – for similar necessary action please.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2000/Elec(G)/114/1 New Delhi, dt: 04.02.2002.

Chief Electrical Engineer/Northern Railway,
Chief Electrical Engineer/Southern Railway,

Sub: Procurement of Electronic thermostat for RMPUs.
Ref: 1. RDSO's speciciation no.RDSO/PE/Spec/AC/0020-2000(Rev-0)
2. EL/7.1/27/J9 dated 30.01.02.

The matter regarding development of electronic thermostat for RMPUs of AC coaches has been under consideration in Board's office for quite some time. RDSO has developed specification no.RDSO/PE/Spec/AC/0020-2000(Rev-0) for electronic thermostat. The prototype developed by M/s.Maynard and M/s.Sidwal for this item has also been approved by RDSO vide their letter under reference (2) above whereas the prototype testing of the equipment offered by M/s.A Paul is under process.

In order to conduct the field trials on electronic thermostat, it has been decided to procure 40 nos. of electronic thermostat each by Northern Railway and Southern Railway to RDSO's above specification. These electronic theremostat shall be mounted on RMPUs of AC coaches in one of the rake on following nominated trains:

1. NR- Train no. 2401/2402, 2417/2418, 2925/2926 & 2403/2404
2. SR- Train no. 6007/6008, 6121/6122, 2621/2622 & 2759/2760

After fitment, these electronic thermostat shall undergo a field trial for a period of 9 months. The report on the field performance of these equipments shall be submitted to RDSO on quarterly basis under intimation to this office.

Board be kept appraised of the procurement action and the field performance.

Sd/-
(Lt. Col. V.K.Raheja)
Exec. Director Elec. Engg(G)
Railway Board.

Copy to ED(PS&EMU), RDSO- w.r.t his letter no. EL/7.1/27/J9 dt.12.11.01 & monitoring the performance of electronic thermostat..

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No.95/Elec(G)/114/11 New Delhi, dated 15.04.2002

Chief Electrical Engineers,
Central Railway, CSTM, Mumbai,
Eastern Railway, Fairlie Place, Kolkata,
Northern Railway, Baroada House, New Delhi,
North Eastern Railway, Gorakhpur,
Northeast Frontier Railway, Guwahati,
Southern Railway, Park Town, Chennai,
South Eastern Railway, Kolkata,
Western Railway, Churchgate, Mumbai.

Sub: Inadequacy of linen space on ACCN type coaches.
Ref: 99/RS(G)/779/13 dtd.11.10.01

In order to solve the issue of inadequate linen space on 52 nos. of ACCN SG coaches manufactured by RCF during 1994-95, Board has decided that the long term solution for the identified 52 ACCN coaches with inadequate linen space lies in the development of Under slung inverters for these coaches as the on board space occupied by the inverter may be released for use as linen room.

As sufficient sources for underslung inverters has been developed/under development and the procurement of above item has also been decentralized vide Board's letter under reference, it is advised that the on board inverters of these 52 ACCN coaches (as mentioned in the enclosed list) shall be replaced by underslung version of inverters in a phased manner. The on board space thus released by these inverters shall be utilized for linen space and the released linen space shall be utilized for passengers.

The released on board inverters shall be kept as spares by the Zonal Railways against their future maintenance requirement.

Action taken in this regard be advised to Board's office regularly.

DA: as above

Sd/-
(Lt. Col. V.K.Raheja)
Exec. Director Elec. Engg(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2001/Elec.(G)/138/3 New Delhi, dated: 01.05.2002

Chief Electrical Engineers,

Central Railway, CST, Mumbai.	022-2620867
Eastern Railway, Fairlie Place, Kolkata.	033-2200446
Northern Railway, Baroda House, New Delhi.	011-3387198
N.E. Railway, Gorakhpur.	0531-200552
N.F. Railway, Guwahati.	0361-570505
Southern Railway, Chennai.	044-5355371
S.C. Railway, Secunderabad.	040-7832445
S.E. Railway, Garden Reach, Kolkata.	033-4391566
Western Railway, Churchgate, Mumbai.	022-2014183

Sub: Manpower Planning –Offline activities.
Ref: Board's letter of even number dt.2.11.01 & 17.04.02.

In partial modification of the instructions contained in Board's letters under reference on the above subject, the following changes are made in respect of RMPUs and inverters of AC coaches.

ACTIVITY/ITEMS TO BE OUTSOURCED				
Area of activity	DESCRIPTION OF ITEM	REPAIRS		Operation
		Unscheduled	Scheduled	
LOCO				NO
	Major Electrical assy	YES	NO	
	Major Mech assy	NO	NO	
EMU /MEMU				NO
	Major Electrical assy	YES	NO	
	Major Mech assy	NO	NO	
DC EMU				NO
	Major Electrical assy	YES	NO	
	Major Mech assy	NO	NO	
AC coach				NO
	Major component of RMPU	YES	YES	
	Invertor	NO	YES	
	Compressor in underslung	YES	NO	
TL Coach				NA
	Alternator/fans	YES	NO	
Power Supply	Pumps	YES	YES	YES
	DG sets	YES	YES	YES
	Stationary AC Plants	YES	YES	YES
	House wiring	YES	YES	NA
	Distribution network/substation in colonies	YES	YES	YES
TRD		YES	NO	NO

Action plan for the other items and the other guidelines mentioned in Board's letter under reference shall remain unchanged.

Sd/-
(Lt. Col.V.K.Raheja)
Exec. Director Elec.Engg(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

NO. 2000/Elec(G)/138/2 New Delhi, dated 29.05.02

Chief Electrical Engineer,
Northern Railway
Baroada House
New Delhi.

Chief Electrical Engineer,
South Eastern Railway,
Kolkata.

ED(PS&EMU), RDSO
Manak Nagar,
Lucknow.

Sub: Review of yard stick for AC & TL coaches.

Vide para 5.6 of the Board's letter of even no. dated 02.05.01 regarding record notes of discussion of CESEs meeting held on 18.04.01, a committee consisting of CEE/NR, CEE/ER, CEE/SER and ED(PS&EMU)/RDSO (as convener) was nominated to review the existing yard stick of maintenance and escorting staff for AC coaches as well as maintenance staff for TL coaches. The committee was to submit its report by 31.07.01.

The issue of yard stick for AC & TL coaches again came up for discussion during the recently concluded CESE Conference on 30.04.02 wherein Board (ML) has expressed serious concern regarding delay in submitting the report by the committee.

As benchmarking of TC & AC escorting staff is being monitored personally by CRB, Railways has been advised again vide para 13 of the Minutes of Meeting issued vide this office letter of even no. dt.14.05.02 that the committee should submit its report by 30.06.02 positively.

In view of the above, it is requested that the committee should adhere to the revised target for submission of the report.

Sd/-
(Lt.Col.V.K.Raheja)
Exec.Director Elec.Engg.(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

98/Elec(G)/180/6 Pt.. New, Delhi, Dated: 3.6.2002.

The General managers,
All Indian Railways.

Sub: Provision of Fluorescent light fittings in BG TL coaches

In continuation of Board's letters of even no. dt.13.04.1999 & 27.11.2000, Board has further decided that in addition to BG Mail/Exp passenger coaches, all the remaining BG passenger coaches with incandescent lamps should also be provided with fluorescent tube light and fittings. Therefore, all BG passenger coaches both for Mail/Express passenger rakes should be equipped with fluorescent tube light and fittings. This work should be done during POH in workshop over the next three years under "Revenue"

This issues with the concurrence of Finance Dte of Ministry of Railways.

Please acknowledge receipt.

Sd/-
(S K. Saxena)
Director Electrical Engg.(G)
Railway Board.

Copy for information and necessary action to:
Chief Electrical Engineers – All Indian Railways.

Sd/-
(S K. Saxena)
Director Electrical Engg.(G)
Railway Board.

Copy for information and necessary action to:

FA&CAOs - All Indian Railways

Sd/-
For Financial Commissioner/Railways

Copy to – DF(S)-I, F(S)I, F(X)-II, M(W)- Railway Board for information please.In file no.99/Elec(G)/165/1 – Compendium of instructions for ACTL coaches.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2001/Elec.(G)/165/2 New Delhi, dt.07.06.02

Executive Director (PS&EMU).
RDSO,
Manak Nagar,
Lucknow.

Sub: Use of 2V/500 AH VRLA Batteries.

Ref: RDSO letter No.EL/6.7.32 dated24.05.2002

Vide RDSO letter under reference, it has been proposed to develop VRLA battery of 650 AH capacity for MG AC coaches in place of existing 450 AH lead acid batteries.

As the existing batteries of 450 AH capacity in MG AC coaches are performing satisfactorily and no complaints are being reported, it is advised that the batteries with 450 AH capacity shall continue in MG AC coaches for the time being.

Sd/-
(Lt. Col. V.K.Raheja)
Exec.Director Elec. Engr.(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No 98/Elec(G)/165/1 Pt.1. New, Delhi, Dated: 10.06.02.

Chief Electrical Engineer,
NR, SR, SER & WR

Sub: Procurement of Electronic Rectifier – cum-Regulating unit (ERRUs)for 4.5KW & 25 KW alternator for field trials.

Ref: Board's letter of even no. dated 17.08.2000

Vide Board's letter under reference, it was advised to procure 10 sets each of Electronic Regulator cum Rectifying Units (ERRUs) for 4.5 kW & 25 kW alternators. In view of the satisfactory performance of these ERRUs as reported by RDSO, it has been decided to conduct further trials on these ERRUs. Accordingly you are advised to procure 15 more sets each of ERRUs for 4.5 kW and 25 kW alternators in addition to 10 sets already procured for conducting further field trials.

Action taken in this regard be advised to Board.

Sd/-
(Lt.Col.V.K.Raheja)
Exec.Director Elec.Engg.(G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2002/Elec.(G)/165/2 New Delhi, dt. 28.06.02

General Managers,
All Indian Railways & ICF/ Chennai & RCF/Kapurthala.
Chief Electrical Engineers,
All Indian Railways & ICF/ Chennai & RCF/Kapurthala.

Sub: Use of batteries with PP-CP container for TL coaches.

Ref: RDSO's letter No. EL/DSE-8/Confdl. dated 4.3.02 & 22.5.02.

In view of the satisfactory performance and advantages of PP-CP containers enumerated by RDSO vide their letters under reference, Board (ML) has approved switching over of 6V,120 Ah batteries from hard rubber container to PP-CP containers in the following phased manner:-

i) To procure 6V 120 Ah batteries with PP-CP container upto 40% of their total requirement during 2002-03.
ii) To procure 6V 120 Ah batteries with PP-CP container upto 60% of their total requirement during 2003-04 as by that time some more sources will be cleared by RDSO with PP-CP container.
iii) To complete switchover to 6V to 120 Ah batteries with PP-CP container during 2004-05 subject to performance review by RDSO.
iv) All those firms who have been cleared by RDSO may be asked to supply 100% of their ordered quantity for batteries with PP-CP container only.

Zonal Railways will submit feedback regarding performance of these batteries in the prescribed proforma to RDSO on quarterly basis for monitoring the field performance.

Sd/-
(Lt. Col. V. K. Raheja)
Exec. Director Electrical Engg. (G)
Railway Board.

Copy to:- 1. ED(PS&EMU)/ RDSO- He is requested to circulate the proforma to all Zonal Railways for monitoring the performance of 6V 120Ah batteries with PP-CP container. Board be kept apprised of the performance on quarterly basis till 100% switchover is affected.
2.Controller of Stores, All Indian Railways, ICF & RCF.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2001/Elec.(G)/165/2 New Delhi, dt. 01.07.02

Controller of Stores,
All Indian Railways & Production Units

Sub: Procurement of 6V 120 Ah TL batteries with PP-CP container.

Ref: RDSO's letter No. EL/DSE-8/Confdl. dated 4.3.02 & 22.5.02.

In view of the satisfactory performance and advantages of PP-CP containers enumerated by RDSO vide their letters under reference, Board (ML) has approved switching over of 6V,120 Ah batteries from hard rubber container to PP-CP containers in the following phased manner:-

i) To procure 6V 120 Ah batteries with PP-CP container upto 40% of their total requirement during 2002-03.
ii) To procure 6V 120 Ah batteries with PP-CP container upto 60% of their total requirement during 2003-04 as by that time some more sources will be cleared by RDSO with PP-CP container.
iii) To complete switchover to 6V to 120 Ah batteries with PP-CP container during 2004-05 subject to performance review by RDSO.
iv) All those firms who have been cleared by RDSO may be asked to supply 100% of their ordered quantity for batteries with PP-CP container only.

It is therefore requested that while procurement of 6V 120 Ah TL batteries for coaches the above mentioned instructions may be followed.

Sd/-
(Lt. Col. V. K. Raheja)
Exec. Director Electrical Engg. (G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2002/Elec(G)/114/1 New Delhi, Dt.22.07.2002

Director General,
RDSO,
Manak Nagar,
Lucknow.

Sub: Adoption of Underslung version of 25 kVA 3-phase inverters for AC coaches.

Ref: 1. Board's letter of even no. dated 27.08.01
2. RDSO's letter no. EL/72.2.8 DT. 17.06.2002.

In continuation to Board's letter of even no. dated 27.08.01 and in view of the satisfactory performance of 25 kVA underslung inverters as stated by RDSO vide their letter under reference (2) above, Board (ML) has decided the following cut-in-schedule for AC coaches with underslung inverters depending upon the intial/life cycle coasts and technical performance advantages/satisfaction.

a) 60% underslung inverter during 2003-04.

b) 100% underslung inverter during 2004-05.

Kindly acknowledge the receipt of the letter.

Sd/-
(Lt. Col. V.K.Raheja)
Exec. Director Elec. Engg.(G)
Railway Board

Copy to

1. GM/ICF for kind information and necessary action please.
2. GM/RCF for kind information and necessary action please.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.98/Elec.(G)/165/1/Part I

New Delhi, dt. 30.7.2002

General Managers,
Integral Coach Factory, Chennai,
Rail Coach Factory, Kapurthala.

Sub: Procurement of Electronic thermostats for RMPUs.

The matter regarding development of electronic thermostat for RMPUs of AC coaches has been under consideration in Board's office for quite some time. RDSO has developed specification no. RDSO/PE/SPEC/AC/0020-2000 (Rev-0) for electronic thermostat. The prototype developed by M/s Maynard, M/s Sidwal and M/s A. Paul for this item has already been approved by RDSO vide their letter no. EL/7.1.27/J9 dt. 23.07.02.

In view of the above, Board (ML) has decided that 20% AC coaches to be manufactured and to be turned out during 2002-03 should be with electronic thermostat on RMPUs as per RDSO specification no. RDSO/PE/SPEC/AC/0020-2000 (Rev-0).

Kindly acknowledge the receipt of the letter.

Sd/-
(Lt. Col. V. K. Raheja)
Exec. Director Electrical Engg.(G)
Railway Board.

Copy to: 1. CEE/RCF, Kapurthala & CEE/ICF, Perambur, Chennai, for information and necessary action please.
3. ED (PS & EMU), RDSO, LKO for information please.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No: 98/Elec.(G)/138/12 New Delhi, dt. 9.8.2002

Chief Electrical Engineers,
Central Railway, CSTM, Mumbai.
Eastern Railway, Fairlie Place, Calcutta.
Northern Railway, Baroda House, New Delhi.
North Eastern Railway, Gorakhpur.
Northeast Frontier Railway, Guwahati.
Southern Railway, Park Town, Chennai.
S.C Railway, Secundrabad.
S.E Railway, Calcutta, Garden Reach, Calcutta.
Western Railway, Churchgate, Mumbai.

Sub: - Wearing of uniforms by AC coach attendants and Coach attendants.

Instructions already exist regarding wearing of uniforms along with arm bands by ACCI/ACCM/ACCA (escorting staff) vide Board's letter No. 83/Elect-I/138/8 dated 24/25.10.85. ML during his address in CESE conference held in Board's office on 30.4.02 has reiterated that "discipline regarding wearing of uniform by ACCI/ACCM/ACCA shall be enforced. It is hereby reiterated that all escorting staff shall be in uniform alongwith armbands during duty. The officers shall carry out surprise inspection and if the staff is not found in uniform, necessary action shall be taken against the staff.

Railways are requested to ensure strict compliance of the same and a report in this regard be sent to Board's office.

Sd/-
(Lt. Col. V.K. Raheja)
Ex. Director Electrical Engg.(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAY
(RAILWAY BOARD)

No. 99/Elect(G)/165/16 New Delhi dated 18.9.02

General Managers,
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Kolkata
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
S.C. Railway, Secunderabad.
S.E. Railway, Garden Reach, Kolkata.
Western Railway, Churchgate, Mumbai
Integral Coach Factory, Chennai
Rail Coach Factory, Kapurthala.

Sub: Development of sources for TL lamps.

Ref: Board's letter Nos. (1) 99/Elect(G)/165/16 dated 14.2.2001 &
(2) 99/Elect(G)/165/2 dated 12/17.10.2001

In partial modification of the instructions issued vide letters under reference the capacity/ capability assessment and approval of sources for development/ regular order and placement of development order in respect of the TL lamps appearing in Category 'A' of the aforesaid Annexure enclosed with the aforesaid instructions is amended as under:-

With the introduction of Fluorescent tubelight fittings in the newly manufactured coaches as well as due to the conversion of all the existing coaches with lamp fittings to fluorescent tube light fittings by all the Railways the use of lamp fittings in the coaches will be phased out in near future in all BG coaches. Therefore, all kinds of train lighting lamps. Therefore item provided for in Para (A) of Annexure (A) of the Board's letter under reference at (1) above stand deleted from the Annexure and is transferred to Para (D) of the above directives.

The other guidelines as mentioned in the earlier instructions shall remain unchanged.

Sd/-

(Lt. Col. V.K.Raheja)
Exec. Director Electrical . Engg.(G)
Railway Board.

Copy to: 1. Chief Electrical Engineers, All Indian Railways.
2. Controller of Stores/ All Indian Railways & Prod. Units.
3. Chief Electrical Engineer/ CORE/ ALD.
4. Exec. Director (PS & EMU)/ RDSO/LKO. This disposes RDSO letter no. EL/6.4.6/J9 dated 13.6.02.
5. EDRS (P) Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2000/Elec(G)/109/14 New Delhi, Dt. 22.10.2002.

General Manager,
All Indian Railway

General Manager
ICF & RCF

Sub: Provision of 110V ac single phase two pin socket and switch for charging of mobile phone and laptop.

The issue of provision of electrical sockets and switches for charging of mobile phones in passenger coaches has been under the consideration of Board since quite some time.

After careful consideration, Board (ML) has decided that ICF & RCF should cut in the provision of 110 V ac single phase two pin sockets in all the newly built AC first class and Executive Chair car coaches as per RDSO's lay out No.SK-K-2056. It has also been decided that the Zonal Railway should also provide the above arrangement in the existing AC first class and Executive Chair car coaches during POH to the above RDSO's lay out.

Kindly acknowledge the receipt of the letter.

Sd/-

(Lt.Col. V.K.Raheja)
Exec. Director Elec. Engg.(G)
Railway Board.

Copy to:

1 CEE, All Indian Railways, ICF & RCF.

2. Executive Director (PS & EMU).He is requested to circulate the copy of the above layout to all Zonal Railways, ICF & RCF.

3. Copy to File No.99/Elec(G)/165/2.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAY
(RAILWAY BOARD)

No. 99/Elect(G)/165/16 New Delhi dated 22.10.02

General Managers,
Central Railway, CST, Mumbai.
Eastern Railway, Fairlie Place, Kolkata
Northern Railway, Baroda House, New Delhi.
N.E. Railway, Gorakhpur.
N.F. Railway, Guwahati.
Southern Railway, Chennai.
S.C. Railway, Secunderabad.
S.E. Railway, Garden Reach, Kolkata.
Western Railway, Churchgate, Mumbai
East Central Railway, Hajipur
North Western Railway, Jaipur
Integral Coach Factory, Chennai
Rail Coach Factory, Kapurthala.

Sub: Procurement of electrical items for AC & TL coaches decentralised by Railway Board – educational orders.

Ref: Board's letters nos (i) 99/Elect(G)/165/16 dated 14.2.2001 &
(ii) 99/Elect(G)/165/2 dated 12/17.10.2001, 12.4.02 & 18.9.02

In partial modification of the instructions issued vide Board's letters under reference it has been decided that educational orders for AC & TL items viz. 25 KVA inverter, 1100 Ah VRLA batteries, RMPUs with control panels, lead acid batteries, 120 Ah and 800 Ah, brushless alternators 4.5 & 25 KW & RC fans should be placed by ICF & RCF. However, before placing the educational orders, the Production Units must ensure that the educational order for the similar item has not been placed by the other Production Unit on the same firm.

The other guidelines as mentioned in the earlier instructions shall remain unchanged.

Sd/-
(Lt. Col. V.K.Raheja)
Exec. Director Electrical . Engg.(G)
Railway Board.

Copy to:
1. Chief Electrical Engineers, All Indian Railways.
2. Controller of Stores/ All Indian Railways & Prod. Units.
3. Chief Electrical Engineer/ CORE/ ALD.
4. Exec. Director (PS & EMU)/ RDSO/LKO. This disposes RDSO letter no. EL/8.1.10/PE dated 26.11.01 & 18.10.02.
5. EDRS (P) Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2001/Elec(G)/125/3 New Delhi, Dt.28.10.2002

Chief Electrical Engineers,
Integral Coach Factory,
Perambur,
Chennai.

Sub: Electrical Scheme for Jan Shatabdi Express trains from 3rd rake onwards.

Ref: Your letter no.MD/D/JS/13A dated 28.09.02.

Your proposal regarding the rating of alternator capacity has been examined in consultation with Tourism & Catering Dte. of Railway Board. Since all the equipment provided in Sub Pantry and Rail Mart area, i.e. hot case, hot water boiler, bottle cooler, microwave oven and coffee vending machine may operate simultaneously. The alternator capacity of 2 X 12 kW in Jan Shatabdi coaches has been found to be in order. However, the decision regarding the battery capacity will be communicated to you after the same is received from RDSO.

Sd/-

(Lt.Col.V.K.Raheja)
Exec. Director Elec. Engg(G)
Railway Board.

Copy to: ED (PS&EMU), RDSO, Manak Nagar, Lucknow.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD).

No.99/Elect(G)./113/1 New Delhi, dt. 28.11.02

General Managers,
All Indian Railways
ICF & RCF.

Sub: Scale of electrical equipments to be provided in ARTs & ARMEs.

Ref: (i). Board's letter of no. 89/Electl/138/4 dated 20.6.86 & 26/ 27.4.1989.

(ii) Board's letter No. 81-M(M&P)/7/8 dated 7/8.11.86.

The issue of review of scale of electrical equipments of ARTs/ARMEs was being raised by some Zonal Railways from time to time. Accordingly, in supersession of Board's letters under reference (i) above and in partial modification of the equipment in Appendix III under heading "Generation & Electrical Equipment" of Board's letter under reference (ii) above, Board (ML) has decided that the scale of electrical equipments to be provided on ARTs & ARMEs shall be as per the Annexure-I enclosed alongwith this letter. Railways may take expeditious action to make good the short fall, if any.

In order to optimise the space utilization inside the van, it is advised that the equipments should be so stacked that maximum use is made of air space and walls inside the vans.

Sd/-
(S. K. Saxena)
Director Elect. Engg. (G)
Railway Board.

Copy to: 1. CEEs/ All Indian Railways, ICF, RCF.
2. CMEs/ All Indian Railways.
3. ED(PS&EMU)/ RDSO/ Lucknow.
4. DME (P)-II, Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2002/Elec(G)/114/3 New Delhi, dt. 10.12.2002

General Manager,
Northern Railway
New Delhi

General Manager,
ICF, Chennai.

Sub: Development of Microprocessor based control system for RMPU.

With a view to improve the comfort level, improvement in the performance and introduction of centralized monitoring system in AC coaches, Board (ML) has decided to undertake the development of microprocessor based control system for Roof Mounted Package Units by procuring the equipment as per RDSO specification no.RDSO/PE/SPEC/AL/0026 (Rev.0)-2002 on the following:

1. One complete rake of Rajdhani Express No.2431/2432 by Northern Railway.
2. Fitment of microprocessor control of 9 nos. new SG type AC coaches by ICF.

Following firms have shown their interest for development of these items.

a) M/s. Vasu Tech. Ltd., New Delhi
b) M/s. Stesalit Ltd., Kolkata.
c) M/s. Feeders Lloyd Corp. Ltd., New Delhi
d) M/s. Lloyd Elect. & Engg. Ltd., New Delhi.
e) M/s. Siemens Ltd., Mumbai
f) M/s. Tata Steel, Jamshedpur.
g) M/s. Sidwal Refrigeration Co Ltd.,

While undertaking the development of above system, RDSO shall be fully associated at each stage of development. It is advised that the above development should be carried out in a time bound programme. The target for completion of this development be advised to Board.

This issues with the concurrence of Finance Dte. of Ministry of Railways.

Sd/-
(Lt. Col.V.K.Raheja)
Exec.Director Elec. Engg(G)
Railway Board

..contd.

Copy for information & necessary action to:

1. CEE/Northern Railway & CEE/ICF-. ICF may ensure that to the extent practicable all the 9 new coaches fitted with this system be dispatched to one Railway.
2. ED(PS&EMU), RDSO, Lucknow

Sd/-
(Lt. Col.V.K.Raheja)
Exec.Director Elec. Engg(G)
Railway Board

Copy for information & necessary action to:

FA & CAO- Northern Railway & ICF.

Sd/-

For Financial Commissioner/Rlys.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 2002/Elect(G)/129/10 New Delhi, dt. 10.12.02

Executive Director (PS&EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Improvement in electrical fittings/wiring of SLR coaches – avoidance of electrical short circuit thereof.

In order to avoid probability of electrical short circuit incidences inside the luggage compartment of SLR coaches on electrical account, Board desires that all electrical light fittings in luggage compartment of SLR coach shall be flushed type with proper protection grill and the existing electrical switches inside the luggage compartment shall be shifted to the guard portion.

You are, therefore, advised to modify the layout of electrical fittings & wiring circuit of SLR coach and intimate it to the Zonal Railways/PUs for adopting the above changes in all SLR coaches under intimation to Board's office.

Sd/-

(Lt. Col. V. K. Raheja)
Exec. Director Elect. Engg. (G)
Railway Board.

Copy to:

1. Chief Electrical Engineer, All Indian Railway – They are advised to adopt the above changes in all the SLR coaches during POH.

2. Chief Electrical Engineer, ICF & Chief Electrical Engineer/ RCF – They are requested to cut in the above modification in newly built SLR coaches as and when the modification details are furnished by RDSO.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2000/Elec(G)/109/14 New Delhi, Dt. 30.12.2002.

General Manager,
All Indian Railway

General Manager
ICF & RCF

Sub: Illumination of reservation chart and coach numbers in passenger coaches.

The issue of illumination of reservation chart and coach numbers in passenger coaches has been under consideration of Railway Board since quite sometime. As Hon'ble Minister for Railways has declared the year 2002-03 as "**Passenger Amenities Year**" and in order to improve the visibility of reservation charts and coach numbers in passengers coaches, Board (ML) has approved the **provision of lighting arrangements for the reservation charts and coach number in Sleeper and AC coaches**.

Zonal Railways may, therefore, **provide the above arrangements in all the existing Sleeper & AC coaches** in a phased manner under the head **"Passenger Amenities"** while ICF & RCF should cut in the above provision in all the sleeper and AC coaches to be manufactured from 2003-04 onwards. Zonal Railways/ICF/RCF should provide the above lighting arrangement based on the **standard** designs and specification to be framed by RDSO.

Sd/-

(S.K.Saxena)
Director Elec. Engg.(G)
Railway Board

Copy to:

1 DG, RDSO for information and necessary action- He is requested to finalise the scheme for providing lighting arrangement in the reservation chart and coach numbers and advise all concerned on priority under intimation to Board.
2 CEE, All Indian Railways, ICF & RCF.
3 Executive Director (PS & EMU)/RDSO/Lucknow
4 Adv (L&A) & EDPM in Rly. Board.- For kind information

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2000/Elec(G)/165/8 New Delhi, dated 06.02.2003

Chief Electrical Engineers,
ICF, Chennai,
RCF, Kapurthala.

Sub: Provision of 3rd fan in GS coaches.

In order to improve the ventilation system in the existing General Second Class coaches, Board (ML) has decided that all newly built GS coaches to be turned out from 1.4.2003 onwards should be provided with 3 fans per bay (9 additional fans per coach). The cut in date of providing 3 fans per bay in GS coach be communicated to Board.

Sd/-
(Lt. Col.V.K.Raheja)
Exec.Director Electrical Engg.(G)
Railway Board.

Copy to: ED(PS&EMU) w.r.t. his letter no.EL/6.12.39 dt.3.2.03.

Government of India
Ministry of Railways
(Railway Board)

RBE No. 28/03

No.E(MPP)98/3/8 New Delhi, dated 11.02.03

The General Manger,
All Indian Railways

Sub:- Report of the Railway Safety Review Committee (Part-II)-98 – Refresher Training programme for Loco running staff – Recommendation No.107

Ref:- Board's letter of even number dated 20.1.2000 (RBE. No.11/2000) and 9.10.2002 (RBE. No.182/02)

The Railway Safety Review Committee vide Recommendation No.107 had recommended as under:-

> "The initial and periodic refresher training course for running staff and AC attendant should have a programme on fire-fighting/use of fire extinguisher."

The above recommendation has been accepted by Railway Board.

The Sub-module on Fire-Fighting for all Group 'C' & 'D' staff of Electrical Department is already included in Module EL-04 and floppy circulated vide Board's letter No.E(MPP)2000/3/2 dated 27.2.2001. To facilitate access to the above module the same has been pasted in Railnet under the Management Services site.

However, the Railway administration are directed to include the module of fire-fighting in the refresher courses for Asstt. Drivers and Drivers. The refresher courses for Drivers viz, loco RNG-6, RNG-7, RNG-8 and RNG-9 have accordingly been modified and enclosed. The course content on fire fighting for Asstt. Drivers/Drivers(RNG-184) is also enclosed. Adequate copies may be made and distributed to the concerned Training Centres. The implementation of the above instructions may please be confirmed.

Kindly acknowledge receipt of this letter.

DA: As above.

07/02/03

(P. Ananth)
JD(MPP)
Railway Board.

No.E(MPP)98/3/8 New Delhi, dated 11.01.03

1. The General Secretary, NFIR, 3 Chelmsford Road, New Delhi for information with 35 spares.
2. The General Secretary, AIRF, 4 State Entry Road, New Delhi for information with 35 spares.
3. The Secretary General, FROA, R.No.256-A, Rail Bhawan, New Delhi for information with 5 spares.
4. The Secretary General, IRPOF, R.No.268, Rail Bhawan, New Delhi for information with 5 spares.
5. All Members, Departmental Council and National Council and Secretary Staff Side National Council, 13-C, Ferozeshah Road, New Delhi(90 spares)
6. The Secretary General, All Indian RPF Association, Room No.256, Rail Bhawan, New Delhi-110 001 for information with 5 spares.

For Secretary/Railway Board.

Copy to:-

CRB, FC, ML, ME, MM, MS, MT, DG(RHS), DG(RPF),AM(Budget), AM(CE), AM(C&IS), AM(Comml.), AM(Elect.), AM(Fin.), AM(Mech.), AM(Plg.), AM(Project), AM(PU), AM(Sig.), AM(Staff), AM(Rly. Stores), AM(T&C), AM(Telecom.), AM(Tfc.), AM(Works), Adv(Vig.), Adv. Fin(Exp), Adv.(IR), LA , OSD(MIS)

ED(plg.), ED(Accts.), ED Fin.(BC), EDCE(B&S), EDCE(G), EDCE(Plg.), ED(Coaching), ED(CC), ED(C&IS), ED(E&R), EDEE(Dev.), EDEE(G), EDEE(RS), EDE, ED(RRB), EDE(N), EDE(Res.), EDF, EDF(C), EDF(S), EDF(B), EDF(RM), EDF(X)I, EDF(X)II, ED(H), EDLM, ED(MIS), EDE(GC), ED(Trg.&MPP), EDME(Chg), EDME(Fr.), EDME(Tr.), EDME(TOT),EDME(Dev.), EDME(W), ED(PC)I, ED(PC)II, ED(Plg.), ED(PP), ED(Projects), ED(Projects)/DMRC, ED(RE), EDRE(S&T), EDRE(S), ED(Safety), JS, JS(C), JS(E), JS(G), JS(P), IG/RPF(Hqs), IG/RS, ED(Sig), ED(Stat&Eco), EDRS(C), EDRS(G), EDRS(P), EDRS(S), EDRS(W), ED(TD), EDT(M), EDT(MC),EDT(P), ED(T&C), ED(CP), ED(PM), E D(PG), EDTC(R), EDTC(FM), EDTT(F), EDTT(FM)EDTT(M), EDTT(S), EDV(A), EDV(E), EDV(T),ED(W) .

E.(Trg.), E(NG)I, E(NG)II, E(G).

DEPARTMENT: ELECTRICAL
ACTIVITY CENTRE: STATION/TRAIN
TRADE: ELECTRICAL DRIVERS

STAGE: Refresher Course for Asst. Drivers (Electric)

TECHNICAL QUALIFICATION

DURATION: 3 WEEKS (18 WORKING DAYS) **PERIODICITY**: ONCE IN 3 YRS

MOD. NO.	DESCRIPTION	Duration (Days)
RNG-171	Contractor & Relay	1
RNG-172	DJ Closing Circuit	1
RNG-173	Traction Power Circuit & Failure	1
RNG-174	Auxiliary Power & Control Circuit	1
RNG-175	MU operation and Braking System	2
RNG-176	Modifications to Locos	1
Rng-177	Traction Distribution	1
RNG-178	GR&SR	1
RNG-179	System of Train working	1
RNG-180	Signals	1
RNG-181	Different types of forms	½
RNG-182	Engineering Signals	1
RNG-183	Accident	1
RNG-184	Fire-Fighting	½
	Trouble shooting on line	2
	Simulator Training*	2
	Viva Voce	2
TOTAL		18 Wkg. Days

* To be substituted by Line Training with LI in case simulator training facilities are not available.

DEPARTMENT: ELECTRICAL
ACTIVITY CENTRE: STATION/TRAIN
TRADE: ELECTRICAL DRIVERS

STAGE: Refresher course for all Electric Drivers (except Asst. Driver)

TECHNICAL QUALIFICATION

DURATION: 3 WEEKS (18 WORKING DAYS) **PERIODICITY**: ONCE IN 3 YRS

MOD.NO	DESCRIPTION	DURATION (DAYS)
RNG-201	CONTRACTOR & RELAY	½
RNG-202	DJ Closing Circuit	½
RNG-203	Traction Power Circuit & Failure	1
RNG-204	Auxiliary Power & Control Circuit	1
RNG-205	Braking System including Air Brake	1
RNG-206	Punctuality and modifications on Locos	
RNG-207	Traction Distribution	1
RNG-208	GR&SR	1
RNG-209	System of Train working	
RNG-210	Signals	1
RNG-211	Different types of forms	½
RNG-212	Engineering Signals	1
RNG-213	Accident	1
RNG-184	Fire-fighting	½
	Trouble shooting on line	2
	Simulator Training*	2
	Viva-Voce	2
	TOTAL	18 Wkg days

*To be substituted by Line Training with LI in case simulator training facilities are not available.

LOCO-I

DEPARTMENT: MECHANICAL
ACTIVITY CENTRE: STATION/TRAIN
TRADE: DIESEL DRIVERS

STAGE: Refresher Course for Asst. Drivers (Diesel)

TECHNICAL QUALIFCATION

DURATION: 3 WEEKS (18 Working DAYS) **PERIODICITY:** ONCE IN 3 YR

MOD NO.	DESCRIPTION	Dural (Days)
RNG-231	LOCO & its subv-systems	1
RNG-232	Fuel Oil, Lube Oil, Water Cooloing & Air System	2
RNG-233	Functioninhg of turbo Super Charger, Batteries	1
RNG-234	Idle & Shut down safety, over speed handle, other safety devices	1
RNG-235	Booking of repairs in log Book, Attending minor defects	1
RNG-175	MU operation and Brake systems	2
RNG-178	GR&SR	1
RNG-179	System of Train working	1
RNG-180	Signals	1
RNG-181	Different types of forms	½
RNG-182	Engineering Signals	1
RNG-183	Accident	1
RNG-184	Fire-fighting	½
	Trouble shooting on line	2
	Simulator Training*	1
	Viva Voce	1
TOTAL		18 Wkg. Days

*To be substituted by Line Training with LI in case simulator training facilities are not available.

DEPARTMENT: MECHANICAL
ACTIVITY CENTRE: STATION/TRAIN
TRADE: DIESEL DRIVERS

CAGE: Refresher Course for all Diesel Drivers (except Asst. Drivers)

TECHNICAL QUALIFICATION

DURATION: 3 WEEKS (18 WORKING DAYS) **PERIODICITY**: ONCE IN 3 YRS

MOD No	DESCRIPTION	Duration (Days)
RNG-251	Advantages of various locos	1
RNG-252	Knowledge of Air Charging System & Fuel oil system	½
RNG-253	Safety devices provided in Diesel Locos	½
RNG-254	Advantage of Air Brake system Over Vacuum brake system	1
RNG-255	Loco failures & trouble shooting/ Fault finding	1
RNG-256	Types of Governor & their functions	1
RNG-257	Types of circuits	1
RNG-208	GR & SR	1
RNG-209	System of Train working	1
RNG-210	Signals	1
RNG-211	Different types of forms	½
RNG-212	Engineering Signals	1
RNG-213	Accident	1
RNG-184	Fire-fighting	½
	Trouble shooting on line	2
	Simulator Training*	2
	Viva Voce	2
TOTAL		18 Wkg. Days

*To be substituted by Line Training with LI in case simulator training facilities are not available.

ASSTT.DRIVERS/DRIVERS

DESCRIPTION
Fire-Fighting

CONTENTS

a. Identifying and handling of various types of fire extinguishers
b. Precautions to be taken while extinguishing fire
c. Render first aid to the burn injuries
d. Render first aid to persons affected by suffocation.
e. Communication

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2000/Elect(G)/109/14 New Delhi, dt. 18.2.2003

Chief Electrical Engineers,
ICF, Chennai
RCF, Kapurthala.

Sub: Provision of berth number indication alongwith night lamp in 3AC III tier coaches.

In view of the current year being declared as 'Passenger Amenities Year' and to improve the amenities in AC 3 tier coaches, Board (ML) has decided that all newly built AC 3 tier coaches to be turned out from 1.4.03 onwards should be provided with berth number indication along with night lamp to RDSO specification no. RDSO/P/SK/TL/0036-2002 (Rev.0). The cut-in date of providing berth number indication in AC 3 tier coaches be communicated to Board.

Sd/-

(Lt. Col. V.K.Raheja)
Exec. Director Elect. Engg. (G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2001/Elect(G)/113/4(Safety) New Delhi, dt. 18.2.2003

Chief Electrical Engineers,
ICF, Chennai
RCF, Kapurthala.

Sub: Provision of emergency lights in passenger coaches.

Ref: CRS/Eastern Circle's recommendation on derailment of 2301 Rajdhani Exp. on 9.9.02.

Based on the recommendation of CRS/Eastern Circle regarding provision of emergency lights in passenger coaches Board(ML) has decided that ICF & RCF should provide emergency lights on newly manufactured coaches and:-

i) ICF & RCF should initially procure 1000 numbers (250 coaches) each of these emergency light to RDSO's provisional specification no. RDSO/PE/Spec/D/TL/0042-2003 (Rev.0) and should provide it on AC coaches (50 nos.) & TL coaches(200 nos.) to be manufactured during 2003-04.

ii) While approving the design, RDSO should be fully associated during evaluation of design and proto type approval.

iii) Development of sources and design clearance and protootype inspection for these emergency units should rest with P Us

The progress in this regard alongwith the coach and allottee Railways be communicated to Board & RDSO.

Sd/-
(Lt. Col. V.K.Raheja)
Exec. Director Elect. Engg. (G)
Railway Board.

Copy to:- ED(PS &EMU), RDSO , Lucknow w.r.t. his letter no. EL/6.4.6 dated 15.1.03 are requested to monitor the performance of these coaches.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 2002/Elect(G)/165/4 New Delhi, dt. 24.02.03

Chief Electrical Engineers,
All Indian Railways
ICF, Perambur, Chennai
RCF, Kapurathala.

Sub: Failure analysis for various equipments of Roof Mounted Package Units by the Railways.

During the meeting held on 7.10.02 by RDSO with the representative from Railways and manufacturers of Roof Mounted Package Units, RDSO had observed that the firms while carrying out the Annual Maintenance Contracts are not submitting the detailed investigation reports of failures of the equipments to the Railways. It is difficult to ascertain the cause of such failure and the remedial measures to overcome these failures. RDSO has therefore decided that:-

" Railways should ask for the detailed investigation report of the equipment from the firm holding AMC. This investigation report should be compiled and regulars meetings shall be held with AMC holding firm to improve reliability."

In view of the above, Railways are requested to incorporate suitable clause in the contract and also sent the monthly analysis reports to RDSO for taking necessary action to improve the performance of these equipments.

Sd/-

(Lt. Col. V. K. Raheja)
Exec. Director Elect. Engg. (G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.98/Elec.(G)/165/1/Part I

New Delhi, dt. 12.3.2003

General Managers,
Integral Coach Factory, Chennai,
Rail Coach Factory, Kapurthala.

Sub: Procurement of Electronic thermostats for RMPUs.

Ref : Board,s letter of even no. dt. 30.7.02

The matter regarding development of electronic thermostat for RMPUs of AC coaches has been under consideration in Board's office for quite some time. RDSO has developed specification no. RDSO/PE/SPEC/AC/0020-2000 (Rev-0) for electronic thermostat. The prototype developed by M/s Maynard, M/s Sidwal and M/s A. Paul for this item has already been approved by RDSO vide their letter no. EL/7.1.27/J9 dt. 23.07.02.

In view of the above, Board (ML) has decided that 20% AC coaches to be manufactured and to be turned out during 2002-03 should be with electronic thermostat on RMPUs as per RDSO specification no. RDSO/PE/SPEC/AC/0020-2000 (Rev-0).

Kindly acknowledge the receipt of the letter.

Sd/-

(Lt. Col. V. K. Raheja)
Exec. Director Electrical Engg.(G)
Railway Board.

Copy to: 1. CEE/RCF, Kapurthala & CEE/ICF, Perambur, Chennai, for information and necessary action please.
3. ED (PS & EMU), RDSO, LKO for information please.

GOVERNMENT OF INDIA
MINISTRY OF RAIWLAYS
(RAILWAY BOARD)

RBEL.2/2003

No.2000/Elec(G)/109/14 Delhi, dt.08.04.2003

General Manager,
Integral Coach Factory,
Chennai.

General Manager,
Rail Coach Factory,
Kapurthala.

Sub: Provision of berth number indication alongwith night lamp in sleeper class coaches.

In view of the current year being declared as '**Customer Satisfaction Year**' and to improve the amenities in sleeper class coaches, Board (ML) has decided that all newly built sleeper coaches to be turned out from 01.04.2003 onwards should be provided with berth number indication alongwith night lamp to RDSO specification no.RDSO/P/SK/TL/0041-2003 (Rev.0).

Compliance to the above directives be communicated to Board's office.

Sd/-
(S.K.Saxena)
Director Elec Engg(G)
Railway Board.

Copy to:

1. CEE, Integral coach factory, Chennai.
2. CEE, Rail Coach Factory, Kapurthala.
3. ED(PS&EMU), RDSO, Lucknow w.r.t his letter no.EL/6.4.3 dt.06.02.03
4. All AMs & all EDs in Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2003/Elec(G)/150/8 New Delhi, dt. 02.06.03

Chief Electrical Engineers,
All Indian Railway.

Sub: 230V plug point at waiting room and platform for harging of mobile phone/laptop.

In view of the current year being declared as 'Customer Satisfaction Year' by the Hon'ble MR during his budget speech 2003, it is advised that adequate number of 230V single phase AC plug point be provided in the waiting rooms and at the platform areas of **important Railway stations** for charging of mobile phones/laptop computer. The plug points thus provided should be provided with the marking "For charging of cell phones/laptops"

Sd/-

(Lt.Col.V.K.Raheja)
Exe. Director Elect. Engg(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD).

No.99/Elect(G)./113/1 New Delhi, dt. 16.7.03

General Managers,
All Indian Railways
ICF & RCF.

Sub: Scale of electrical equipments to be provided in ARTs & ARMEs.

Ref: (i). Board's letter of no. 89/Electl/138/4 dated 23.6.86 & 26/27.4.1989.

(ii) Board's letter No. 81-M(M&P)/7/8 dated 7/8.11.86.
(iii) Board's letter of even number dated 28.11.02.

The issue of review of scale of electrical equipments of ARTs/ARMEs was being raised by some Zonal Railways from time to time. Accordingly, in super session of Board's letters under reference (i) above and in partial modification of the equipment in Appendix III under heading "Generation & Electrical Equipment" of Board's letter under reference (ii) above, Board (ML) has decided that the scale of electrical equipments to be provided on ARTs & ARMEs shall be as per the Annexure-I enclosed alongwith this letter. Railways may take expeditious action to make good the short fall, if any.

In order to optimise the space utilization inside the van, it is advised that the equipments should be so stacked that maximum use is made of air space and walls inside the vans.

DA: As Above.

Sd/-
(S. K. Saxena)
Director Elect. Engg. (G)
Railway Board.

Copy for information and necessary action to:-
1. CEEs/ All Indian Railways, ICF, RCF.
2. CMEs/ All Indian Railways.
3. ED(PS&EMU)/ RDSO/ Lucknow.
4. DME (P)-II, Railway Board

Sd/-
(S. K. Saxena)
Director Elect. Engg. (G)
Railway Board.

No.99/Elect(G)./113/1 New Delhi, dt. 16.7.03
Copy to:- FA& CAO, All Indian Railways & Production Units.

For Financial Commissioner(Rlys.)
Copy to:- F(S) I, Safety(A&R) & Budget Branches, Railway Board.

Annexure-I

LIST ENCLOSED ALONGWITH BOARD'S LETTER NO.99/ Elect(G)./ 113/1 dt. 16.07.03

SN	Equipment	Proposed to be modified	
		ARTs (Class A/ Class B)	ARMEs (Class C)
1	Diesel Generating sets of 15 kVA capacity 230 V *	1 set	-
2	Generator set kerosene driven 1.5 kVA 230 V	20 sets	2 sets
3.	Complete luminiare fitting with 1000 W Halogen lamp and control gear	10 sets	2 sets
4.	Complete luminiare fitting with 150 W Metal Halide lamp and control gear	40 sets	10 sets
5.	Telescopic stand 2 meter high for mounting luminiare for Halogen/Metal Halide fittings.	20 sets	-
6.	PVC insulated and PVC sheathed 3 core flexible cable 23/0.193 mm 15 m long with 15 weather proof I.C. pin for weather proof I. C. socket.	50 nos.	12 nos
7.	PVC insulated and sheathed 3 core flexible cable 23/0.193 mm	1500 mtrs.	300 mtrs.
8	Kerosene oil in 200 litre drums	3 nos.	1 no.
9.	Diesel oil in 200 litre drum	1 no.	-
10.	Polythene containers 20 ltrs. Capacity for handling kerosene and pouring into auxiliary tanks of engine.	18 nos.	4 nos.
11	Lubricating oil	40 ltrs.	5 ltrs.
12	Oil measuring can 1 litre capacity	6 nos.	1 no.
13	Insulation tape PVC in rolls of 10 mtrs.	24 nos.	6 nos.
14	Tool set comprising of: 254 mm cutting pliers –1 no., screw driver round-300 mm, 150 mm, 100mm- 3 nos., knife- 1 no., Hammer DP-1 no.	1 set	1 set
15	Spanner DE 3 mm to 19 mm in steps of 1.5 mm	1 set	1 set
16	Socket spanner with lever 3 mm to 19 mm	1 set	1 set
17	Aluminium telescopic ladder	2 nos.	-
18	Earthing rod for earthing OHE **	2 nos.	-
19	Portable switch board with water proof sockets each capable of taking 500 watt load (2 sockets of 5 amps and 2 combination sockets of 5/15 amps)	4 sets	1 set
20	Drum of fixed stand for main cable	2 nos.	-
21	Battery charger 230 V AC/110 V DC, 60 Amp.	2 nos.	-
22	100 W gas filled bulbs bayonet type alongwith holder in wire cage & with handle & hook.	6 nos.	4 nos.
23	Telescopic masts 6 metres high	4 nos.	2 nos.

* To avoid premature replacement of existing 6 kVA DG set, the existing 6 kVA DG set should only be replaced by 15 kVA DG set when it is due for replacement. All new ARTs shall be equipped with 15 kVA DG set.

** To be provided on electrified section only.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAY
(RAILWAY BOARD)

No.2003/Elect(G)/165/1 New Delhi, Dt. 25.07.2003

Chief Electrical Engineers,
All Indian Railways.
ICF & RCF.

Sub: Development of 1100 Ah Lead Acid flooded battery.

In view of the technology development in the field of Lead Acid batteries, it has been decided to develop 1100 Ah Lead Acid batteries for AC coach application. Accordingly, Railways are advised to develop and place orders upto 20% of their requirement of 1100 Ah batteries to RDSO provisional specification no.ELPS/SPEC/TL/09-2003 (Rev.0) for flooded type Lead Acid batteries of 1100 Ah capacity. The prototype of these batteries will be cleared by RDSO and the performance of the initial 5-6 coaches fitted with these batteries should be closely monitored by RDSO for a period of 6 months. Based on the satisfactory performance of these batteries, railways should permit the supply of the remaining 1100 Ah Lead Acid batteries in the coaches..

Board be kept appraised of the progress in this regard.

(Lt.Col.V.K.Raheja)
Exec. Director Elect. Engg(G)
Railway Board.

Copy to: ED(PS&EMU)/RDSO in reference to their letter no. EL/6.7.19 dated 23.06.03.

GOVERNMENT OF INDIA
MINISTRY OF RAILWYAS
(RAILWAY BOARD)

No.2003/Elect(G)/113/4 New Delhi, dt. 07.03.

General Managers,
All Indian Railway.

Sub: Recommendation of high level Committee on Disaster Management over Indian Railways.

Ministry of Railways vide Board's Order NO.ERB-I/2002/23/44 dated 16.9.2002 set up a high level Committee to review, strengthen and streamline the Disaster Management System on Indian Railways. The Committee has since submitted its report containing 111 recommendations which have been accepted by the Government (Ministry of Railways). In compliance to the recommendations of the Committee **"All Open Line/Construction Electrical Engineering Agreements or OHE & General Power Supply related works must include a clause that vehicles and equipment of contractors can be drafted by Railway Administration in case of accidents/natural calamities involving human lives".**

In order to implement the above recommendation it has been decided by Board that following action may be taken immediately:-

(i) The above recommendation of the High Level Committee should be included as a special condition in the contract agreement. For payment purposes, the item may be operated as a **Non-Schedule (NS)** item as per the existing norms and powers delegated to the Railways: and

(ii) A data base should be kept ready in respect of the equipments available with the working contractors which can be used in train accidents/natural calamities involving human lives in each Division and Construction Office. This data base may also be kept on Railway's secured website which can be accessed by the concerned officials of the Railways. However, only authorised officials should be able to edit the same.

This issues with the concurrence of Finance Dte. of Ministry of Railways.

Sd/-
(Lt. Col.V.K.Raheja)
Executive Director Elect. Engg(G)
Railway Board.

Copy to: 1. CEE/All Indian Railway
2. CEE/C/All Indian Railway
3. F(S) I in Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2001/Elec(G)/113/4 New Delhi, Dt. 28.08.03

Chief Electrical Engineer,
Northern Railway,
New Delhi

Chief Electrical Engineer,
Southern Railway,
Chennai.

Chief Electrical Engineer,
Western Railway,
Kolkata.

Executive Director (PS&EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Development of Emergency lights for AC& TL coaches.

Ref: This office letter of even no. dt.18.2.2003.

During the recently concluded CEE Conference held at Kolkata on 26/27.08.03, it was decided that in addition to the sources being developed by ICF & RCF for emergency lights for passenger coaches, few more Railway should develop this item to expedite the development, trial and its adoption on regular basis.

Accordingly, it has been decided that NR, SR & WR should develop the emergency lights by placing order for 500 nos. of emergency lights each either to RDSO specification no. RDSO/PE/Spec/D/TL/0042-2003(Rev.0) or to White LED based system with stand alone unit. After developing the design and field trials of emergency lights, RDSO should examine and apprise Railway Board for the final design to be adopted.

Sd/-
(Lt. Col. V.K. Raheja)
Exec. Director Elect. Engg(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.98/Elec(G)/165/1 Pt.I

New Delhi, Dt. 28.8.03

Chief Electrical Engineer,
Integral Coach Factory,
Perambur,
Chennai.

Sub: Procurement of Electronic Rectifier-cum-Regulating Unit (ERRUs) for 4.5 kW & 25 kW alternator.

Ref: **1. CEE/ICF letter no.MD/DSS/ELE/MTG/210 dt.25.3.03.**
2. CEE/ICF letter no.MD/DSS/SPEC/211 dt.24.7.03

Kindly connect Board's letter of even no. dtd. 4.4.03 wherein it has been clearly advised to ICF in response to their letter under reference at (1) above that no directives for switching over of ERRUs to 100% have been issued so far by the Board. It was further advised to follow the instructions contained in Board's letter no.98/Elec(G)/165/1 dt.7.5.02. It is once again reiterated that the instructions laid down in Board's letter no.98/Elec(G)/165/1 dt.7.5.02 should be strictly adhered to till further advice.

Sd/-
(Lt.Col.V.K.Raheja)
Exec. Director Elec. Engg(G)
Railway Board.

Copy to: ED(PS&EMU)/RDSO, Manak Nagar, Lucknow.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2000/Elec(G)/181/21-Pt. New Delhi, dt. 09.10.2003

Chief Electrical Engineers
All Indian Railway.

Sub: Review of existing yardstick of maintenance & escorting staff for AC coaches as well as maintenance staff for TL coaches.

At present different yardsticks are being followed by Zonal Railways for staff for AC & TL coaches. In order to adopt a uniform yardstick for staff for AC coaches, TL coaches, power cars, escorting staff & train passing staff in the coaching depot (excluding the staff required in the offices of Zonal HQ, Divnl. HQ & supervisor in-charge in the field required for the purpose of material planning, maintenance planning, chasing of stores, coordination of workshops etc):-

Activity	Yardstick
(i) TL COACHES:	
(a) Primary maintenance:	0.3 staff per coach of the total holding.
(b) Secondary maintenance	0.15 staff per coach for average coach arrival per day.
(c) Train passing	0.05 x total coach km/200
(ii) AC COACHES:	
(a) Primary maintenance:	
SGAC coach with under slung AC equipment	2.1 staff/coach
SGAC coach with RMPU type of AC equipment	1.4 staff/coach
EOG AC coach with under slung AC equipment	1.4 staff/ coach
EOG AC coach with RMPU type of AC equipment	1.0 staff/coach
(b) Secondary maintenance:	
SGAC coach with underslung AC equipment	1.05 staff/coach
SGAC coach with RMPU type of AC equipment	0.7 staff/coach
EOG AC coach with underslung AC equipment	0.7 staff/coach
EOG AC coach with RMPU type of AC equipment	0.5 staff/coach
Train passing staff for AC coaches	$\frac{0.05 \times \text{AC coach km}}{200}$
(iii) POWER CARs:	12 staff per 10 power cars for maintenance
(iv) ESCORTING STAFF:	As per Board's commercial circular no. 29 of 1999 circulated vide Board's letter no. 99/TG-V/12/2 dtd. 13.9.99

Note: In additions to the requirement of staff required for maintenance of power cars as mentioned in item (iii) above, **power cars with AC guard cabin** will also require the staff for maintenance of AC equipments which shall be taken equivalent to ½ AC coach.

The guidelines for staff required for offices of Zonal HQ, Divnl. HQ & supervisor in-charge in the field required for the purpose of material planning, maintenance planning, chasing of stores, coordination of workshops etc are under consideration of the Board and will be issued shortly.

Receipt of this letter may kindly be acknowledged.

Sd/-

(Lt. Col.V.K.Raheja)
Exec. Director Elect. Engg(G)
Railway Board.

Copy to: Exec.Director/ PS&EMU, RDSO, Manak Nagar, Lucknow.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2003/Elec(G)/138/1 **New Delhi, dt. 5 .11.03**

Chief Electrical Engineers,
All Indian Railway.
Integral Coach Factory
Rail Coach Factory.

Director General,
RDSO,
Manak Nagar,
Lucknow.

Sub: Guidelines for the decision taken during the MSG Meeting for AC & TL.

Ref: Board letter no.89/Elect(G)/138/2 dt.19.02.1990

The matter regarding issue of guidelines for the decisions to be taken during the Maintenance Study Group (MSG) has been under consideration of Board since quite some time. After careful consideration, Board (ML & FC) have decided to adopt the following guidelines as a matter of policy in respect of the decisions taken during the Maintenance Study Group (MSG) meetings for AC& TL coaches.

1. RDSO may issue the directives on their own to Zonal Railways/PUs to incorporate those changes where there is no financial implication.
2. RDSO can also issue the directives to Zonal Railways regarding those decisions where financial implication is involved with the concurrence of associate finance of RDSO to implement those changes where financial implications is up to Rs.10000/- per AC coach and Rs.2500/- per TL coach.
3. Where financial implications are more than Rs.10000/- per AC coach and Rs.2500 per TL coach RDSO should send self-contained proposal to Board with the concurrence of associate finance for consideration of Railway Board.
4. RDSO should intimate all the decisions taken at their end for 1 & 2 above to Railway Board on quarterly basis in the enclosed proforma.

While the above are general guidelines, RDSO may continue to suggest other modifications/improvements in the system to the Zonal Railways as per the existing practice.

This issues with the approval of Associate finance of Railway Board.

Kindly acknowledge the receipt of this letter.

Encl: as above

Sd/-
(Lt. Col.V.K.Raheja)
Exec.Director Elect. Engg(G)
Railway Board.

Copy to:
Executive Director(PS&EMU), RDSO, Manak Nagar, Lucknow-This disposes of RDSO's Lr. No.EL/7.1.60/G dt.17/22.4.03.
Copy to:

1. Executive Director (Finance), RDSO, Manak Nagar, Lucknow – He may kindly ensure that per coach cost implication of the modification is clearly indicated in the modification advice.
2. FA & CAOs/Zonal Railways & PUs for information and necessaary action.

Sd/-

For Financial Commissioner/Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2003/Elec.(G)/135/1 Pt. New Delhi, dated 10.11.2003

The Executive Director,
Power Supply & EMU,
R.D.S.O., Manak Nagar,
Lucknow.

Chief Electrical Engineers,
ICF/ Chennai
RCF/ Kapurthala.

Sub: Implementation of the recommendations of the restructuring committee of RDSO – Review of approval of sources for procurement of AC, TL & EMU/MEMU items.

Ref: Board's letter of even number dated 17.10.03 addressed to RDSO.

Board after due deliberations in their meeting held on 23.9.2003 on the report of the committee set up to restruct RDSO (May, 2003) have decided the following on para 12 of the report :

"The committee's recommendation that RDSO should concentrate more on its primary job of research as a premier research organisation is accepted. Work pertaining to source approval and vendor development should be decentralised in a phased manner. To begin with 50% of the vendor development and source approval pertaining to Electrical & Mechanical Department could be transferred to Production units. Work of vendor development and source approval for other departments may continue with RDSO for the time being."

In order to comply the above, it has been decided to hold a meeting in Board's office at 11.00 hrs. on 18.11.03 to review the earlier directives issued vide Board's letter nos. 99/Elect(G)/165/16 dated 14.2.01 & 2002/Elect(G)/181/1 dated 16.503 regarding approval of sources for procurement of AC, TL & EMU/MEMU items.

You are advised to attend the above meeting.

Sd/-
(S. K. Saxena)
Director Electrical Engg.(G),
Railway Board.

B M Lal
Addl. Member (Elect.)

D.O. No.2001/Elec(G)/165/4 New Delhi, dated 27.11.2003

My dear Sirajuddin,

Sub: Approval of sources for procurement of items pertaining to Train Lighting & Air Conditioning for LHB coaches.

Guidelines for approval of sources for procurement of items pertaining to Train Lighting & Air conditioning indicating the unambiguous responsibility between RDSO & Production Units for preparation of specification/capacity/ capability assessment, prototype testing and development of sources have already been issued vide Board's letter no. 99/Elect(G)/165/16 dated 14.2.01 (copy enclosed). However, informal discussions in various forums have revealed that these guidelines are not being followed in respect of equipment for LHB coaches. It is clarified that the above guidelines are equally applicable for LHB type coaching stock as well.

I would therefore, request you to implement the above guidelines for LHB coaches as well. RDSO may be fully involved for all such equipments where responsibility of prototype testing lies with them.

Yours sincerely,

(B. M. Lal)

Shri Md. Sirajuddin,
General Manager,
Railway Coach Factory,
Kapurthala.

Copy to: DG/RDSO, Lucknow.

BY FAX

GOVERNMENT OF INDIA
MINISTRY OF RAILWAY
(RAILWAY BOARD)

No.2003/Elect(G)/165/1 New Delhi, Dt. 26.12.2003

Chief Electrical Engineers,
All Indian Railways.
ICF & RCF.

Sub: Development of 1100 Ah Lead Acid flooded battery.

In partial modification of Board's letter of even no. dt.25.07.03 advising Railways to develop and place orders upto 20% of their requirement with flooded type Lead Acid batteries of 1100 Ah capacity, it has now been decided that the development of 1100 Ah flooded type Lead Acid batteries may be done outside the regular requirement of 1100 Ah VRLA batteries to ensure that adequate number of batteries are available.

(Lt.Col.V.K.Raheja)
Exec. Director Elect. Engg(G)
Railway Board.

Copy to: ED(PS&EMU)/RDSO in reference to their letter no. EL/6.7.19 dated 23.06.03.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2001/Elect(G)/165/4 New Delhi, Dt. 29.12.03

General Manager,
Northern Railway & Western Railway,
ICF & RCF.

Director General,
RDSO,
Lucknow.

Sub: Running of Rajdhani & Shatabdi trains with LHB type coaching stock.

In order to streamline the maintenance/operation, installation and commissioning and design aspects for electrical system & air conditioning system for LHB coaches, following has been decided:

Activity	Action
Design aspects	1. RDSO shall prepare particular specification of the coach for manufacturing in Production Units giving broad outlines of the design based on proven design, UIC code, IE Rules, IEC & BIS etc. 2. RDSO, PUs & Railways shall prepare specification of such equipment as circulated vide Board's letter no. 99/Elect(G)/165/116 dt. 14.2.01 & AM/L's D.O.No.2001/Elect(G)/165/4 dt.27.11.03 to GM/RCF copy to DG/RDSO. 3. RDSO shall issue certificate complying provisions of electrical safety to Board, PUs, Railways etc. Extracts of the prototype test result relevant as per the provisions of electrical safety shall be furnished alongwith the certificate.
Manufacturing, installation & commissioning	1. PUs shall prepare detailed drawings and seek RDSO approval, wherever necessary, based on directives issued from time to time. 2. PUs shall carryout commissioning test ensuring compliance of provisions of electrical safety. 3. PU shall submit certificate to the owning Railway towards compliance of the provision of electrical safety. Extracts of the prototype test results relevant as per the provisions of electrical safety shall also be furnished alongwith the certificate.
Maintenance & Operation	Railways shall submit compliance as per the provision of electrical safety alongwith the compliance given by PU and RDSO as detailed above.

It is further advised that the provisions of electrical safety, operating instructions/maintenance schedule pertaining to electrical systems & air conditioning system of LHB coaches as framed by RDSO be scrupulously followed, copies of these documents be obtained from RDSO.

Sd/-
(S.K.Saxena)
Director Elect.Engg(G)
Railway Board.

Copy to: 1. CEE, Northern Railway , Western Railway, ICF & RCF.
2. ED(PS&EMU)/RDSO/Lucknow. – In reference to his letter no.EL/7.1.108 dtd. 9.10.03. He is advised to despatch copies of provisions of electrical safety enclosed as Annexure A to RDSO's above letter and SMI no.RDSO/PE/SMI/AC/0022-2002 (Rev-1) to concerned Zonal Railways & PUs.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2000/Elec(G)/165/8 New Delhi, dated 12.01.04

General Manager,
Integral Coach Factory,
Perambur
Chennai.

General Manager,
Rail Coach Factory,
Kapurthala.

Sub: Development of Brushless DC (BLDC) fans with permanent magnet for coaching stock.

Ref: i) ICF's letter no.MD/DSS/SPEC/211 dt.27.11.03.

ii) This office letter of even no. dt. 26.03.01, 21.09.01, 11.1.02, 1.4.02, 16.4.02

In continuation to this office letters under reference at (ii) above, Board has further decided that ICF & RCF should procure 50% of their requirement of Railway Carriage fans with Brushless DC (BLDC) design to RDSO's specification no. RDSO/PE/SPEC/TL/0021/2000 (Rev.0) from RDSO's approved sources subject to availability of funds.

(S.K.Saxena)
Director Electrical Engg.(G)
Railway Board.

No.2000/Elec(G)/165/8 New Delhi, dated 07.01.04
Copy to:

1 CEE/ICF, Perambur, Chennai
2. CEE/RCF, Kaputala

they are requested to advise the coach nos. fitted with BLDC fans alongwith the allottee Railway to RDSO.

3. ED/PS&EMU, RDSO, Lucknow

he is requested to monitor the performance of the coaches fitted with BLDC fans

Sd/
(S.K.Saxena)
Director Electrical Engg.(G)
Railway Board.

No.2000/Elec(G)/165/8 New Delhi, dated 12.01.04
Copy to:-

1. FA&CAO, ICF, Perambur.
2. FA&CAO, RCF, Kapurthala.

For Financial Commissioner/Railways

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2003/Elect(G)/114/2 New Delhi, dt. 6.2.04.

General Manager,
Integral Coach Factory,
Chennai.

Sub: Development of scheme for extension of emergency feed in air condition coaches from one coach to adjacent air condition coach in case of failure of power supply of one coach.

Ref: RDSO's letter no.EL/7.2.4 dt.16.6.03 & 9.12.03.

After careful consideration of RDSO's proposal as contained in their letter under reference, it has been decided that ICF should undertake 'Development of scheme for extension of emergency feed in air condition coaches from one coach to adjacent air condition coach in case of failure of power supply of one coach' for 24 AC coaches immediately to RDSO's specification no. RDSO/RE/SPEC/AC 0049-2003 (Rev.0) in a time bound manner. While developing the above scheme, RDSO should be fully associated. The requirement of additional funds on this account should be met with from the funds allocated to ICF in bulk RSP.

ICF should ensure that as far as practicable, the AC coaches fitted with this scheme should be dispatched to one or two Zonal Railways. Allottee Railways should be advised to marshal these coaches in one hook during field trial. Particular of these coaches alongwith the allotee railways should be communicated to RDSO and to Railway Board.

Board be kept appraised of the time schedule for implementation of above scheme.

This issues with the concurrence of Finance Dte. of Ministry of Railways.

Sd/-
(S.K.Saxena)
Director Elect. Engg(G)
Railway Board.

Copy to: 1 CEE/ICF, Chennai.- for kind information and necessary action.
2. ED(PS & EMU)/ RDSO, Lucknow – w.r.to his letters under reference. He is requested to monitor the field performance of these coaches and should submit the detailed report for further taking further decision.

Sd/-
(S.K.Saxena)
Director Elect. Engg(G)
Railway Board.

Copy to: FA & CAO/ ICF.

For Financial Commissioner/Railways.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAY
(RAILWAY BOARD)

No.2003/Elect(G)/165/1 New Delhi, dt. 16.02.2004

Chief Electrical Engineers,
Zonal Railways.

Sub: Development of 1100 Ah Lead Acid flooded battery

During the recently concluded MSG meeting on TL & AC held on 12th & 13th February 2004 at Guwahati, the issue of failure of AC coaches on account of battery came up for discussion. FRPCPY of batteries calculated by RDSO indicated that the maximum failure are in the batteries which are in service during the 5th year of operation. As has been decided earlier by RDSO, the anticipated life of batteries is about 4 years against which the zonal railways are running the batteries beyond 4 years causing unnecessary enroute detention/failure on account of batteries. In order to arrest the enroute failure of AC coaches as well as certified non-AC coaches which are resulting into refund to the passengers, it was decided during the MSG meeting that the batteries beyond 4 years should be weeded out at the earliest.

If necessary zonal railways should workout this requirement and place indent for their requirement over and above EAC. This exercise should be completed before the onset of December. The numbers of batteries thus planned to be weeded out should be clearly worked out and intimated to the Board.

Sd/-
(Lt.Col. V.K.Raheja)
Exec. Director Elect. Engg(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.99/Elec(G)/165/16 New Delhi, dated 26.2.2004

The General Managers,
All Indian Railways & Production Units

Sub: Approval of sources for procurement of items pertaining to train lighting and AC coaches.

Ref: Railway Board's letter nos. 99/Elect(G)/165/16 dt. 4.2.01 , 99/Elect(G)/165/2 dt. 12/17.10.01 & 2001/Elect(G)/165/2 dt. 12.4.02.

In pursuance of Board's decisions taken during the Board's meeting held on 4th & 11& Sept, 2003 regarding implementation of the recommendations of the restructuring committee of RDSO – Review of approval of sources for procurement of AC& TL items and in partial modifications of the instructions issued vide Board's letters under reference, the capacity/capability assessment and approval of sources for development/regular order and placement of developmental order in respect of the following two items appearing in Category 'A' of the Annexure enclosed with the aforesaid instructions is amended as under:-

Eqpt.	Preparation of drawings/spec.		Capacity/capability assessment & approval of sources for dev/ regular orders		Placement of developmental orders		Prototype clearance	
	E	R	E	R	E	R	E	R
TL lamps	IS & RDSO	IS & RDSO	RDSO	RDSO	ICF & RCF	ICF & RCF	RDSO	Zonal Rlys.
Conventional RC fans	IS & RDSO	IS & RDSO	RDSO	RDSO	ICF & RCF	ICF & RCF	RDSO	ICF & RCF
Electronic ballast for 110 V DC	RDSO	RDSO	RDSO	RDSO	ICF & RCF	ICF & RCF	ICF & RCF	Zonal Rlys.
Electronic ballast for 110 V AC	RDSO	RDSO	RDSO	RDSO	ICF & RCF	ICF & RCF	ICF& RCF	ICF & RCF
Emergency light	ICF & RCF	ICF & RCF	RDSO	RDSO	ICF & RCF	ICF & RCF	ICF& RCF	ICF & RCF

E-Existing, R-Revised.

As 2.5 kVA inverters for TL coaches is no more in use it is proposed to delete the same.

You are therefore advised to follow the above guidelines and deal with the cases accordingly.

(Lt. Col. V. K. Raheja)
Exec. Director Elec.Engg.(G)
Railway Board.

Copy to:- 1. CEEs/ All Indian Railways & PUs.
2. COSs/ All Indian Railways & PUs.
3. CEE/ CORE/ Allahabad.
4. ED(PS&EMU), RDSO, Manak Nagar, Lucknow.
5. AM/RS, Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2003/Elect(G)/135/1 Pt New Delhi, Dt. 09.03.2004.

General Manager,
All Indian Railways.
ICF, RCF, CLW
CORE, Allahabad

Sub: Approval of sources for procurement of electrical items pertaining to electric locomotive, EMU, MEMU, AC, TL and Traction Distribution Installations.

The issue of utilization of performance feed back from Zonal Railways regarding vendor/product's of the items pertaining to electric locomotives, EMU, MEMU, AC, TL and Traction Distribution Installations at the time of updating the approved lists of Productions Units (PUs) both for Part I & Part II was under consideration of Board since quite some time. After careful consideration and with a view to ensure the induction of good suppliers developed by Zonal Railways into PUs list as well as getting good quality products at a reasonable cost, It has now been decided to constitute the following **Standing Committees** of CEEs from Zonal Railways and PUs for finalizing the updated list of approved vendors for PUs:

1.1 **Items pertaining to TL & AC coaches:**

CEE/ICF (Convener), CEE/RCF, CEE/NR & CEE/SER

1.2 **Items pertaining to EMU coaches:**

CEE/ICF (Convener), CEE/WR & CEE/ER .

1.3 **Items pertaining to electrical locomotives:**

CEE/CLW (Convener), CEE/CR & CEE/NR.

1.4 **Items pertaining to Traction Distribution Installations (TRD) items:**

CEE/CORE (Convener), CEE/NCR & CEE/SCR

2.0 Terms of Reference for the committees are set out below:

i) Finalisation and review of approved vendors list for the PUs at prescribed intervals to ensure that the Board's policy guidelines demarcating responsibility of RDSO and PUs are correctly followed.

ii) Frame suitable criteria to be adopted for approval of sources for Part II and upgradation of Part I categories including FYFR & FRPCPY from Railways.

Contd..

iii) Board's guidelines in respect of quality procurement as issued by stores Dte vide Board's letter no.99/RS(G)/709/1 dt 6.9.1999 & no.99/RS(G)/709/1 dt.16.9.1999 (copies enclosed) may also be kept in view before finalising the list.

iv) Review existing criteria to ensure that zonal railway's feed back on vendors/products gets considered in the process of updating the vendor lists.

v) Ensure timely release of the periodic updates of the approved list and its circulation to all concerned.

vi) Recommend changes in vendors lists of RDSO or of zonal railways so as to remove conflicts and/or overlaps with the PUs list.

vii) Advise RDSO for discussion during the MSG meetings on performance of such products which deviate from the standard to which the prototype was cleared. On acceptance of recommendations of the MSG, committee shall review the status of such vendors/products.

viii) The list of approved suppliers shall be treated as final once, it is signed by all the committee members.

ix) The committees must complete the first review latest by 30.4.04 and submit the list to Board by 15.5.04 positively.

x) In any unlikely event of difference of opinion/views within the committee, the convenor shall refer the issue to the Railway Board for finalisation.

3.0 In respect of such items whose prototype clearance is being given by RDSO, the approved sources for these items, if any, contained on the list of PUs list/CEE's approved list should be deliberated in MSG meetings by making it as a standard agenda item. Based on the acceptance of MSG's recommendations of MSG deliberations, RDSO should review their approved list of vendors for Part-I & Part-II.

4.0 After finalisation of the list by the above committee, the respective CEEs of PUs/CORE will thereafter process the list as per Board's instructions issued vide Stores Dte letter no.73/RS(G)/779/30 Pt.II dt. 17.1.1995 (copy enclosed)

This issues in consultation with the Stores Dte of Ministry of Railways.

Sd/-
(S.K.Saxena)
Director Elect. Engg(G)
Railway Board.

Copy to: 1. CEE/All Indian Railways including ICF, RCF, CLW & CORE
2. COS/All Indian Railways including ICF, RCF, CLW & CORE
3. EDEE/RS,EDRE, EDRS/G in Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.99/Elec(G)/165/16 New Delhi, dated 10.3.2004

The General Managers,
All Indian Railways & Production Units

Sub: Approval of sources for procurement of items pertaining to train lighting and AC coaches.

Ref: Railway Board's letter nos. 99/Elect(G)/165/16 dt. 4.2.01 , 99/Elect(G)/165/2 dt. 12/17.10.01 & 2001/Elect(G)/165/2 dt. 12.4.02.

In partial modification of Board's letter of even no. dt. 26.2.2004, the nomenclature for prototype clearance regarding existing (E) and revised (R) for TL lamps, Electronic ballast for 110 V DC & , Electronic ballast for 110 V AC may be read as under:

Eqpt.	Preparation of drawings/spec.		Capacity/capability assessment & approval of sources for dev/ regular orders		Placement of developmental orders		Prototype clearance	
	E	R	E	R	E	R	E	R
TL lamps	IS & RDSO	IS & RDSO	RDSO	RDSO	ICF & RCF	ICF & RCF	Zonal Rlys	Zonal Rlys.
Electronic ballast for 110 V DC	RDSO	RDSO	RDSO	RDSO	ICF & RCF	ICF & RCF	RDSO	ICF & RCF
Electronic ballast for 110 V AC	RDSO	RDSO	RDSO	RDSO	ICF & RCF	ICF & RCF	RDSO	ICF & RCF

E-Existing, R-Revised.

Sd/-

(Lt. Col. V. K. Raheja)
Exec. Director Elec.Engg.(G)
Railway Board.

Copy to:- 1. CEEs/ All Indian Railways & PUs.
2. COSs/ All Indian Railways & PUs.
3. CEE/ CORE/ Allahabad.
4. ED(PS&EMU), RDSO, Manak Nagar, Lucknow.
5. AM/RS, Railway Board.
6. Director General/ QA/Elect./RDSO, Manak Nagar, Lucknow. In compliance to your letter no. QE/8.1.10 dt. 9.3.2004

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2003/Elec.(G)/110/1 New Delhi, dt. 13.04.2004

Chief Electrical Engineer,
All Indian Railways.

Sub: Safety measures to be observed by On-duty staff.

Due to inadequate observance of safety rules, a number of cases has been reported in the past in which on duty staff has either suffered electric shock or electrocuted.

As the guidelines for observance of safety measures are already in existence and are being circulated from time to time, it is necessary that the same should be reiterated to the field units for its strict compliance and adherence to avoid recurrence of such cases. It is, therefore, desired that necessary training modules covering the safety aspects to be observed by the electrical staff while working under live condition should be prepared. Accordingly, training to all the electrical staff dealing with live wire condition be imparted in a time bound manner at their work places/training schools.

Compliance to the above instructions be communicated to the Board.

(Lt.Col.V.K.Raheja)
Exec. Director Elect.Engg(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 2001/Elect.(G/165/3

New Delhi, dt. 6.5.04

Chief Electrical Engineers,
All Indian Railways & PUs.

Sub: Procurement of Stores on Life Cycle Cost (LCC) basis.

Instructions have been issued vide Board's letter no. 2002/RS(G)/709/2 dated 4.12.03 (copy enclosed) regarding procurement of Stores on LCC basis. Details of items to be considered for procurement in LCC technology are indicated in Annexure I of the enclosure.

You are requested to take necessary action under intimation to Board on electrical items.

DA: As Above.

(Lt. Col. V. K. Raheja)
Exec. Director Elect. Engg. (G)
Railway Board.

Copy to: Executive Director (PS& EMU), Sr. EDSE, EDTI, RDSO, Manak Nagar, Lucknow.

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RBS. 19/2003

Government of India
Ministry of Railways
(Railway Board)

No. 2002/RS(G)/709/2 New Delhi, dt:04-12-2003

The General Managers,
All Indian Railways &
Production Units.

Sub:- Procurement of Stores on Life Cycle Cost (LCC) basis.

Ministry of Railways constituted a committee of EDs vide their letter No. ERB-I/2003/23/21 dt. 25-7-2003 to identify two items each of Engineering, Electrical, Mechanical and S&T Department for undertaking their procurement on LCC basis and to examine various issues involved in adopting LCC. The committee has recommended that procurement based on LCC technique should be initially applied for few selected items on experimental basis for part quantities. Accordingly, committee identified 8 items for procurement on Life Cycle Cost basis. The details of these 8 items along with the process of applying L.C.C. technique for their procurement is indicated in Annexure -I The model tender conditions as well as evaluation criteria as illustrative examples have been developed for 3 items i.e. loco batteries, ERC and Rail Pad (Annexure 'A' &'B') which with suitable modifications can be adopted for the other items also.

Board have accepted the recommendations of the Committee for the procurement of a few selected safety related items on experimental basis with the following provisions:

(i) The functional specifications and minimum technical parameters for any item procured through LCC basis should be specified by RDSO.

(ii) Inter-dependent items (e.g. ERC and rail pad) should preferably have similar life cycle.

(iii) For Civil Engineering items, Liners (both GFN as well as Mild Steel) should also be included for procurement on life cycle basis since the performance of ERC & rail pad is intimately connected with the quality of liners.

(iv) Railways may like to include more safety related items for procurement on LCC basis, which have maximum anticipated life of 8 years, to start with.

(v) 20% of the total requirement may be procured on trial basis by each Railway on the basis of LCC.

contd...2/-

In accordance with the above, procurement process for the few selected safety items based on the LCC, may be initiated subject to the provisions given in Para 2 above.

This issues with the concurrence of Finance Directorate of Railway Board.

Please acknowledge receipt and report the compliance.

(P.S. Meena)
Dy. Director, Rly. Stores (G)
Railway Board.

No. 2002/RS(G)/709/2 New Delhi, dt:04-12-2003

Copy to:

1. The COSs, All Indian Railways/PUs
2. The COS/Konkan Railway Corpn. Ltd., Raigad Bhawan, 8th Floor,Sector – 11, CBD, Belapur,Navi Mumbai -- 400 614,
3. The COS/ Mumbai Rail Vikas Corporation,2nd Floor, Church Gate Station Building, Mumbai -- 400 020.
4. The Principal –
   (i) Railway Staff College, Vadodara.
   (ii) Indian Railway Institute of Sig. Engg. & Telecom, Secunderabad.
   (iii) Indian Railway Institute of Mech. & Elec. Engg., Jamalpur.
   (iv) Indian Railway Institute of Elect. Engg., Nasik.
   (v) Prof. (Inv. Mgt.), Railway Staff College, Vadodara.
5. Chairman, Railway Rates Tribunal, Chennai.
6. Executive Director, Iron & Steel, 3, Koila Ghat Street, Kolkata.
7. The Managing Director, RITES, RITES Bhawan, Sector–29,Gurgaon–122 001
8. Chief Commissioner, Railway Safety, Lucknow.
9. ED(QA)/RITES, RITES Bhawan, Sector–29,Gurgaon–122 001

(P.S. Meena)
Dy. Director, Rly. Stores(G)
Railway Board.

Contd...3/-

No. 2002/RS(G)/709/2 New Delhi, dt:04-12-2003

Copy to:

1. FA&CAO, all Indian Railways & Production Units.
2. The ADAI(Rlys.), New Delhi (with 10 spare copies).
3. Dy. Comptroller & Auditor General of India (Rlys), R.No. 224, Rail Bhawan.
4. The Director of Audit, All Indian Railways.

for Financial Commissioner / Railways

No. 2002/RS(G)/709/2 New Delhi, dt:04-12-2003

Copy to :

1. The General Secretary , AIRF, 4 State Entry Road , New Delhi -110055
2. The General Secretary , NFIR, 3 Chelmsford Road, New Delhi - 110055
3. The Secretary General, IRPOF, Room No. 268, Rail Bhavan, New Delhi-1
4. The Secretary General, FROA, Room No. 256-D, Rail Bhavan, NewDelhi-1.
5. The Secretary General, AIRPFA, Room No. 256-D, Rail Bhavan, NewDelhi-1.

(P.S. Meena)
Dy. Director, Rly. Stores(G)
Railway Board

Copy to:-

(i) CRB, FC, MM and Secretary, Railway Board -- for information please.
(ii) AM(RS), AM(ME), AM(F), AM(Vig.).
(iii) EDRS(C), EDRS(P), EDRS(S), EDRS(G),EDF(S),EDTK(M), EDEE(Dev.), ED/Dev., EDME(Fr.),EDME(Tr.), EDV(S), ED(Safety),DRE(S).
(iv) Mech(L), Mech(C), Mech (N), F(S)-I, F(S)-II, F(S)-III, FS(POL) and all other officers and branches of Stores Dte.

Annexure - I

Details of the 8 items, expected life along with the process of applying LCC technique:

Branch	Item	Optimum/ minimum life	Suggested process of applying LCC technique
Mech/ Elect	Diesel Loco Starters/ Lead Acid batteries 8V / 450AH capacity	4 years Optimum	❖ Procurement based on the tender conditions and evaluation criteria as formulated (**Annexure. A**) should be processed. (Tender already being processed by Railway Board). ❖ Suitable method for monitoring and recording the field performance (including various parameters as life, availability, reliability, preventive and corrective maintenance records, failures) of the batteries to be suggested by RDSO.
Mech	Turbo Super Charger	16 years (Optimum)	❖ RDSO to formulate functional specifications including the *developing methodology and formats* etc. for monitoring and recording the field performance vis-à-vis the quoted parameters. ❖ DLW to initiate procurement action on LCC concept by adopting the model tender conditions and evaluation criteria (**Annexure A).** (Action to be taken by DLW as this item is centralized for procurement at DLW).
Electrical	Brushless DC Fan	10 years (optimum)	❖ RDSO to formulate functional specifications including the *developing methodology and formats* etc. for monitoring and recording the field performance vis-à-vis the quoted parameters. Railway (COS in consultation with CEE & FA&CAO) to formalize the tender conditions and evaluation criteria based on the model tender conditions and evaluation criteria as enclosed (**Annexure B**) and initiate procurement action on LCC concept.

Contd...2/-

Electrical	Traction Motor pinio of WAG 9	3 year (minimum)	-do –
Signal	High performance signal lamp	100,000 hours (Optimum)	❖ RDSO to formulate the functional specifications including *developing methodology and formats* for monitoring and recording the field performance. (Each signal lamp, its locations and its supplier has to be uniquely identified and its field performance will have to be recorded.) ❖ Railway (COS in consultation with CSTE & FA&CAO) to formalize the tender conditions and evaluation criteria based on the model tender conditions and evaluation criteria **(Annexure B)** and initiate procurement action on LCC concept. The penalty clauses should be suitably incorporated in the tender conditions so that a reasonable amount of damages can be claimed from the supplier in case of deficient performance, lower life etc.
Signal	Insulated Rail Joints for track circuit(glued joint/)	3 years	❖ RDSO to formulate the functional specifications including *developing methodology and formats for monitoring* and recording the field performance. Railway (COS in consultation with CSTE & FA&CAO) to formalize the tender conditions and evaluation criteria based on the model tender conditions and evaluation criteria **(Annexure B)** and initiate procurement action on LCC concept. The penalty clauses should be suitably incorporated in the tender conditions so that a reasonable amount of damages can be claimed from the supplier in case of deficient performance, lower life etc.

Contd…3/-

Civil	Elastic Rail Clips (silico manganese spring steel)	6 years minimum	❖ RDSO to formulate the functional specifications including *developing methodology and formats for monitoring* and recording the field performance. (As identification of each ERC may be cumbersome and counter productive, it is recommended that ERCs of particular supplier are used in one railway/section so as to monitor, record and evaluate its field performance as also to levy the penalties, if any, without any dispute regarding suppliers identification). ❖ Railway to initiate procurement action on LCC concept by adopting the model tender conditions and evaluation criteria (**Annexure B**). The penalty clauses are suitably incorporated in the tender conditions so that a reasonable amount of damages are levied on the supplier in case of deficient performance, lower life etc.
Civil	6mm thick rail pads	6 years Minimum	- do -

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

New Delhi, dt. 14.12.06

No.2006/Elec(G)/138/3

Chief Electrical Engineers,
All Zonal Railways,
ICF/ Chennai
RCF/Kapurthala.

Executive Director (PS & EMU),
Manak Nagar, RDSO,
Lucknow.

Sub: Provision of 2.5 KVA inverters for AC fans in non AC coaches.
Ref: RDSO's letter no. EL/5 12.18.2 dt. 29.11.06.

Board (ML) during CESE conference held on 30th August, 2006 at Baroda House has mentioned that "use of BLDC fans may be stopped and AC fans available can be provided in coaches with the provision of 2.5 KVA inverters which are already standardized by ICF & RCF. RDSO may deliberate on the issue".

In this regard, it has been decided that:

i. RCF should revise their specification in consultation with RDSO who have also framed specification for 2.5 KVA inverter issued vide letter under reference. It is further advised that RDSO should work with existing suppliers to improve on specification rather than de-novo developing it from scratch.

ii. Pending this, PUs should immediately cut in 2.5KVA inverters as per the existing RCF specification for use of AC fans in non air conditioned passenger coaches for new productions after exhausting stock of DC fans already available & to be received against pending purchase orders. Performance of this scheme should be watched by RDSO in consultation with user Railways.

iii. PUs & Railways will not procure any BLDC fans in future.

iv. Retrofitment of AC fans with inverters in place of DC fans will be considered by Railway Board after watching the performance of the new coaches to be turned out by ICF & RCF with AC fans along with inverters in non air conditioned coaches.

The letter is issued with the approval of Board(ML).

(Jaideep)
Director Elec. Engg.(G)
Railway Board.

Acil/Gis

BY FAX

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.96/Elect(G)/114/7

New Delhi, Dt.: 14.12.06

Chief Electrical Engineers,
All Zonal Railways,

Executive Director (PS & EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Conversion of underslung type air conditioned coaches from R-12 to R-134a refrigerant.
Ref: 1. RDSO's letter no. EL/7.1.106 dt. 1.12.06.
2. Board's letter of even no. 7.2.05 & 18.2.06.

As per Montreal Protocol for which India is a joint signatory, R-12 refrigerant used in underslung type air- conditioned coaches is to be phased out by the year 2010. Accordingly, vide reference (2), RDSO has advised that performance of coaches converted to R-134a refrigerant by SR & SCR is found to be satisfactory.

There are about 780 air conditioned (AC) coaches with R-12 refrigerant manufactured before 1994. About 300 coaches out of 780 would complete their service life by 2010 & will be phased out in normal course.

It has been decided that Railways should undertake the conversion of balance 480 underslung AC coaches with R-12 refrigerant which will not complete their codal life by 2010 with eco-friendly refrigerant R-134a in a phased manner.

This letter is issued with the approval of Board(ML).

(Jaideep)
Director Elec. Engg (G)
Railway Board

15/12/06

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2005/Elect(G)/114/1 New Delhi, Dt. 21.12.06

Chief Electrical Engineers,
All Indian Railways.

Sub: Supply of repairing spares for ACCEL Compressor SMC-4-65 (RLY)

Ref: 1. Board's letter no. 2001/Elect(G)/165/2 dt.14.07.03
2. Board's letters no.99/RS(G)/709/1 dt.6.9.99 & 16.09.99

The instruction regarding procurement of compressor for under slung coach already exists vide ref (1) above. The policy regarding capacity/capability assessment and approval of sources for development and placement for developmental order is reiterated as below:

Equipment	Preparation of drawing/specification	Capacity/Capability assessment & approval of sources for development/regular orders	Placement of developmental order	Prototype clearance
Refrigerant compressor for under slung type AC coaches	RDSO/Zonal Railways	RDSO	Zonal Railway	RDSO

The procurement of underslung compressor should be strictly as per above guidelines.

It is understood Railway are not following guidelines regarding procurement of quality spares for underslung compressor. This will have adverse affect on overall performance of underslung AC equipment. In order to ensure better reliability of AC equipment Railway must adhere to Board's policy guidelines vide ref (2) above for procurement of spares of underslung compressor.

21/12/06

(Jaideep)
Director Elect. Engg. (G)
Railway Board

RAMESH CHANDRA

सदस्य बिजली, रेलवे बोर्ड
एवं
पदेन सचिव, भारत सरकार
रेल मंत्रालय
नई दिल्ली-११०००१
MEMBER ELECTRICAL, RAILWAY BOARD
&
EX-OFFICIO SECRETARY,
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
NEW DELHI-110001

150 गौरवपूर्ण वर्ष

Dt. 22.12.06

D.O.No.97/Elect(G)/180/35 Pt.

GMs, All Indian Railways (By name)

Sub:- Maintenance of pantry car equipments.

Ref:- Rly.Board letter No. 2006/TG.III/648/13 dt. 02.11.06.

To streamline provision of electrical gadgets/appliances in pantry cars and maintenance thereof, Board has issued the revised comprehensive instructions vide letter under reference. GMs were advised to implement the same.

I am enclosing copy of the note of Hon'ble MR dt. 20.12.06 on the subject. I would request that a drive should be launched so that it is ensured that equipments like hot case, refrigerators, boilers etc. in all pantry cars are in working order. As already advised vide Para 14 of letter under reference, a register should be maintained at the base depot station for recording the fitness of various equipments provided in pantry car and it should be jointly signed by Electric Foreman and Catering Inspector.

There are number of non-AC pantry cars (WCB) which are having pantry appliances working on 110 V DC system. The performance of these appliances is not satisfactory. Instructions have been issued vide letter of even number dt. 01.12.06 to arrange for provision of pantry appliances working on 230 V AC in non-AC pantry cars (WCB). Same should also be expedited in a phased manner.

I may be given feedback about action taken on above issues by 31.01.07 positively so that Hon'ble MR may be apprised accordingly.

With best wishes,

Yours sincerely,

Encl: As above.

(RAMESH CHANDRA)

Copy to GMs/RCF & ICF. It must be ensured that standard quality electric appliances are provided in pantry cars.

N.O.O. Copy to CEEs/All Zonal Railways and CEEs – ICF & RCF for information and necessary action.

N.O.O. Copy to ED(PS&EMU)/RDSO/Lucknow for information and necessary action.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

New Delhi, dated 28.12.06

No.97/Elec(G)/180/35

Chief Electrical Engineers,
All Indian Railways.

Director General,
RDSO, Manak Nagar,
Lucknow

Sub: Use of catalytic converter for control of air pollution from power cars used in Rajdhani /Shatabadi trains.

Ref: 1. Railway Board's letter no. 2006/Elect(G)/114/1 dt. 31.5.06.
2. RDSO's letter no. EL/0.6.02/Test dt. 5.12.06.

Central Pollution Control Board has directed Railways for control of emission from diesel generating sets fitted in various power cars of Rajdhani/Shatabadi trains. The letter indicates that emission from diesel engines comprise of pollutants like carbon monoxide, suspended particulate matter, oxides of nitrogen etc which on inhalation lead to respiratory and other forms of ailments.

In this regard, Railway Board vide letter under reference (1) has advised for extended field trials of Fitch fuel catalyst and it was instructed that each Railway would provide these Fitch fuel catalyst on 10 stationary location DG sets and 5 Rajdhani/Shatabadi power cars of NR, WR, ER, SWR & ECR.

Now M/s Johnson Mattey Catalytic System division through their representative i.e. M/s Airshield, has approached Railway Board for use of catalytic converter which can be fitted in the exhaust pipeline of DG set installed in various power cars. Catalytic converter helps in reducing gaseous pollutants like carbon monoxide, hydro carbons, volatile organic compounds, hazardous air pollutants and particulate matters etc. Catalytic converter is a different technology than earlier recommended Fitch fuel catalyst and comparison of two technologies is essential before adoption of uniform policy guidelines regarding pollution control from DG sets. In view of above following has been decided:

i) Catalytic converter for reduction in emission level should be provided on 2 power cars each of NR & WR for which extensive field trials should be conducted by respective Railways as per advise and in consultation with RDSO as per letter under reference (2).
ii) RDSO should evolve performance of Fitch Fuel Catalyst which claims of reduction of fuel consumption in addition to reduction in emission levels. Instructions for same already exist vide letter under reference(1).
iii) RDSO should also compare performance of two types of catalyst to recommend further course of action.

This is issued with the approval of ML.

(Jaideep)
Director Electrical Engg.(G)
Railway Board

-206-

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

New Delhi, Dt. 4.1.07

No.2005/Elect(G)/114/1

Chief Electrical Engineers,
All Indian Railways.

Executive Director (PS&EMU)
RDSO, Manak Nagar
Lucknow.

Sub: Temperature setting in AC coaches on Indian Railways.

Ref: 1. Board's letters of even no. dt. 22.5.06.
2. Board's letters of even no. dt.13.11.06.

Board vide reference (1) above, instructed Railways for provision of single range temperature setting, electronic thermostat, and auto mode temperature control in order to provide better comfort level to the passenger in AC coaches. It was also instructed that ACCA should have portable sturdy thermometer to show grill temperature vis-à-vis set temperature to the passenger in case of complaint. Board vide reference (2) has sought CEE's comments whether single range of temperature setting in AC coaches should be publicized widely through Railway time table.

After examining the comments received from Zonal Railways, it has now been decided that at present temperature setting in AC coaches should not be publicized through Railway time table till completion of following activities:

a) Single range Electronic thermostat is provided in every coach. Railway must complete this work by 31.12.07.

b) Railways should gain sufficient confidence in achieving desired temperature range. For this purpose, CR, ER, NR & SR should monitor temperature during one summer and one winter season in different type of AC coaches in long distance mail/express trains.

c) RDSO will associate with NR for temperature monitoring in one 1st AC, one 2 AC & one AC Chair car and one Garib Rath coach for entire journey in summer as well as in winter.

d) Zonal Railways & RDSO should submit detailed report by 31.7.07 after monitoring the temperature in different AC coaches in ongoing winter and ensuing summer season.

This is issued with the approval of Board(ML).

(Jaideep)
Director Elect. Engg. (G)
Railway Board.

P1 Issue first
5/1/07
5/1/07

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2006/Elec(G)/138/3 New Delhi, dated 5.1.2007

Executive Director (PS & EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Procurement of permanent magnetic type brush less type DC fans.
Ref: 1. Board's letter no.2006/Elec(G)/138/3 dt. 14.12.06
2.RDSO's letter no. EL/6.12.18.2 dt. 29.11.06.
3. M/s CGL's letter no. RTSg/ML dt. 22.12.06 (copy enclosed).

Board (ML) during CESE conference held on 30th August, 2006 at Baroda House has mentioned that "use of BLDC fans may be stopped and AC fans available should be provided with the provision of 2.5 KVA bulk inverters which has already been standardized by ICF & RCF. RDSO was also asked to further deliberate on this issue." In view to **improve the reliability of fans & reduce maintenance by firms,** RDSO has submitted specification of bulk inverter ELPS/SPEC/TL/02 (Rev.01) vide letter at reference (2) for 2.5KVA underslung inverters for AC fans in non-AC passenger coaches. Following features have also been added in the new specification for improvement in reliability of inverter:

i) MTBF of 4x10^
ii) Test for reliability of electronics.
iii) Trace ability of burn-in test and routine test.
iv) EMI/EMC test.

Accordingly, Board has decided vide letter at reference (1) that PUs & Railways will not procure any BLDC fans in future and AC fans with bulk inverter will only be provided in new coaches.

Now M/s CGL vide letter under reference addressed to Board(ML) has brought out that the firm has carried out the comparative performance test on BLDC, DC & AC carriage fans in association with Western Railway. The highlights of the report are as under:

i) Service value of CGL BLDC fan of 2.65 has been observed as compared to 1.66 for 110 V DC and 1.11 for 141 V AC fans.
ii) BLDC carriage fans are more energy efficient and offer much better air delivery.
iii) Weight of BLDC carriage fan is almost 60% of the conventional AC/ DC carriage fans.

In view of the above, it is requested to examine the facts as mentioned by M/s CGL vide letter at ref (3) and send comments regarding failure rate, life cycle cost, maintainability and need for AMC/Repair contract for BLDC fans viz-a viz AC and DC fans. RDSO may also explore the feasibility & incorporating features like light weight, energy efficient with superior service value etc. in the specification of AC fans & comment upon the same.

(Jaideep)
Director Electrical Engg.(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2001/Elec(G)/113/4 New Delhi, Dt. 15.1.07

Chief Electrical Engineers,
All Zonal Railways.

Chief Electrical Engineers,
Integral Coach Factory, Chennai.
Rail Coach Factory, Kapurthala.

Sub: Provision of emergency lights in passenger coaches.
Ref: Board's letters of even no. dt. 27.9.05, 24/26.10.05, 13/26.10.05

In pursuance of CRS, Eastern Circle recommendations regarding derailment of 2301 Rajdhani express on 9.9.02 over ER; Zonal Railways, ICF & RCF were advised to provide emergency light in all the coaches in consultation with RDSO. Subsequently this item has also been included as medium term item no. 28(01) in High Level Committee's recommendation on Disaster Management.

During XX MSG held at Jaipur it was decided that LED type emergency light should be provided for which ICF has finalized the specification no. ICF/Elect/917 with revision /amendment jointly with RCF and in consultation with RDSO.

Railways vide letter dated 13/26.10.05 were advised to undertake provision of emergency light in 5000 coaches during 2005-06 & 2006-07 under revenue. ICF & RCF were also advised to provide LED based emergency lights in all newly manufactured coaches vide letter dt. 24/26.10.05.

Safety Dte. of Railway Board has pointed out that progress of medium term recommendation 28(01) of High Level Committee on Disaster Management is poor & should have been implemented long back.

Therefore, in order to expedite provision of emergency lights it has been decided to provide emergency light in all TL coaches with residual life of 10 years or more and in all AC coaches during POH. This work needs to be completed during 2007-08. Railways should send feedback about the progress in ML (PCDO) every month.

This issue with the approval of Board(ML).

Jai D 15/1/07
(Jaideep),
Director Electrical Engg.(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.96/Elect(G)/114/7 New Delhi, Dated: 17.01.07

Director (Railway Board Audit)
Office of the Comptroller & Auditor General of India,
10, Bahadur Shah Zafar Marg,
New Delhi 110002.

Sub: Implementation of Montreal Protocol directives of phasing out use of CFCs.

Ref: Dir (Railway Board Audit)'s letter no. 3/Rly/Misc./17-23/2006 dt. 11.01.07

In Indian Railways there are about 4100 AC coaches comprising of underslung and roof mounted AC type coaches. At present in underslung R-12 (CFC) refrigerant and in RMPU AC coaches R-22 refrigerant (HCFC) is being used. At present all newly manufactured coaches are provided with Roof Mounted Package Unit using R-22 refrigerant gas. As per Montreal Protocol and letter referred above all CFC based underslung AC coaches are to be converted to eco-friendly refrigerant system by year 2010 and HCFC based system by year 2040. Railways have already taken up conversion work of existing underslung coaches with eco-friendly refrigerant. In past trials were conducted with R-405a, R-22 & R-134a refrigerant gas on underslung coaches. After trials with different refrigerant it was decided to convert 10 underslung coaches of NR, SR, SCR, WR & NER to eco friendly R-134a refrigerant system. After conducting trials and satisfactory performance of converted coaches following decisions have been taken at Board's level:

1. All Zonal Railways have already been advised to convert all underslung coaches which will not complete codal life by 2010 with eco friendly refrigerant R-134a in phased manner.

2 (i). Presently AC coaches are manufactured with RMPU using R-22 refrigerant. For this refrigerant deadline for phasing out is 2040. Keeping in view the codal life of AC coach of 25 years., AC coaches which will be manufactured in 2015 and beyond are to be provided with HFC based refrigerant.

(ii) In this regard RDSO has already developed specification for Roof Mounted Package Units with R-407 refrigerant (HFC). The package unit with above specification would be developed and extensive field trials would be conducted in future before adoption of this technology on regular basis.

This is for information please as desired.

(Jaideep) 17/1/07
Director Elect Engg.(G)
Railway Board.

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2006/Elect(G)/114/4 New Delhi, Dated: 09.02.07

Chief Electrical Engineers,
All Indian Railways.

Sub: Conversion of underslung coaches from R-12 to R-134a refrigerant system.

Ref: Board's letter no. 96/Elect(G)/114/7 dt. 14.12.06

As per Montreal Protocol for which India is joint signatory R-12 refrigerant used in underslung AC coaches is to be phased out by year 2010.

Vide reference above, an instruction was issued by Board to convert all underslung AC coaches to R-134a refrigerant system, which will not complete codal life before 2010.

During CESE conference held at Board's office on 16.1.07 all Railways have agreed to convert all coaches by March, 2009.

This matter is to be taken up on priority to meet deadline set by Montreal Protocol. All Railways should plan this work at depot level or in workshops during POH so that all underslung AC coaches may be converted to R-134a refrigerant system by March, 2009, positively.

(Jaideep) 9/2/07
Director Electrical Engg.(G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No.2006/Elec(G)/138/3 New Delhi, dt. 15.3.07

Chief Electrical Engineers,
ICF/ Chennai
RCF/Kapurthala
Executive Director (PS & EMU),
Manak Nagar, RDSO Lucknow.

Sub: Provision of 2.5 KVA Inverters for AC fans in non AC coaches.

Ref: 1. ICF's letter no. MD/DSS/AC DEV/180 dt. 6.2.07.
2. Board's letter of even no. dt. 14.12.06 .

Vide Railway Board's letter under reference (2) above, it was advised that Railways should stop use of BLDC fans and PUs were instructed to cut in 2.5 kVA inverter as per the existing RCF specification for use of AC fans in non air conditioned coaches, after exhausting stock of DC fans already available and to be received against pending orders.

ICF vide letter under reference (1) has mentioned that it would not be possible to cut in 100% 2.5 kVA inverter with AC fans as at present there are not many proven suppliers for supply of inverters. ICF has further requested to restrict provision of 2.5 kVA inverter with AC fans in 50% of coaches till proven suppliers of inverters are developed.

In this regard, Board has decided that:-

1. ICF/RCF should restrict their production of TL coaches with 2.5 kVA bulk inverters to 50% of total annual production for 2007-08 & 2008-09. It is expected that by that time more reliable sources of 2.5 kVA inverters would be developed.

2. Out of balance 50% TL coaches, ICF/RCF will manufacture 25% coaches with BLDC fans & remaining 25% coaches with conventional DC fans.

3. RDSO will monitor the performance of 2.5 kVA inverter and furnish their report for taking final decision on 100% adoption of 2.5 kVA inverters for AC fans in TL coaches.

This is issued with the approval of Board(ML).

(Jaideep) 15/3/07
Director Elec. Engg (G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 98/Elec(G)/165/1

New Delhi, dt. 19.03.07

Executive Director (PS&EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Development of Electronic Rectifier cum Regulator Unit (ERRU)
Ref: RDSO's letter no. EL/1.6.9.25 dt. 20.2.07

Electronic Rectifier cum regulator unit since its introduction on Indian Railways is being procured only from the manufacturers of alternators. Even after its development six years back, the performance of this equipment is not yet stablised. In this regard, RDSO vide reference above, has recommended to develop this item from other manufacturers having core competence in power and control electronics.

In order to develop more sources for this item, following has been decided:

1) The existing policy of procurement of ERRU with alternator as set should be discontinued. Henceforth, PUs & Railways should procure alternator and ERRU separately.

2) The policy in reference to preparation of drawing/ specification, capacity /capabillty assessment, approval of sources for development/ regular order, placement of development orders, prototype clearance in respect of AC/ TL alternator & ERRU shall be as under:

Eqpt.	Preparation of drawing/specification		Capacity/Capability assessment & approval of sources for developmental/ regular orders		Placement of developmental orders		Prototype clearance	
	E	R	E	R	E	R	E	R
Alternator	RDSO	RDSO	RDSO	RDSO	ICF/RCF	ICF/RCF	RDSO	RDSO
ERRU	RDSO	RDSO	RDSO	RDSO	ICF/RCF	ICF/RCF	RDSO	RDSO

3) The policy of procurement of alternator with conventional RRU shall remain as per existing guidelines.

3) RDSO should continue to monitor performance of ERRU in Railways and weed out bad suppliers of ERRU from approved list on performance basis.

This is issued with the approval of Board (ML).

(Jaideep) 19/3/7
Director Electrical Engg.(G)
Railway Board

RBS No. 04/2007

Government of India
Ministry of Railways
(Railway Board)

No.2004/RS(G)/113/1 New Delhi, dated: 20-03-2007

The General Manager,
All Indian Railway & Production Units,
The General Manager (Const.), N.F. Railway, Guwahati.
The General Manager, CORE, Allahabad.
The General Manager, Metro Railway, Kolkata.
The Director General, RDSO, Lucknow.
The Director General, Railway Staff college, Vadodara.
CAO/MTP, NBCC Place, Bhishma Pitamah Marg, Pragati Vihar, New Delhi.

Sub: Supply of Bedroll items on Trains by IRCTC.

A reference has been received from COS/ South Central Railway and Central Railway regarding supply of bedroll items on the train services by IRCTC without taking over the existing stocks & other likely supplies to be received from KVIC & ACASH.

This issue has been discussed in the Board's office with Tourism & Catering Directorate and it has been decided that:

1. All contractual commitments made by Railways in this regard should be honoured without fail.

2. IRCTC will take over all existing stocks and future supplies of Bedroll items expected to be received against all contractual commitments entered into by Railways wherever supply of Bedroll items on Trains has been taken over by IRCTC.

This is issued in consultation with Tourism & Catering Directorate of Ministry of Railways.

Kindly acknowledge the receipt.

20/03

(Trilok Kothari)
Director Railway Stores(IC)
Railway Board

Contd..2/-

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2006/Elec(G)/138/3Pt.I

New Delhi, Dt. 26.3.2007

Chief Electrical Engineers,
All Indian Railways

Sub: Yardstick for UES in depots and workshops

During the CESE conference held on 30.8.06 a Committee was formed comprising CESE/WR, CESE/ECR & CESE/NR for deciding the Unit Exchange Spares for depots and workshops. The committee has recommended Unit Exchange Spares in depots/ workshops based on holding of coaches, FRPCPY, and codal life of spares etc.

After examining the report it has been decided that the following scale of UES is approved in terms of percentage of population of equipments fitted in coaches for the coaching depots:

Sr No	Description	Unit exchange spares as % of population of equipments fitted in coaches
1	Refrigerant compressor	10
2.	Different motors used in AC system	5
3.	AC control panel	5
4	Power panel for AC coaches	5
5.	Alternator	10
6.	Electronic Regulator cum rectifier unit	10
7.	50 KVA transformer	5
8.	Distribution Transformers	5
9.	25 KVA inverter	5
10.	Diesel alternator set with radiator for power car	10
11.	Radiator motor of power car	10

Accordingly, Railways are advised to make an action plan for making available unit exchange spares in depots for AC/TL coaches at the earliest. Further Railways should ensure that Unit Exchange Spares are kept in good health.

This is issued with the approval of Board(ML).

26/03/07

(Jaideep)
Director Elect.Engg(G)
Railway Board.

FREIGHT MARKETING
CIRCULAR NO. 17 of 2006

भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

No. 2004/TC(FM)/11/14.

रेल भवन, नई दिल्ली – 110 001, तिथि
Rail Bhavan, New Delhi – 110 001, dated 10.04.2006

General Managers,
All Indian Railways.

Sub: Precautions for prevention of fire incidence in the Luggage Vans (SLRs) of passengers' carrying trains.

1.0 Incidents of fire in the Luggage Vans (SLRs) of passenger carrying trains have increased from 10 during the year 2004-05 to 14 in the first nine months of current year 2005-06. Instructions have already been issued to the zonal railways to take remedial steps/precautions for prevention/ recurrence of fire incidence in the Luggage Vans (SLRs) of passenger carrying trains. It is imperative that these instructions are not being followed by the concerned staff. Adequate safety precautions are also not being taken by the private parties/ leaseholders. Board has viewed it seriously.

2.0 Attention in this regard is invited to Board (CRB)'s letter of even number dated 14.06.2005 addressed to General Managers of all zonal railways on the above subject followed by letter of even number dated 17th August 2005. Copies of these instructions are enclosed herewith. The same are reiterated once again for strict compliance:-

(i) Adequate space must be left between roof and the top layer of the packages loaded in the SLRs to avoid contact with the ceiling and electric lamps. The private parties/ leaseholders must ensure the same. Provision to this effect may also be made in the agreement in case of leasing contracts.

(ii) After, completion of loading, lights provided in the luggage portion of the Brakevan (SLR) must be switched off to eliminate possibility of short-circuiting. Guard must ensure that all the lamps in the luggage compartment/ portion of the Brakevan (SLR) are switched off.

(iii) The Guard and parcel staff responsible for loading/unloading of packages in SLRs should exercise proper supervision to avoid any hazardous situation, also ensuring proper locking of the luggage portion of the SLRs.

(iv) Rules contained in para Nos. 505 and 506 of the IRCA, Coaching Tariff No. 25, Part I (Volume-I) regarding booking of Explosive, Dangerous, Inflammable articles, empty gas cylinders, dry grass and leaves, waste paper, acids, corrosive substances enummerated in the Red Tariff must not be booked as luggage by passenger trains. Dangerous articles, such as explosives of any variety including fire works, inflammable materials such as oil, grease, ghee, paint, dry grass and leaves of any variety, waste papers, acids and other corrosive substances are prohibited to be carried by any person in the compartment.

(v) Rules regarding booking and carriage of any type of explosives and inflammable materials including LPG cylinders, kerosene stoves, etc., other than those required for security purposes or by the armed forces, by any passenger carrying train must be strictly enforced.

(vi) While loading/unloading of parcels in the Brakevan (SLR)/Parcel Van (VP), smoking and lightening of cigarette/bidi is strictly prohibited. Parcel staff responsible for loading/unloading of parcels will ensure strict compliance.

(vii) Maintenance of electrical devices in the passenger coaches and parcel vans may be carried out adequately as per the laid down norms.

(viii) The desired norms for the quality of wiring used in electric junction boxes may be ensured to avoid chances of fire due to electrical short-circuiting.

(ix) Random checks against carriage of inflammable/explosive materials by passenger carrying trains should be intensified.

3.0 Railways should take immediate steps to prevent any possibility of fire in the trains.

4.0 Ensure strict compliance of these instructions by all concerned.

5.0 Compliance report/ Action taken report in this regard may please be advised to Board's office within next one month.

(Indra Ghosh)
Executive Director Freight Marketing

Copy forwarded for information and necessary action to:

1. Chief Operation Manager, All Indian Railways.
2. Chief Commercial Manager/ Chief Commercial Manager(FM), All Indian Railways.
3. Chief Passenger Traffic Manager, All Indian Railway.
4. Chief Mechanical Engineer, All Indian Railways.
5. Chief Safety Officer, All Indian Railways.
6. Chief Security Commandant, All Indian Railways.
7. Managing Director/Chief Commercial Manager, Konkan Railway Corporation Ltd., Belapur Bhavan, Plot No.6, Sector 11, CBD Belapur, Navi Mumbai-400014.
8. General Manager, Metro Railway, 33/1, JL Nehru Road, Kolkata-700071.
9. Chief Commissioner of Railway Safety, Lucknow.
10. RDSO/Lucknow.
11. CRB, MT, ML, MM, ME, DG/RPF, Railway Board for kind information.
12. ED(Safety), Railway Board for kind information.

RAMESH CHANDRA
MEMBER ELECTRICAL

MEMBER ELECTRICAL, RAILWAY BOARD
&
EX-OFFICIO SECRETARY,
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
NEW DELHI-110001

D.O. No.2005/Elec(G)/114/1 Dated: 22.05.06

My dear

Sub:- Temperature setting and use of electronic thermostat for Air-conditioned coaches.

Ref:- Railway Board's letters of even number dt. 24.05.05 and 09.11.05.

During CEEs' Conference held at Railway Board on 1st & 2nd Aug. 05, after discussions it was decided that

i) Manual control of temperature setting in AC coaches has to be discouraged and Railways should quickly switch over to 100% auto-temperature control for single settings for summer & winter seasons with electronic thermostats.

ii) Every coach should have a portable sturdy thermometer. Also temperature settings should be displayed in the coach itself for information of passengers. The coach attendant should be able to show the temperature vis-a-vis set temperature in case of a complaint.

Railway Board and RDSO have already issued instructions that Railways should ensure single temperature setting of 23-25° C for summer and 19-21° C for winter with electronic thermostats. Similarly instructions exist to ensure single temperature setting of 22-24° C for summer and 19-21° C for winter with mercury-in-glass thermostats.

Feedback during MSG held on 11th & 12th May, 2006 at Kolkata reveals that progress of implementation of the above instructions is very slow. CEEs should ensure the following within next two months:

1. Single range of temperature setting in all AC coaches.
2. Provision of portable sturdy thermometer in every AC coach.
3. Display of temperature settings in the coach itself for information of passenger.

4. The coach attendant should be able to show the temperature in the middle of coach in case of a complaint. Provision of electronic thermostat should also be expedited.

I request you to monitor this and keep me apprised through MUDO or special letters.

With best wishes.

Yours sincerely,

(RAMESH CHANDRA)

Chief Electrical Engineers,
All Zonal Railways.

Copy to CEE/ICF & RCF for information and necessary action.

Copy to ED/PS & EMU/RDSO.

Trials in different types of AC coaches has been delayed. Same should be completed without further loss of time so that setting of AC temperatures is got included in the coaching table for information of travelling passengers.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2006/Elect (G)/114/1 **New Delhi, dated: 31.05.2006**

General Managers,
All India Railways &
Director General,
R.D.S.O., Lucknow.

Sub: Control of emissions from diesel generator sets.

Central Pollution Control Board has directed Railways for control of emissions from diesel generator sets fitted in power cars. The letter indicates that the emissions from diesel engines comprise of pollutants, unburnt hydrocarbons, carbon monoxide, respirable suspended particulate, etc. which on inhalation lead to respiratory and other forms of ailments. CPCB has further recommended to reduce all such emissions by use of suitable dry type emission control devices. They have also given emission limits for new diesel engines upto 800 KW.

Fitch fuel catalyst originally an American product, through their Indian representative, i.e. M/s Advance Energy Systems have approached Railway Board with one such dry type device i.e. Fitch fuel catalyst which is supposed to have the following features/ advantages.

- The fuel catalyst is not a fuel additive /consumable but a special alloy which does not dissolve in the fuel. Its catalytic properties convert chemical energy of the passing fuel thereby reducing toxic exhaust emissions.
- The fuel catalyst is supposed to bring about a reduction in fuel consumption, anywhere between 5-12%. When quantified in monetary terms it brings about a break even of about 4-6 months as against a life of 5-6 years of the catalyst.
- The catalyst is also supposed to reduce the emission levels of the exhaust gases. In one of the test bed trials conducted by Ocean Air Environmental, CA on use of fuel catalyst, following reduction in emissions were noticed:
  - NO_X - 12.83% reduction
  - CO_2 - 32.11 % reduction
  - Weighted fuel economy - 11.83% improvement
  - CO - 32.06 % increase

The use of Fitch catalyst filters has also been tried on a limited way over Western Railway at a few stationery applications and fuel savings to the tune of 10% were recorded. Even Northern Railway has tried this on two locations in different power cars and reported savings in the range of 7% besides reduced emissions.

Emission control

31/05/06
-188-

The proposal was put to the Board (ML, CRB), who have approved the following **extended field trials** before formulating a policy for all the DG sets on the Railways. The trials need to be done urgently in a time bound programme with a performance feedback coming in the next 6 months.

a) Each Railway would provide fuel catalysts at 10 of their stationary locations and strictly monitor the savings in fuel consumption.
b) Regarding effect on emission levels RDSO would conduct trials on 10 locations.
c) Northern, Western, Eastern, South Western and East Central Railways would install these catalysts in 5 Rajdhani/ Shatabadi power cars and submit reports on fuel consumption patterns & saving in fuel consumption.

The price of the fuel catalyst varies depending upon the capacity of the DG set. Price list for a few DG sets working on Railways is attached as an Annexure to this letter. Further specifications of Fitch fuel catalyst including suitability for different Gen. Sets. could be collected from M/s Advance Energy System.

The results so obtained may be submitted to RDSO also for formulation of a data report & recommending a policy on the subject..

(Sanjay Kubba)
Joint Director Elec. Engg. (G)

Copy to: **Chief Electrical Engineers**, All India Railways.
ED/ PS & EMU, R.D.S.O., Lucknow – Based on the results of the trials, RDSO may submit a data report on extent of fuel saving and emission improvement recommending a policy on the subject.

Emission control

Annexure

S.No.	Drop in Unit	Suitably for Genset	Price in Rs.
1.	F-5T F-200	Fuel flow not exceeding 15 liter/HRS Not Exceed 15 KVA	20,000
2.	F-10T Inline fitting F-300	Fuel flow not exceeding 30 liter/HRS Not Exceed 65 KVA	35,000
3.	F-10T Inline fitting F-400	Fuel flow not exceeding 55 liter/HRS Not Exceed 165 KVA	45,000
4.	F-14T Inline fitting F-500	Fuel flow not exceeding 75 liter/HRS Not Exceed 220 KVA	55,000
5.	F-14T Inline fitting F-750	Fuel flow not exceeding 90 liter/HRS Not Exceed 320 KVA	75,000
6.	F-14T Inline fitting F-1000	Fuel flow not exceeding 130 liter/HRS Not Exceed 500 KVA	1,15,000
7.	F-14T Inline fitting F-1500	Fuel flow not exceeding 150 liter/HRS Not exceed 1000 KVA	1,65,000

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2005/Elec(G)/114/1 New Delhi, dated 3.07.06

Chief Electrical Engineers,
All Indian Railways.

Sub: Temperature setting & use of electronic thermostat for Air conditioned coaches.

Ref: Board's D.O. letter of even no. dated 22.5.06.

Kindly connect Board's above referred DO letter wherein it was instructed for single range temperature setting of 23-25°C for summer & 19-21°C for winter, provision of portable sturdy thermometer in every AC coach and display of temperature setting in the coach for information of passengers.

In this regard, Board (ML) has again reiterated as under:

"It would be appropriate to notify 23-25°C for summer & 19-21°C for winter irrespective of the type of thermostat or coach, as far as public display is concerned. To be stenciled in the coach near the control panels at both ends of coach.

A portable mercury thermometer be provided one per coach for the AC coach attendants use to measure the temperature in case of dispute."

You are therefore requested to comply with the above guidelines and necessary instructions may be issued to the staff accordingly.

(Sanjay Kubba)
Jt. Director Elec.Engg(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

NO.2005/Elect(G)/114/1 NEW DELHI, DT. 12.07.06

To
Chief Electrical Engineers,
All Indian Railways.

Sub:-Temperature setting and use of electronic thermostat for Air-conditioned coaches.

Ref:- Railway Board's letter of even no.dt.24.05.05, 09.11.05 & 22.05.06.

A number of complaints have been received recently in Railway Board about air-conditioned coaches becoming too cold affecting health of the passengers. Instructions already exist that single range of temperature setting in all AC coaches should be ensured and manual control should not be resorted to by the staff accompanying the coaches. The control should be on auto mode. It appears that these instructions have not percolated to the field staff.

I have personally spoken to all CESEs to launch special drive once again to educate all the AC coach accompanying staff and also arrange for surprise inspections especially during night to ascertain position about auto/manual control being resorted to.

Similarly, frequent surprise inspections need to be done to ensure that pre-cooling of AC coaches is done before placing on the platforms. CESEs have also been advised to give the feedback on above points to the undersigned on telephone on nominated days. It is also requested to issue suitable instructions from your end to all concerned and position be monitored to improve the scenario.

12/7/06

(J.S.P.SINGH)
EXECUTIVE DIRECTOR ELEC. ENGG.(G)
RAILWAY BOARD

12/7/06

O/C

Ministry of Railways
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2004/Elec(G)/138/1 New Delhi, dt. 18.7.06

Chief Electrical Engineers,
Eastern Railway, Kolkata.
Northern Railway, Baroda House, New Delhi.
Western Railway, Mumbai.
East Central Railway, Hajipur.
South East Central Railway, Bilaspur.

Sub: Coach attendants in Rajdhani Express trains.

Ref: Remarks of CRB/Railway Board during his inspection of Mumbai on 7.5.06.

CRB during his visit to Mumbai has observed and remarked at para no. 1.8 of his inspection note that "Coach attendants in Rajdhani Express need to be trained in the areas of temperature control, air flow control etc. Measurement of temperature should be taken by the coach attendant 3-4 times during the journey period and feed back obtained from the passengers particularly in the AC First Class compartment. This feedback can be easily taken without disturbing the privacy of the passengers i.e. during tea, dinner and breakfast time.

It is, therefore, advised to issue necessary instructions to all concerned & arrange for imparting training to the coach attendants of Rajdhani trains under advise to Board's office.

18/7/06
(J.S.P. Singh)
Ex. Director Elect. Engg. (G)
Railway Board.

Copy to:- CEEs (CR, NER, NFR, SR, SCR, SER, ECoR, WCR, SWR, NWR, NCR) for information and necessary action please.

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18/7/06

19/7

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2006/Elec(G)/150/4 New Delhi, dt. 19.9.06

Chief Electrical Engineers,
All Indian Railways.

Sub: Computerisation of coaching stock maintenance – maintenance module.

Ref: CAO's/FOIS's DO letter no. CAO/FOIS/96/COIS/2006 dt. 6.9.06.

CAO/FOIS vide his above referred letter has brought out that for development of the software for maintenance module has shortlisted the depots and finalisation of various estimate including the connectivity of the location. In the first phase it is proposed to cover 65 coaching depots covering 26,000 coaches. FOIS would cover 75% of the trains and 70% of the coaches over the Indian Railways. The depots covered include two super depots each homing 1000 plus coaches, 11 mega depots each homing 500 plus coaches and 52 major/important depots each homing 10 rakes and above. List of the depots covered is enclosed. Need base requirement of PCs, Kiosks with touch screens and PDA with speech to text facility has been worked out as per the enclosed list. CAO has further requested that the Railway should pin point the sites where the PCS and kiosks are to be installed in the depots.

It is therefore requested that a detailed pin point address/sites where the PCS and kiosks are to be installed in the depots should be sent to Board's office so as to facilitate FOIS to prepare an estimate for providing connectivity to the sites. Your reply in this regard should reach Board's office by 5.10.06 positively.

DA: As above.

(R. K. Jain)
Director Elect. Engg(PS)
Railway Board

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD).

No. 2006/TG-V/12/1. New Delhi, dated 29.09.2006.

The General Managers,
All Zonal Railways.

COMMERCIAL CIRCULAR NO. 80 OF 2006.

Sub: **Deployment of Employees of Licensee for Bedroll Supply in AC Coaches:**

Indian Railway Catering and Tourism Corporation (IRCTC) has been entrusted with the responsibility of providing onboard services like catering services, cleaning of coaches/toilets, sale of miscellaneous items etc. besides distribution of bedrolls in a few Mail / Express trains on pilot project basis. In this context, Board has decided that in trains where the bed-roll distribution is handed over to IRCTC as part of this 'Integrated Onboard Services', one employee of the licensee may be allowed per AC coach. Necessary travel authority to the employee of the licensee may be issued accordingly. Also, in such trains where 'Integrated Onboard Services' are being provided by IRCTC, the deployment of Air-conditioned Coach Attendant (ACCA) shall be one for every two AC coaches in Rajdhani and other Mail/Express trains.

2. This norm comes into effect as soon as 'Integrated Onboard Services' are introduced by IRCTC.

3. This issues with the concurrence of Electrical Engineering and Tourism & Catering Directorates of Railway Board.

Kindly acknowledge receipt.

(Ravinesh Kumar)
Director, Traffic Commercial (G)
Railway Board.

Item	Codal Life	Mode of Recovery (% of the purchase rate from the date of introduction)
Blanket	60 months	▪ 100% within the 1st year ▪ 80% within the 2nd year ▪ 60% within the 3rd year ▪ 40% within the 4th year ▪ 25% within the 5th year and Beyond life time (after five years).

These instructions will come into force with immediate effect. Old cases need not be re-opened.

This has the concurrence of the Finance Directorate of the Ministry of Railways.

(Ravinesh Kumar)
Director, Traffic Comml(G)
Railway Board

New Delhi, dated 2.03.06.

No. 2005/TG-V/10/17

Copy to:

I. FA & CAOs /All Zonal Railways
II. Director of Audit, Northern Railway, New Delhi.

For Financial Commissioner/Railways
Railways.

New Delhi, dated 2.03.06.

No. 2005/TG-V/10/17

Copy for necessary action and information to:

a. Managing Director, Indian Railway Catering and Tourism Corporation Ltd. Bank of Baroda Building, 16 Parliament Street New Delhi.
b. Managing Director, Konkan Railway Corporation, Belapur, Navi Mumbai.

(Ravinesh Kumar)
Director, Traffic Comml(G)
Railway Board

Copy to :EDEE(G), EDME(Coaching), ED(RS)G, ED(C&T), EDF(C&RM) Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2005/Elec(G)/114/1 New Delhi, dated 13.11.06

Chief Electrical Engineers,
All Indian Railways.

Sub: AC coaches on Indian Railways.

Ref: Board's letters of even no. dt. 24.5.05, 9.11.05, 22.5.06 & 12.07.06.

Various measures have been taken since the introduction of AC coaches on Indian Railways to improve the reliability and hence better amenities to passengers. These measures include RMPUs instead of under slung equipments, provision of inverters and provision of electronic thermostat etc.

In past AC coaches had 3 different settings low, medium & high for summer & winter. Same was subsequently changed to 2 settings i.e. medium & high. However, complaints about coaches being not cool enough or too cool continued. This is because comfort zone of different passengers is not same. Putting AC on manual mode, on request of some passengers, results in excessive cooling which in turn invites complaints from other co-passengers.

In view of the above & considering comfort zone of majority of passengers, it has been instructed to provide single range of temperature setting i.e. 23-25°C in summer & 19-21°C in winter. Electronic Thermostat are to be provided & auto mode of temperature control is to be used. Compliance of these instructions should be confirmed by 16.11.06.

It is proposed that single range of temperature setting in AC coaches should be publicised widely through Railway time table & display in AC coaches. Same is being contemplated to keep the passengers informed to reduce complaints by removing subjectivity on the issue. In case of complaint by any passenger, ACCA should show the actual temperature at exhaust grill by using portable thermometer. Comments of CEEs on this proposal may be sent by return fax by 16.11.06.

(J.S.P.Singh) 13/11
Exec. Director Elec.Engg(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
****

No.2006/Safety(A&R)/3/6

New Delhi, dated 29.11.2006

The General Managers.
All Indian Railways,
Konkan Railway Corp., Navi Mumbai
RE/Allahabad
Metro Railway, Kolkatta

Sub : Definition and Reclassification of Accidents on Indian Railways – Amendment thereto.

Please refer to detailed instructions contained in Board's two letters No.2000/Safety(A&R)/19/20 both dated 13.12.2000 followed by amendment thereto under letter of even number dated 28.03.2003 on the above subject.

The above mentioned instructions have been examined by the Board (MT, MM, ML & CRB). The existing provisions contained under various sub-clauses of classes 'B' **(Fire or Explosion in Trains)** and 'N' **(Train Wrecking)** of the above mentioned instructions may be amended suitably as given below in the juxtaposition :-

	Existing provision	**Amended provision**
Class 'B'	**Fire or Explosion in trains**	**Fire in trains**
B-1	**Fire or Explosion** in a train carrying passengers resulting in (i) loss of human life and/or grievous hurt and/or (ii) damage to Railway property of the value exceeding Rs.25,00,000 and/or (iii) interruption of any important through line of communication for at least 24 hours.	**Fire** in a train carrying passengers resulting in (i) loss of human life and/or grievous hurt and/or (ii) damage to Railway property of the value exceeding Rs.25,00,000 and/or (iii) interruption of any important through line of communication for at least 24 hours.
B – 2	**Fire or Explosion** in a train NOT carrying passengers resulting in (i) loss of human life and/or grievous hurt and/or (ii) damage to Railway property of the value exceeding Rs.25,00,000 and/or (iii) interruption of any important through line of communication for at least 24 hours.	**Fire** in a train NOT carrying passengers resulting in (i) loss of human life and/or grievous hurt and/or (ii) damage to Railway property of the value exceeding Rs.25,00,000 and/or (iii) interruption of any important through line of communication for at least 24 hours.
B -3	**Fire or Explosion** in a train carrying passengers <u>not</u> falling under B-1 above but (i) loss to **Railway property** and/or (ii) interruption to traffic is more than the threshold value and/or (iii) resulting into detachment of **rolling stock/stocks from the train and/or (iv) requiring relief engine/s.**	**Fire** in a train carrying passengers <u>not</u> falling under B-1 above but (i) loss to **Railway property is Rs.50,000 or above** and/or (ii) interruption to traffic is more than the threshold value and/or (iii) resulting into detachment of **coaching stock/stocks from the train.**

Contd... ...2/-

B-4	**Fire or Explosion** in a train NOT carrying passengers not falling under B-2 above but (i) loss to **Railway property** and/or (ii) interruption to traffic is more than the threshold value and/or (iii) resulting into detachment of **rolling stock/stocks from the train and/or (iv) requiring relief engine/s.**	**Fire** in a train NOT carrying passengers and not falling under B-2 above but (i) loss to **Railway property is Rs.50,000 or above** and/or (ii) interruption to traffic is more than the threshold value and/or (iii) resulting into detachment of **goods stock/stocks** from the train.
B-5	**Fire or Explosion** in a train carrying passengers not falling under B-1 or B-3 above.	**Fire** in a train carrying passengers not falling under B-1 or B-3 above.
B-6	**Fire or Explosion** in a train NOT carrying passengers not falling under B-2 or B-4 above.	**Fire** in a train NOT carrying passengers and not falling under B-2 or B-4 above.
B-7	**Fire or Explosion** occurring in shunting, marshalling yards, loco yards and siding etc. involving rolling stock but not involving a train.	**Fire** occurring in shunting, marshalling yards, loco yards and siding etc. involving rolling stock but not involving a train.
	NOTE: In case of an inquiry by a committee into a fire accident in Railway Premises or in a train leading to damage to Railway property and/or booked consignments, a representative of the Railway Protection Force should also be included as a member of the Committee.	**NOTE:** In case of an inquiry by a committee into a fire accident in Railway Premises or in a train leading to damage to Railway property and/or booked consignments, a representative of the Railway Protection Force should also be included as a member of the Committee.
Class 'N'	**Train Wrecking**	**Train Wrecking or Sabotage to a train**
N -1	Attempted wrecking of or sabotage to a train carrying passengers.	Attempted wrecking of **or Bomb Blast or Explosion or Hijacking** or Sabotage to a train carrying passengers **with or without loss of human life and/or grievous hurt and/or damage to Railway property.**
N – 2	Attempted wrecking of or sabotage to a train NOT carrying passengers.	Attempted wrecking of **or Bomb Blast or Explosion or Hijacking** or Sabotage to a train NOT carrying passenger **with or without loss of human life and/or grievous hurt and/or damage to Railway property.**
N-3	Attempted sabotage or tampering with track not involving any train	Attempted wrecking of or Bomb Blast or Explosion or Sabotage to signalling and track or forceful confinement of train running staff on duty and/or passengers but not involving a train.

These shall come into force with effect from the date of issue.

Contd... ... ... 3/- ...

Zonal Railways are, therefore, advised to bring the above mentioned amendments to the notice of all concerned for information and strict compliance.

Please acknowledge receipt and the compliance reported for perusal of the Board.

(M.N. Ojha)
Director/Safety
Railway Board

No.2006/Safety(A&R)/3/6 New Delhi, dated 29.11.2006

Copy forwarded for information and necessary action to :-

1. The Chief Commissioner of Railway Safety/Lucknow
2. The Chief Operations Managers, All Indian Railways
3. The Chief Safety Officers, All Indian Railways
4. The Director General, RDSO, Lucknow.
5. The Principal, Railway Staff College, Vadodara.
6. The Director, Indian Railways Institute of Transport Management, Manak Nagar, Lucknow.
7. The Principal, Indian Railways Institute of Civil Engineering, Pune.
8. The Principal, Indian Railways Institute of Mechanical and Electrical Engineering, Jamalpur.
9. The Principal, Indian Railways Institute of Signal, Engineering and Telecom, Secunderabad.
10. The Principals, Zonal Railway Training Institutes, Central Railway, Bhusawal, Eastern Railway, Bhuli, Northern Railway, Chandausi, North Eastern Railway, Muzaffarpur, Northeast Frontier Railway, Alipurduar, North Western Railway, Udaipur, Southern Railway, Tiruchirapalli, South Central Railway, Maula Ali, South Eastern Railway, Sini.
11. The Chairman, Bombay Port Trust Railway/Bombay, Calcutta Port Trust Raiwlay/Kolkatta, Knadla Port Trust Railway/Kandla, Madras Port Trust Railway/Madras and Visakhapatnam Port Trust Railway/Visakhapatnam.
12. The CAOs, MTP(R) Delhi, Mumbai and Chennai
13. The Railway Liaison Officer, Gate No.3, 1st Floor, Jeevan Tara Bldg., Patel Chowk, Parliament Street, New Delhi.
14. The Secretary, Railway Rates Tribunal, Chennai
15. The CAO, Central Organisation for the Modernisation of the Workshops, New Delhi.
16. All Members, Departmental Council and National Council and Secretary Staff Side National Council, 13-C, Ferozeshah Road, New Delhi.
17. The General Secretary, NFIR, 3 Chelmsford Road, New Delhi.
18. The General Secretary, AIRF, 4 State Entry Road, New Delhi
19. The General Secretary, FROA, Room No.256-A, Rail Bhavan, New Delhi.
20. The General Secretary, IRPOF, Room No.268, Rail Bhavan, New Delhi.
21. All India RPF Association, Room No.256-D, Rail Bhavan, New Delhi.

Contd.... 4/...

22. The Indian Railways Conference Association, DRM's Building. Accounts Building, Chelmsford Road, New Delhi.

(M.N. Ojha)
Director/Safety
Railway Board

No.2006/Safety(A&R)/3/6 New Delhi, dated 29.11.2006

Copy to : DG/RPF, DG/RHS

AM(B), AM/CE, AM(IT), AM/Comml., AM(Fin.), AM/L, AM/Mech., AM/T&C, AM/Plg., AM/Project, AM/PU, AM(RS), AM/Signal, AM/Staff, AM/S&C, AM/Tele, AM/Traffic, AM/Works

Adv.(Vig.), Adv. (Fin), Adv./(L&A), Adv./(IR)

All Exec. Directors, Legal Adviser

CE-I, II & III, Elec.(G), Elec(TRS), F(E)-I, II, III, IV, V & F(E) Spl., Mech. (C), Mech.(L), Mech.(N), Fuel, Dev. Cell, Health-I & II, ME(M&P), ME(W), PC-I, II, III, IV & V, E(P&A)-I & II, Works-I & II, RE & RE(S), E(G), E(LL), E(Trg.), Legal Cell, Security (Crime), Security (Spl.), Signal, TC(FM), TC-CR, TG-I, II, III, IV & V, TT-IV, Telecom., Track-I, II, III & (P), Safety(A&R)/CRS, Safety-III and Library Branches of Railway Board.

Copy for information and necessary action to Safety-I for getting the compliance from Zonal Railways for Board's perusal.

(M.N. Ojha)
Director/Safety
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No.98/Elec(G)/165/1 New Delhi, dt. 09.11.05

Chief Electrical Engineers,
All Indian Railways.

Sub:- Temperature setting and use of Electronic Thermostats for air conditioned coaches.

Ref:- (i) Railway Board's Letter of even number dt. 24.05.05.
(ii) Minutes of the CEEs' Conference held at Railway Board on 1st & 2nd August 2005 circulated vide letter No.2005/Elect(TRS)/138/4 dated 20.09.05.

ML during his inaugural address in CEEs' Conference on 1st & 2nd August 2005 has stressed for improved passenger amenities. He advised that manual control of operating temperature in AC coaches has to be discouraged and railways should quickly switch over to electronic thermostats. ML also stressed on the need for indication of operating temperatures of AC coaches through time tables and railways should work on this aspect. CRB during his address also mentioned that the quality of AC coach services should satisfy the passengers. ML again during business session has brought out the following:-

"The duties and responsibilities of AC coach mechanic/attendants should be incorporated in the public time table for information of all passengers. Proper training of AC coach attendants both in coach maintenance as well as dealing with public should be given importance. Every coach should have a portable sturdy thermometer and the temperature settings should be displayed in the coach itself for information of passenger. The coach attendant should be able to show the coach temperature vis-à-vis the set temperature maintained in case of a complaint. The setting of AC temperature should be got included in the time table for the information of traveling passengers also."

Railway Board vide letter at reference (i) above has already issued instructions to cut in the provision of electronic thermostat in all the new AC coaches to be manufactured from 2005-06 onwards and also that zonal railways, to meet their maintenance requirement, would procure electronic thermostats having RDSO specification and from RDSO approved sources only. RDSO vide their letter No. EL/7.1.27 dt. 18.05.05 has also brought out that Railway should ensure single temperature setting of 23-25 degree Celsius for summers and 19-21 degree Celsius for winters with electronic thermostats. It was also advised to give the detailed position to Board's office for appraisal of ML. Same is not forthcoming. Specific progress from all Railways in their monthly PCDOs is expected henceforth.

10/11/05

(Sanjay Kubba)
Jt. Dir.Elec.Engg.(G)
Railway Board.

Copy to EDSE/RDSO. Performance of electronic thermostat should be watched closely and trials should be done in all types of AC coaches before the setting of AC temperatures is got included in time table for information of travelling passengers. Kindly treat the matter as urgent.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2001/Elect(G)/113/4/Safety

New Delhi, dt. 22.11.2005

Chief Electrical Engineers,
All Indian Railways.

Sub: Falling of battery boxes of AC coaches.

Ref: Board's letter nos. 98/Elec(G)/113/Safety dt. 13.10.2000, 21.11.2000, 98/M(C)/137/ 53 dt. 16.11.2000, 98/M(C)/137/ 4 Pt I dt. 19.2.2004 & 17.3.04 & letter of even nos. dated 25.2.04.

In view of continued problem of falling of battery boxes from coaches, Railway were advised vide above referred letters to carry out the modification in the battery boxes during POH, as per RDSO drawing no. SK-0037 alt. 7 & K-0015 to avoid the failure of falling of battery boxes in future. However, it is seen Railways have not submitted the status regarding the completion of the above work.

In order to arrest the trend, it is once again requested to send the confirmation to Board's office that all such battery boxes of AC coaches have been modified as per RDSO drawing no. SK-0037 alt. 7 & K-0015. In case modification work has not yet been completed, same should be done at the earliest.

(Sanjay Kubba)
Jt. Dir. Elect. Engg.(G)
Railway Board.

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2000/Elec (G)/109/14 **New Delhi, dated: 25.11.2005**

General Managers,
All Indian Railways,
ICF & RCF.

Sub: Provision of mobile/ laptop charging points in coaches.
Ref: This office letters of even number dated 22.10.2002, 04.11.2003 & 28.09.2004.

Staggered instructions regarding provision of 110 V AC single phase charging points for mobile phones/ laptops have been issued vide reference letters. All these instructions have directed Railways and Production Units regarding necessary provision only in AC coaches.

Keeping in view heavy public demand for provision of mobile phone charging points in passenger coaches, the matter has been re-examined and Board (ML, MM, MT) have now decided that:

a) Different classes of coaches should be provided charging points as per the following scale :

i. 1st ACC – 2 points per 4-berther & 1 point in the coupe.
ii. AC 2T -- 1 point in each cubicle (for 6 passengers).
iii. AC 3T -- 2 points both together inside each cubicle (for 8 passengers)
iv. Ex CC -- 1 point on either side for each row
v. AC CC -- 1 point each on either side on alternate rows.
vi. GSCN -- 2 points at a common location near toilet area at one end of the coach.

b) The approximate cost per coach shall be subject to a maximum of Rs. 25000 per coach. This shall be for conventional AC coaches equipped with 110V DC & shall be less for all other class of coaches.

c) Charging points in all class of coaches as mentioned at (a) above should be cut in immediately by Production units and should be provided in existing coaches by Railways during POH.

d) The matter concerns Passenger Amenity and, therefore, needs to be dealt with on priority.

e) Railways should charge the expenditure to Plan Head 'Passenger Amenities' while Production units should incorporate the same in transfer price for new coaches. Funds requirement should be projected by Railways and Production Units at the appropriate stage.

Charging sockets 2

f) Railways may immediately process for sanction of works under GM powers on Passenger Amenities Plan Head at Workshop /Railway's level.

g) The workshops undertaking this work shall maintain a separate work order for monitoring of expenditure booked against the subject work.

This issues with the concurrence of Finance Directorate of the Ministry of Railways.

Please acknowledge receipt.

25/11/05

(Sanjay Kubba)
Joint Director Elec. Engg. (G)
Railway Board.

No.2000/Elec (G)/109/14 **New Delhi, dated: 25.11.2005**

Copy forwarded for information to:

(1) Chief Electrical Engineers, All Indian Railways and Production Units.

(2) ED (PS& EMU), RDSO, Manak Nagar, Lucknow - RDSO vide instructions EL/7.1.57 dt. 17.11.2004 has given details about the location/layout diagram and wiring diagram for all types of AC coaches. Same needs to be suitably modified immediately in view of above policy guidelines. Further, there is need to standardize transformer for fans, lights & charging points as it is understood that 1.5KVA/2 KVA/3 KVA transformers are being used in different class of coaches by Production Units.

(3) AM/Budget – With request for provision of necessary funds under Passenger Amenities Plan Head as and when sought by Railways.

25/11/05

(Sanjay Kubba)
Joint Director Elec. Engg. (G)

No.2000/Elec (G)/109/14 **New Delhi, dated: 25.11.2005**

PA & CAOs, All Indian Railways and Production Units

Deputy Comptroller and Auditor General of India (Railway),
224, Rail Bhavan, New Delhi (with 46 spares)

For Financial Commissioner/ Railways.

Copy to: F(X) II branch, Railway Board.

Charging sockets 2

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2005/Elec (G)/109/14 New Delhi, dated: 29.11.2005

Chief Electrical Design Engineer,
Rail Coach Factory,
Kapurthala.

Sr. ED (PS & EMU),
R.D.S.O.,
Lucknow.

Sub: Berth reading lights in ACCN coaches.
Ref: RCF's letter No. ED/2010 dated 29th August 2005 with enclosure RDSO's letter No.EL/6.4.3 dated 20.07.2005.

Regarding provision of berth reading lights in ACCN coaches apropos above, the proposal has been examined in this office and the following clarifications are sought before a final decision on the matter:

(i) RCF letter under reference has recommended the provision of berth light fitting as per RCF drawing No. LW 76045. However, neither the RCF letter nor RDSO's confirms conformance of this light fitting to RDSO specification No. RDSO/PE/SPEC/ TL/D/0033/ 2002 (Rev 0) of December 2002.

(ii) The specifications at (i) above talk of different types of transformer tapping/ voltages for existing and new coaches which is not acceptable and needs to be standardized. It seems the complete power supply scheme and general layout arrangement has not been submitted/ studied by RDSO or RCF.

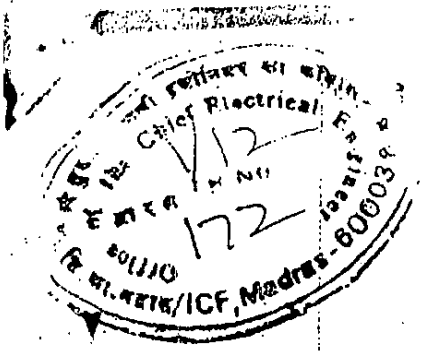
(iii) For fan circuit, mobile charging points, existing berth reading lights in I st AC, AC two tier coaches PUs are using transformers of difference capacities i.e. 1.5 KVA/2 KVA/ 3KVA, etc. Therefore, RDSO has already been advised for standardization of power supply, distribution, transformers, etc. especially when simultaneously modification for mobile /laptop charging points is also in progress. In this connection this office letter No.2000/Elec (G)/109/14 dated 25.11.2005 may be referred to.

It is requested that the above issues may be addressed to under immediate advise to this office so that decision on the matter is taken.

(Sanjay Kubba)
Joint Director Elec. Engg. (G)

Copy to: CEE/ICF

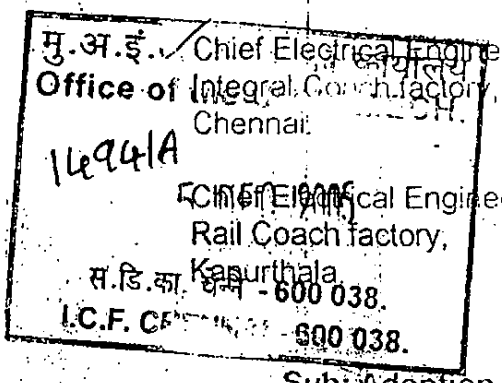
Berth lights



GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2001/Elec(G)/138/1 Pt.

New Delhi, Dt. 29.11.05



22

Sub: Adoption of thin walled electron beam (e-beam) irradiated cross linked copper cable in conventional AC & non-AC coaches.

Ref: RCF's letter no. ED 2000 dt. 3.3.05

After careful consideration of RCF proposal as contained in their letter under reference and the inherent advantages of thin walled electron beam irradiated cross linked copper cables for AC coaches of cost on life cycle basis (considering the life of thin walled cables as 30 years as compared to 15 year for PVC cables), reduction in weight & reduction in volume of insulation as compared to PVC electrometric cables, it has been decided that ICF & RCF may procure 100% use of thin walled electron beam irradiated cables in all future manufactured AC coaches as per the RDSO specification no. RDSO/SPEC/ELC/0019-Rev 0-2002 from RDSO approved sources only. Moreover, RDSO vide their letter no. EL/2.2.37 dt. 19.5.2005 has mentioned that the cost difference of thin walled cable and PVC/ Elastomeric cables for air conditioned coaches is not substantial. However, non AC coaches may continue with the same conventional cables. Production unit have kindly communicate the cut in date for this modification.

This issue is with the approval of Board(ML).

29/11

(Sanjay Kubba)
Jt. Director Electrical Engg. (G),
Railway Board.

159

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2003/Elec (G)/138/1 **New Delhi, dated: 05.01.2006**

Chief Electrical Engineers,
All Indian Railways

Sub: Insulation tapes .
Ref: RDSO's letter No.EL/6.10.3 dated 14.01.2002.

Fire retardant insulation tapes were on RDSO's list for a very long time and were decentralized to individual Railways vide reference letter. It was accordingly directed by RDSO to procure fire retardant insulation cotton/ PVC tapes conforming to IS 7809-1977.

Attention of Railways is also drawn to the comprehensive drive against fire communicated from this office vide letter No.2003/Elec (G)/113/2 dated 30.11.2005. The recent spurt in fire cases, although not directly attributed to electrical cause, but certainly are a cause of serious concern and all out efforts to arrest any potential /probable cause leading to such cases on electrical account have to be identified and immediately arrested.

The issue of using fire retardant, low tension, pressure sensitive cotton insulating tape in lieu of ordinary PVC tape was discussed in non-agenda items during 20th MSG (TL &AC) held at Jaipur on 27/28th January 2005 and accepted by all the Railways. Railways were accordingly directed to use FRLT tapes instead of PVC ones. RCF has framed specifications EDTS 174 dated 6.04 for FRLT cotton insulation tapes.

Furthermore, Board (ML) has approved inclusion of the following item in Annexure C of Board's policy letter No.99/Elec(G)/165/16 dated 14.02.2001 regarding 'Approval of sources for procurement of items pertaining to TL/ AC coaches'.

Eqpt.	Preparation of Drgs/Specs		Capacity assessment & sources approval for Dev/Regular orders		Placement of Developmental Orders		Prototype Clearance	
	E	R	E	R	E	R	E	R
All insulation tapes including Fire Retardant Low Tension pressure sensitive Cotton Insulation Tape	IS	ICF /RCF Approved by RDSO	Rlys, ICF/RCF	ICF /RCF	Rlys, ICF/ RCF	ICF /RCF	Rlys, ICF/RCF	ICF /RCF

All concerned should take the necessary action at the earliest.

(Sanjay Kubba)
Joint Director Elec. Engg. (G)

Copy to: ED (PS&EMU), RDSO, Lucknow.
Chief Electrical Engineer, ICF, Chennai.
Chief Electrical Engineer, RCF, Kapurthala.

FRLT2

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No.2001/Elec (G)/138/3 **New Delhi, dated: 24.03.2006**

The General Managers,
All Indian Railways.

Sub: Manpower planning norms... **Corrigendum**
Ref: Letter of even number dated 16.03.2006.

Manpower planning norms for maintenance of electrical assets in different categories of electrical department have been communicated vide reference above. The following order may be inserted in the document at '2.1' please.

Para 2.1 to read as

Additional requirement should be worked out on a zonal railway basis for each catergory viz Electric Locos, Traction Distribution, EMUs/MEMUs & General Power Supply. Only after excess on a railway for each category has been set off, should there be any fresh creation with corresponding matching savings.

(Sanjay Kubba)
Joint Director Elec. Engg. (G)
Railway Board.

Copy to:
1. CEE/ All Indian Railways.
2. CPOs/ All Indian Railways.
3. The FA & CAOs, All Indian Railways.
4. Executive Director (Finance) RDSO Lucknow.

(Sanjay Kubba)
Joint Director Elec. Engg. (G)
Railway Board.

No.2001/Elec (G)/138/3 **New Delhi, dated: 24.03.2006**

Copy to: Dy Controller & Auditor General of India (Railways)
Room No.224 Rail Bhavan New Delhi (with 40 copies)

For Financial Commissioner/ Railways.

No. 2001/Elect(G)/138/3 New Delhi, dt 24.3.06

Copy to:

1. The General Secretary, AIRF, 4, State Entry Road, New Delhi (with 35 spares).
2. The General Secretary, NFIR, 3, Chelmsford Road, New Delhi (with 35 spares).
3. The General Secretary, IRPOF (with 35 spares).
4. All Members of the National Council/Deptt. Council & Secretary, Staff side, 13-C, Feroshah Road, ND. (with 90 spares).
5. The General Secretary, FROA (with 5 spares).
6. The Secretary Genl. RPF Association, R No 256 Rail Bhawan, New Delhi.(with 5 spares).
7. The Secretary, RBSS Group 'A officers' Association (with 5 spares).
8. The President, Railway Board Class II Officers Association. (with 5 spares).
9. The President, Indian Railway Class II Officers Association. (with 5 spares).
10. The Secretary, , Railway Board Ministerial Staff Class II Officers Association. (with 5 spar
11. The Secretary, Railway Board Class IV Staff Association. (with 5 spares).

FOR SECRETARY, RAILWAY BOARD

Copy to Sr. PPSs/ PPSs/ PSs/PAs to:

MR, MSR(N), MSR(V), CRB, FC, ME, ML, MM, MS, MT, AM(B), AM(CE), AM(C) AM(C&IS), AM(Elect.)), AM(C), AM(F), AM(Plg.), AM(Projects), AM(Staff), AM(Sig.) AM(MS), AM(Mech.), AM(PU), AM(RS), AM(T&C), AM(Tele), AM(T), AM(V), AM(Works) Adv.(IR), DG/RHS, DG/RPF, Secretary, ED(Plg.), ED(A), DF(BC), EDCE(B&S), EDCE(G.) EDCE(Plg.), EDCC, ED(Chg.), ED(C&IS), ED(E&R), EDEE(Dev..), EDEE(G.), EDEE(RS) EDE, EDE(RRB), EDE(N), EDE(Res.), EDF(C), EDF(E), EDF(S), EDF(B), EDF(RM), EDF(X)I EDF(X)II, ED(H), ED(LM), ED(MIS), EDE(GC), EDT(MPP), EDME(Chg.), EDME(FR) EDME(TR), EDME(TOT), EDME(Dev.), EDME(W), EDPC-I, ED(Plg.), ED(PP), ED(Proj.) ED(Proj.)-DMRC, EDRE, EDRE(S&T), EDRE(S), ED(Safety), ED(Signal)< ED(S&E), EDRS(C) EDRS(G), EDRS(P), EDRS(S), EDRS(W), ED(TD), EDTrack(ML),ED/Track(MC), ED/Track(P) ED(T&C), ED(CP), ED(PM), ED(PG), EDT(R), EDTC(FM), EDTT(M), EDTT(FM), EDTT(S) DV(A), EDV(E), EDV(S), EDV(T), ED(W), IG/RPF(HQ.)/IG/RS, JS, JS(C), JS(D), JS(E), JS(G) JS(P)

E(NG)I, E(NG)II, E(MPP), M(C), E&R, F(E)Spl. & F(E)I (With 5 spares), Branches of Railway Board.

BY FAX

GOVERNMENT OF INDIA
MINISTRY OF RAILWAY
(RAILWAY BOARD)

No.2001/Elec.(G)/138/5 New Delhi, dt 23.3.2006

Chief Electrical Engineers,
Central Railway, CSTM, Mumbai
Western Railway, Churchgate, Mumbai
West Central Railway, Jabalpur
Eastern Railway, Fairlie Place, Kolkata
South Eastern Railway, Garden Reach, Kolkata
East Central Railway, Hajipur
East Coast Railway, Bhubaneswar
South East Central Railway, Bilaspur
South Western Railway, Hubli
Northern Railway, Baroda House, New Delhi
North Central Railway, Allahabad
North Western Railway, Jaipur
North Eastern Railway, Gorakhpur
Northeast Frontier Railway, Maligaon, Guwahati
Southern Railway, Chennai
South Central Railway, Secunderabad.

Sub: Comprehensive drive for monitoring the junction boxes of TL coaches to avoid fire in coaches on electrical account.

Recently a case of fire occurred in coach no. 03423 GS of train no. 1078 JAT-PA Jehlum Exp. between PWL-RDE on 19.3.2006 in which smoke emitted from the junction box provided for light and fans fuses in compartment of said coach. On investigation by NCR it was found that pieces of bidis and burnt cigarette were inserted by the passengers which has been ascertained the cause of smoke & it is reported that all fuses were intact & wiring was also not damaged. Such fire cases in passenger coaches/ SLRs due to various reasons is attracting adverse publicity and has been a cause of serious concern.

With a view to take preventive measures for such cases from Electrical point of view, it has been decided to launch a special drive for 10 days (**from 26.3.06 to 4.4.06**) to monitor the fire inspection covers of all the junction boxes/ terminal boxes. During the drive these must be opened, cleaned and examined for any loose connection or any abnormality in inspection covers in TL coaches in all trains, immediate steps should be initiated to rectify the defects, if any. Inspection covers must be replaced in such a way that no body can push any foreign material inside it. This aspect must be checked & ensured during schedule inspections.

It is requested to send the results of the above drive to Board's office by **15.4.06** positively.

23/3/06

Sanjay Kubba,
Joint. DirectorElect. Engg.(G),
Railway Board.

-182-

No. 2001/Elect(G)/138/3 New Delhi, dt.16.3.06

Copy to:

1. The General Secretary, AIRF, 4, State Entry Road, New Delhi (with 35 spares).
2. The General Secretary, NFIR, 3, Chelmsford Road, New Delhi (with 35 spares).
3. The General Secretary, IRPOF (with 35 spares).
4. All Members of the National Council/Deptt. Council & Secretary, Staff side, 13-C, Feroshah Road, ND. (with 90 spares).
5. The General Secretary, FROA (with 5 spares).
6. The Secretary Genl. RPF Association, R No. 549, Rail Bhawan, New Delhi.(with 5 spares).
7. The Secretary, RBSS Group 'A officers' Association (with 5 spares).
8. The President, Railway Board Class II Officers Association. (with 5 spares).
9. The President, Indian Railway Class II Officers Association. (with 5 spares).
10. The Secretary, , Railway Board Ministerial Staff Class II Officers Association. (with 5 spare
11. The Secretary, Railway Board Class IV Staff Association. (with 5 spares).

FOR SECRETARY, RAILWAY BOARD

Copy to Sr. PPSs/ PPSs/ PSs/PAs to:

MR, MSR(N), MSR(V), CRN, FC, ME, ML, MM, MS, MT, AM(B), AM(CE), AM(C) AM(C&IS), AM(Elect.)), AM(C), AM(F), AM(Plg.), AM(Projects), AM(Staff), AM(Sig.) AM(MS), AM(Mech.), AM(PU), AM(RS), AM(T&C), AM(Tele), AM(T), AM(V), AM(Works) Adv.(IR), DG/RHS, DG/RPF, Secretary, ED(Plg.), ED(A), DF(BC), EDCE(B&S), EDCE(G.) EDCE(Plg.), EDCC, ED(Chg.), ED(C&IS), ED(E&R), EDEE(Dev.), EDEE(G.), EDEE(RS) EDE, EDE(RRB), EDE(N), EDE(Res.), EDF(C), EDF(E), EDF(S), EDF(B), EDF(RM), EDF(X)I EDF(X)II, ED(H), ED(LM), ED(MIS), EDE(GC), EDT(MPP), EDME(Chg.), EDME(FR) EDME(TR), EDME(TOT), EDME(Dev.), EDME(W), EDPC-I, ED(Plg.), ED(PP), ED(Proj.) ED(Proj.)-DMRC, EDRE, EDRE(S&T), EDRE(S), ED(Safety), ED(Signal)< ED(S&E), EDRS(C) EDRS(G), EDRS(P), EDRS(S), EDRS(W), ED(TD), EDTrack(ML),ED/Track(MC), ED/Track(P) ED(T&C), ED(CP), ED(PM), ED(PG), EDT(R), EDTC(FM), EDTT(M), EDTT(FM), EDTT(S) DV(A), EDV(E), EDV(S), EDV(T), ED(W), IG/RPF(HQ.)/IG/RS, JS, JS(C), JS(D), JS(E), JS(G) JS(P)

E(NG)I, E(NG)II, E(MPP), M(C), E&R, F(E)Spl. & F(E)I (With 5 spares), Branches of Railway Board.

Government of India
Ministry of Railways
Railway Board

No. 2001/Elect(G)/138/3 New Delhi, dt. 16.3.06

The General Managers
All Indian Railways.

Sub: Manpower planning-norms.

Norms of the staff in various maintenance activities has been engaging the attention of the Board for quite sometime now. It has been decided that the following norms, should be adopted for the maintenance of electrical assets:

1.1 ELECTRIC LOCOS:

I)	Locos with Hitachi Traction Motors (freight)	: 5.5 staff per loco
II)	All other locos including coaching locos with Hitachi traction motors	: 6.5 staff per loco
III)	AC-DC locos and DC locos	: 7.0 staff per loco

1.2 TRACTION DISTRIBUTION:

I)	AC OHE excluding suburban divisions	: 0.45 staff per TKM
II)	AC OHE for suburban divisions i.e. Sealdah Howrah, Delhi & Chennai etc.	: 0.7 staff per TKM
III)	DC OHE (CR & WR)	: 1.74 staff per TKM

There may, however, be minor variations from division to division depending on the special circumstances such as the maintenance of 220/132/110/66 KV transmission lines and grid sub stations being done by the Railways, preponderance of the corrosive atmosphere, coastal areas etc. for which additional requirement over and above what is mentioned above may be duly considered. This may be considered by the General Manager in consultation with Finance depending upon the merits of the case.

1.3 EMUs/MEMUs (MAINTENANCE SHEDS/DEPOTS):

I)	Per equated unit of EMU (1MC +2TCs)	: 7.0 staff per unit
II)	Per equated unit of MEMU (1MC + 3 TCs)	: 7.0 staff per unit

The above is only for the day-to-day maintenance of the EMUs/MEMUs stock. Additional staff, as justified, may be provided wherever POH of the stock is also being carried out in the maintenance sheds.

(4) GENERAL POWER SUPPLY:- 0.20 staff/1000 units per month

Minor variations, however, may be necessary in case of some divisions depending upon the extent of geographical area covered and the reliability of power supply.

2. You are, therefore, requested to review the strength of staff in each activity area and intimate your action plan for effective rightsizing of the organization.

3. This letter supersedes earlier letters of even no. dt. 5.11.2002, 13.11.2002 on the subject & Finance (Estt.) letter no. F(E)I/2005/Misc./7 dt. 10.5.2005.

4. All the figures mentioned are inclusive of Leave reserve (LR) & Rest givers (RG)

5. This issues with the concurrence of Finance Dte. of Ministry of Railways.

(Sanjay Kubba)
Jt. Director Elect. Engg(G)
Railway Board.

Copy to: 1. CEE/All Indian Railways.
2. CPOs/All Indian railways.
3. The FA & CAOs , All Indian Railways.
4. Executive Director (Finance) RDSO Lucknow

(Sanjay Kubba)
Jt. Director Elect. Engg(G)
Railway Board.

No. 2001/Elect(G)/138/3 New Delhi, dt. 16.3.06.

Copy to: Dy Controller & Auditor General of India (Railways)
Room No 224 Rail Bhavan New Delhi (with 40 copies)

For Financial Commissioner/Railways.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2005/Elec(G)/145/3 New Delhi, Dt. 13.2.06

Sr. Executive Director (PS&EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Flooring of battery section, Carriage &Wagon workshop, Alambagh/Lucknow – with suitable material.

Ref: PS/MSR(V)'s no. PS/MSR(V)/Note/06 dt. 3.1.06 & 24.1.06.

Hon'ble MSR(V during the inspection of the Carriage & Wagon Workshop, Alambagh/ Lucknow on 3.11.04 had observed as under :-

" The batteries which came for service were lying scattered here and there, without any proper arrangement. The acids which were over flowing from battery cells were emanating fumes. The fumes are very corrosive and will spoil the tracheal passage of human beings. The inspecting team could not stand even for five minutes inside the workshop due to surcharge atmosphere with fumes. There was no proper flooring to pile those batteries. The entire flooring of the battery section was muddy and pitted. There were no floor or any pial to stack service batteries. The workshop appears to have been neglected by supervisory ranks. The CWM/C &E Shop and other superior officers have to look into the welfare of men and protect them from adverse effects of acids and go in for flooring with a suitable material which are acid proof. The entire action should be completed within a maximum period of two months and compliance reported".

In this regard, Board(ML) has minuted that:-

"1) For battery section guidelines are available already e.g. Special tiles, racks, ventilation etc. These instructions may please be linked up and put up to PS to MSR(V).

2) Reiterate the precautions to Zonal Railways quoting Hon'ble MSR(V)'s observation of C&W workshop.

You are therefore requested to connect the guidelines on the same and send the copy to Board's office at the earliest & reiterate to all concerned as advised by ML.

(Sanjay Kubba)
Jt. Director Elect Engg.(G)
Railway Board.

Copy to:- 1. CEE/All Indian Railways.
2. CME/ All Indian Railways.

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

16

No.2006/Elect(G)/113/4 New Delhi, dt. 6.2.06

Chief Electrical Engineers,
All Indian Railways.

Sub: Minutes of the Safety Review Meeting of Board with DRMs of Selected divisions and CSOs held on 16.12.05.

Ref: ED/Safety's letter no. 2001/Safety(A&R)/14/7 dt. 13.1.06.

ED/Safety vide above referred letter has issued Minutes of the Safety Review Meeting of Board with DRMs of Selected divisions and CSOs held on 16.12.05. The points mentioned in the minutes pertaining to Electrical Department are as under:-

i) Installation of Master Switch with proper identification to facilitate guards to switch off the SLR lights should be confirmed by the Railways, until then SLR switches should be so marked.

ii) Railways should progressively replace lights protruding from the roof with lights flushed with the roof. The experience of Northern Railway in this regard is encouraging. Every Railways should follow it.

iii) All Railways should confirm within a time frame that all SLRs owned by them have been modified in the above manner. Certification to that effect, from the depots/sick lines should be obtained.

iv) Periodical checks should be exercised by officers to ensure availability of fire fighting equipment and their correct placement.

v) Measures which are already identified to replace interior fittings with fire resistant material should be completed under a time bound programme. Action Plan in this regard should be advised by Railways.

All Railways are requested to take immediate necessary action for the implementation of the above items.

(Sanjay Kubba)
Jt. Director Elect. Engg.(G)
Railway Board.

Copy to: - Sr. Executive Director (PS&EMU), RDSO, Manak Nagar, Lucknow- for information and immediate necessary action for item no. (i), (ii) & (v) above for which necessary standardisation should be done. Copy of CEE/NFR's letter no. EL/174/10/SAFETY/213 dt. 27.1.06 is also enclosed for reference please.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2005/Elec (G)/109/14 New Delhi, dated: 12.01.2006

Chief Electrical Engineer,
R.C.F.,
Kapurthala.

Sub: Scheme cum estimate for model coaches.

About 200 coaches (both AC and non AC) for different Mail/Express trains are being envisaged for refurbishment to model rake standards during mid life rehabilitation (MLR) at Bhopal workshop. The standards to be achieved in the model rake are envisaged to be State-of-Art in terms of lighting, fan air circulation and of their associated electricals. The model work for the same has to be got sanctioned in RSP programme 06-07. A meeting to that effect was convened at Railway Board on 03.01.06 under the Chairpersonship of EDME (W). The following is a brief pertaining to electrical works in connection with this refurbishment project.

- The florescent fittings to be mirror optics and to be recessed/ flushed. Fans to be recessed partly or completely BLDC fans with stainless steel guard could be considered an alternative.
- Toilets to be provided with ventilation exhausts fans besides smaller fans instead of the conventional bulky fans located right above the seat.
- Complete switchover to modular switches with pictographs embossed depicting their function.
- Complete redoing of the light and fan fittings to achieve a more uniform lux level and air circulation.
- Passenger Amenity features (emergency lights, berth reading lights, charging points) would be a part of the scheme.
- Automatic illumination at foot rest of coaches in stationary condition.
- Berth number indication lamps to be used.
- Any other feature for passenger convenience.

For the above standards and many more it is requested that a complete scheme/ specification of the electrical equipment, their general lay out and estimate be got done at the earliest both for the AC and non AC coaches. The project is time bound and needs to be dealt on war footing. The estimate for this project be submitted early and the detailed scheme /specification could closely follow in consultation with RDSO.

Should a need be felt a consultancy contract could also be organized with an outsider within GM's powers.

This letter issues with the approval of the Board (ML).

19/1/06

(Sanjay Kubba)
Joint Director Elec. Engg.

Copy to: 1. ED (PS&EMU)/ RDSO, Lucknow.
2. DME(P), I in reference of your note no. 2005/M(W)/814/20/ STB dt. 30.12.05.
3. CWM/ CRWS/ BPL, Bhopal.

1-4-05 to 27-4-05 URGENT
BY FAX / Pg 16

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No. 2003/Elect.(G/165/1 Pt.

New Delhi, dt. 28.4.2005

Sr. ED (PS & EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Provision of 1100 Ah LM flooded type lead acid batteries in AC coaches- modification of battery boxes & performance monitoring of batteries thereof

Ref: 1. RDSO vide letter no. EL/6.7.19 dt. 13/27.7.2004
2. Board's letter no. 2001/Elec(G)/138/5 dt. 25.5.04

RDSO vide letter no. EL/6.7.19 dt. 13/27.7.2004 has pointed out that 1100 Ah LM flooded batteries (new batteries) can only be fitted in ICF coaches only wherein both the existing battery boxes are made as per RDSO's drawing no. SK/0037/Alt.2 on both sides and are to be modified as per RDSO's drawing no. SK/0037/Alt.3. In old boxes 4 nos. of support have to be removed and no of bottom (base) channels have to be increased to make it suitable for 1100 Ah flooded battery due to increase in weight of LA battery as compared to VRLA batteries.

2.0 While on the subject, in the past there had been cases of falling of battery boxes in AC coaches. In this regard, instruction has already been issued vide AM (Mech.) Railway Board letter no. 95/M (C) /137/4 pt.1 dt. 17.3.04 for checking of battery boxes and same was reiterated vide Board's letter mentioned at ref-2. Since battery boxes have serious safety implications, modification of battery boxes is an important & vital aspect to be carried out by Railways & PUs.

3.0 While going through the NWR's D.O letter no. EL/254/2/12 dt.25.4.05 regarding provision of 1100 AH flooded type lead acid AC coaches-Development and modification thereof (copy enclosed), ML has remarked as under:

"RDSO to carry out , (i). Quality audit of battery boxes, (ii) performance monitoring and keep Board inform."

4.0 You are therefore advised to carry out strict Quality Audit of battery boxes modified by PUs & Rlys for housing the 1100 Ah low maintenance flooded batteries. In addition performance of these batteries should also be closely monitored by RDSO for at least 1 year so that these batteries undergo one complete cycle of summer & winter season. The position may be advised to Board's office on quarterly basis.

(Lt. Col. V. K. Raheja)
Exec. Director Elect. Engg. (G)
Railway Board

Copy to: All Chief Electrical Engineers All Indian Railways, ICF & RCF - To carry out the modification & to monitor the performance of these batteries and submit the position to RDSO regularly.

URGENT
BY FAX

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.98/Elec.(G)/165/1 New Delhi, dt. 24.5.2005

Chief Electrical Engineers,
All Indian Railways.

Sub: Temperature setting and use of Electronic Thermostats for air conditioned coaches.

Ref: (I) Board's letter of even no. 28.7.04.

(ii) RDSO's letter no. EL/7.1.27 dt. 18.5.05.

Board vide their letter under reference (1) above had decided to cut in the provision of electronic thermostat in all the new AC coaches with 100% electronic thermostat to be manufactured from 2005-06 onwards and also that Zonal Railways to meet their maintenance requirements would procure electronic thermostats in future having RDSO specification and from RDSO approved sources only.

RDSO in item no 5 of last para of their letter at reference (2) above has brought out that Railways should ensure single temprature setting of 23-25 °C for summers and 19-21 °C for winters with electronic thermostats and 22-24 °C for summers and 19-21 °C for winters with mercury-in-glass in thermostats.

In the said letter Board (ML) has remarked:

"Pl. ask Railway to give feedback on how many coaches (out of a total of -----) this has been implemented. Also, a drive should be done that AC mechanic/coach attendants will not bypass the automatic operation."

You are, therefore, requested to give the detailed position alongwith results of the above drive to Board's office for appraisal of Board (ML).

(Lt. Col. V. K. Raheja)
Exec. Director Electrical Engg.(G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

IMPORTANT

S/C

No.2005/Elec.(G)/180/Misc

New Delhi, dated: 10.6.2005

Chief Electrical Engineers,
All Indian Railways & Production Units

Sub: Letters received from Zonal Railways/Production Units - Addressing thereof.

It has been noticed that Zonal Railways/Production Units are generally sending their letters pertaining to Electrical Directorate addressed to Secretary/Electrical, Railway Board which traditionally reach the DAK folder of Executive Director Electrical Engineering (G) instead of reaching the concerned Executive Director of Electrical Directorate which result in avoidable delay. It is needless to mention that there are four distinct branches of Electrical Directorate in Board's office which are headed by the four Executive Directors. Details of these four branches and the subjects dealt with are mentioned below. The letters should therefore be addressed to concerned official invariably in future as indicated:

Name of the Branch	Subject dealt	Designation of Executive Director	Letter to be addressed to concerned official in future
Electrical (G)	Matters pertaining to AC & TL coaches, EMU/MEMU coaches, Kolkata Metro coaches, General services, Power Supply Installation, Works Programme & Rolling Stock Programme pertaining to Carriage/Electrical.	Executive Director Electrical Engineering (G)	Secretary/Electrical (G), Railway Board
Railway Electrification	Matters pertaining to Traction Distribution & Railway Electrification	Executive Director, Railway Electrification	Secretary/Railway Electrification, Railway Board
Electrical (TRS)	Matters pertaining to conventional/3-phase Electric locomotives and Rolling stock Programme pertaining to Electric locomotives.	Executive Director Electrical Engineering (RS)	Secretary/Electrical (RS), Railway Board
Electrical (Dev.)	Matters pertaining to development of 3-phase Electric locomotives/EMUs & other items.	Executive Director Electrical Engineering (Dev.)	Secretary/Electrical (Dev.), Railway Board

(Lt. Col. V. K. Raheja)

BY FAX

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 2003/Elect.(G)/165/1 pt. New Delhi, dt. 17.8.05

Chief Electrical Engineers,
All Indian Railways & PUs (ICF & RCF).

Sub: Development of low maintenance (LM) lead acid batteries for electric locos, diesel locos & EMUs application.

Ref: RDSO's letter no. EL/6.7.8 dt. 13.7.05

Board vide their letter of even no. dated 3/7.3.05 had decided that Railways should cut in 100% procurement of low maintenance (LM) lead acid batteries for electric locos, diesel locos and EMU application to RDSO specification no. RDSO/P/EMU/SPEC/0014-2000 with amendment no. 1 in PP-CP container only. In this regard, RDSO vide above referred letter has brought out that :

"At present there is no approved source for PPCP EMU/Loco batteries. Only one source M/s Mysore Thermo has been cleared with PP-CP container. It will take one year to develop adequate sources of Low Maintenance batteries with PP-CP container. It is further requested that till such time adequate sources are developed for PP-CP container, HR & PP-CP container should continue to be used".

The proposal has been considered & it has decided to grant one year w.e.f. 8.8.05 for developing the sources for low maintenance (LM) lead acid batteries with PP-CP container. Till such time HR & PP-CP container shall continue to be used to ensure regular supplies to Railways and Production Units.

This issues with the approval of Board (ML).

17/8/05

(Sanjay Kubba)
Jt. Director Elect. Engg. (G)
Railway Board.

Copy to :-
Sr. Executive Director (PS&EMU), RDSO, Manak Nagar, Lucknow.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2004/Elec(G)113/4 New Delhi, dated:13.10.2005

Chief Electrical Engineers,
All Indian Railways.

Sub: Provision of emergency lights in passenger coaches.

RSRC recommendations on disaster management duly accepted by the Board talk of provision of emergency lights in all the coaches against item No.28 of the recommendation. Distribution of 1000 coaches for this provisioning against bulk RSP item No.358 /05-06 has already been communicated to some of the Railways vide letter of even No. dated 27.09.2005.

2. The Finance Directorate of the Railway Board has concurred a proposal for provision of these emergency lights in 5000 IL/ AC coaches of Indian Railways against revenue during the year 2005-06 and 2006-07. The distribution of these 5000 passenger coaches is hereby communicated with the following remarks:

a) The procurement of these emergency lights would be done against ICF based specification No.ICF/Elec/917 for LED based emergency lights.

b) ICF has been asked to prepare the general arrangement drawing, wiring diagram, etc. which shall soon follow duly approved by RDSO.

c) Codal life of coaches being 25 years, only those coaches to be taken for modification which have 15 years of codal life or more still left.

d) These 5000 coaches as per the following distribution are over and above the itemized/ bulk RSPs which the Railways are handling separately.

(e) Responsibility for capacity /capability assessment, sources development, prototype inspection, etc. will be as follows.

Equipment	Preparation of drawings/ specifications	Capacity/Capability assessment & sources approval for developmental/ regular orders	Placement of developmental orders	Prototype clearance
LED based emergency light	ICF, RCF with approval of RDSO	ICF, RCF	ICF & RCF	ICF & RCF

Emergency lights

(f) Progress on this item is being regularly monitored in the Board. Regular feedback may be advised to this office through monthly PCDO/ MCDO.

DISTRIBUTION OF 5000 COACHES		
S.No.	Railway	Number of coaches
1	Central	300
2	Eastern	700
3	Northern	500
4	North Eastern	200
5	Northeast Frontier	200
6	Southern	500
7	South Central	400
8	South Eastern	300
9	Western	500
10	East Central	200
11	East Coast	200
12	North Central	200
13	North Western	200
14	South East Central	200
15	South Western	200
16	West Central	200
	Total	**5000**

This issues with the approval of Board (ML).

(Sanjay Kubba)
Joint Director Elec. Engg. (G)

Copy to:

CEE/ ICF – For item No.2 (b) above.
CEE/RCF- for information please.
Sr. ED (PS&EMU) - for item 2 (b) above.

Emergency lights

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2000/Elec (G)/165/8 New Delhi, dated: 14.10.2005

Sr. ED/ PS & EMU,
R.D.S.O.,
Lucknow.

General Manager,
I.C.F.,
Chennai.

General Manager,
R.C.F.,
Kapurthala.

Sub: Brushless DC fans (BLDC) for coaching/ DC EMU stock.
Ref: (i) RDSO completion report on 400 mm BLDC fan vide EL 6.5.1/BLDC dated 26.08.2005.
(ii) This office letter No 99/Elec (G)/165/116 dated 14.02.2001.

The reference (i) project completion report has been examined in this office and the following observations are made thereof.

a. Specification No. RDSO/ PE/Spec/TL/21/2000 Rev 0 for BLDC fans were issued by RDSO in December 2000.

b. RDSO have approved only 2 sources and that too under developmental category (part II). The future action plan submitted in the completion report does not talk of developing more sources. Vide reference (ii) as per annexure 'A' approval of source for development/ regular orders has to be undertaken by RDSO.

c. The difference in the cost of conventional and BLDC fans continues to be high.

In view of the above observations it is directed that:

a) RDSO should work on development of more sources so as to bring down the cost.

b) Since no sources whether approved or developmental are available for 450 mm sweep BLDC fans, RDSO should study whether only 400 mm sweep fans can be standardized.

c) RDSO should submit a report of lifecycle cost post installation of the BLDC fans.

d) ICF & RCF should procure BLDC fans to the tune of 15% of their requirement of 110V DC Railway carriage fans at this stage as per RDSO specification from RDSO approved sources, which should be gradually increased to 50% of their requirement with more sources (some in part I & part II) and with competitive rates.

[redacted] taken on the above may be advised for information of the Board.

This issues with the approval of Board (ML).

(Sanjay Kubbh)
Joint Director Elec. Engg. (C)

Copy to:- CEE/ICF/ Chennai.
CEE/RCF/ Kapurthala – It should be confirmed that trading Company like M/s Western Electric & Traders Co. on whom orders for BLDC fans has been placed are authorized agents of approved sources.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.96/Elec (G)/114/7 New Delhi, dated: 17.10.2005

Executive Director (PS & EMU)
R.D.S.O.,
Manak Nagar,
Lucknow

Sub: Eco-friendly RMPU for air-conditioned coaches.
Ref: RDSO's letter No.EL/7.2.2 dated 07.09.2005.

As per reference above, the proposal has been examined in the Board's office and the following observations are made:

i) As rightly stated Montreal Protocol has to come in effect from 2040. As such with a codal life of 25 years, the RMPU AC coaches manufactured in 2015 should be with Eco friendly HFC refrigerant.

ii) There is need to identify and freeze the refrigerant and not leave it to the choice of manufacturers of RMPUs. RDSO should get details on the subject from overseas also to identify a suitable refrigerant for the purpose as lot of work must have been done abroad to meet the protocol.

iii) RDSO should develop a suitable system in consultation with RMPU manufacturers and also bigger national players. After freezing the refrigerant and the scheme, extensive field trials be carried out on Railways with approval from Railway Board.

iv) The agency for preparation of drawing/ specification, capacity/ capability assessment and approval of sources for development/ regular orders, placement of developmental orders and prototype clearance shall be as under.

Equipment	Preparation of drawing /specs	Capacity/ capability assessment and sources approval for development/ regular orders	Placement of developmental orders	Prototype clearance
Roof mounted AC package unit with suitable HFC refrigerant (to be frozen)	RDSO	RDSO	ICF/RCF	RDSO

This issues with the approval of Board (ML).

(Sanjay Kubba)
Joint Director Elec. Engg. (G)

Copy to: All Chief Electrical Engineers, All Indian Railways and Production Units.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2001/Elec (G)/113/4

New Delhi, Dt. 24.10.05

General Manager,
ICF
Chennai

General Manager,
RCF,
Kapurthala.

Sub: Provision of emergency lights in passenger coaches.

Ref: Board's letter of even no. dt. 18.2.03 & 28.8.03.

In continuation of Board's letters under reference, it has been further decided that all newly built passenger coaches by ICF & RCF to be turned out should be provided with emergency lights as per ICF's specification no. ICF/Elect/917 for LED based emergency lights as standardized by RDSO. The exact cut in date of provision of emergency lights be communicated to Board.

However, it may please be ensured that the existing stock and covered dues of emergency lights ordered vide earlier specifications i.e. No.RDSO/PE/Spec/D/TL/0042-2003 (Revision 0) may be completely utilized before the exact cut in as per ICF specification (mentioned above) is enforced.

This issues with the concurrence of the Finance Directorate and approval of Board (ML).

(Sanjay Kubba)
Jt. Director Elect. Engg(G)
Railway Board.

No.2001/Elec(G)/113/4

New Delhi, Dt. 24.10.05

CEE, ICF,Chennai
CEE, RCF,Kapurthala

They are requested to advice accordingly.

Sr. ED/PS&EMU/RDSO, Manak Nagar, Lucknow.

FA& CAO/ICF/Chennai
FA& CAO/RCF/Kapurthala

For information please.

(Sanjay Kubba)
Joint Director Elec. Engg. (G)
Railway Board.

Safety emergency light

भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

No. 2004/TC(FM)/11/14

रेल भवन, नई दिल्ली – 110 001, तिथि
Rail Bhavan, New Delhi – 110 001, dated 14.06.2004

General Managers,
All Indian Railways.

Sub: Precautions for prevention of fire incidence in the Luggage Vans (SLRs) of passengers' carrying trains.

Incidents of fire in the Luggage Vans (SLRs) of passenger carrying trains, during the recent past have caused serious concern. Zonal railways must take urgent steps to prevent recurrence of incidence of fire in trains. Random checks against carriage of inflammable/explosive materials by passenger carrying trains should be intensified. Maintenance of electrical devices in the passenger coaches and parcel vans may be carried out adequately as per the laid down norms. The desired norms for the quality of wiring used in electrical junction boxes may be ensured to avoid chances of fire due to electrical short circuiting.

One of the Enquiry Committees, which investigated the cause of fire in one such case, has recommended that after completion of loading or unloading of parcels in the Luggage Vans (SLRs), the Guard must ensure that all the lamps in the luggage compartment are switched off. Adequate space must be left on the top of the packages, loaded in the SLRs, to avoid contact with the ceiling and electric lamps. The Guard and the other staff responsible for loading/unloading of packages in SLRs should exercise proper supervision to avoid any hazardous situation, also ensuring proper locking of the luggage portion of the SLRs. All staff should be prohibited from smoking during loading/unloading of parcels.

Railways should take immediate steps to prevent any possibility of fire in the trains. Action taken in this regard may be advised.

रेल मंत्रालय
Ministry of Railways
रेलवे बोर्ड
Railway Board
जारी किए जाने पर प्रकटीकरण
Issue for Disclosure
हस्ताक्षर
जारी करने तिथि
Date of Issue

14.6.04

(R. K. Singh)
Chairman, Railway Board.

Copy to:

Adv. (Safety), Railway Board for kind information.

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Acid/SMF battery

BY FAX P.C

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAY
(RAILWAY BOARD)

No.2003/Elect(G)/165/1

New Delhi, dt. 15.6.2004

Chief Electrical Engineers,
All Indian Railways.
ICF & RCF

Sub: Development of 1100 Ah Lead Acid flooded battery.

Vide Board's letter of even number dated 26.12.03, Railways were advised to place developmental order for 1100 Ah flooded type LA batteries outside regular requirement of 1100 Ah VRLA batteries.

You are requested to advise whether any developmental order outside regular requirement has been placed so far. If so, the details of the same may kindly be furnished by **22.6.04 positively.**

15/6/04

(Lt. Col.V.K.Raheja)
Exec. Director Elect. Engg. (G)
Railway Board.

TH

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2003/Elec(G)/165/1 New Delhi, dt. 22.06.2004

Chief Electrical Engineers,
All Indian Railways &
CORE/Allahabad.

Sub: Development of LM Lead Acid batteries (40 Ah & 200 Ah) for TRD application.

Currently both VRLA and LA type of batteries are being used for TRD applications. However, during a recent review, Board (ML) has decided that for all stationary applications where space is not a constraint, use of VRLA batteries should be discontinued and only low maintenance LA batteries to RDSO specification no. RDSO/TE/SPEC/TL/0040-2003 should be used in future.

As there is no approved source in part I list of RDSO, full orders can be placed on all sources under part II as per the instructions circulated vide letter no. 99/RS(G)/709/I Pt.I dated 28.4.04.

(Lt.Col.V.K.Raheja)
Exec. Director Elect. Engg(G)
Railway Board.

Copy to: -1. Sr. ED(PS&EMU), RDSO, Manak Nagar, Lucknow- w.r.t. no. EL/6.7.48 dated 10.2.04.
2. EDRE/ Railway Board.

भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

No. TC-II/2077/04/1.

रेल भवन, नई दिल्ली – 110 001, दिनांक
Rail Bhavan, New Delhi – 110 001, dated 17.08.2004

General Managers,

1. Central Railway, Mumbai (CSTM).
2. Eastern Railway, Kolkata.
3. East Central Railway, Hazipur.
4. East Coast Railway, Bhubaneswar
5. Northern Railway, New Delhi.
6. North Central Rly., Allahabad.
7. North Eastern Railway, Gorakhpur.
8. Northeast Frontier Rly., Maligaon
9. North Western Railway, Jaipur.
10. Southern Railway, Chennai.
11. South Central Rly., Secunderabad.
12. South Eastern Railway, Kolkata.
13. South East Central Rly, Bilaspur.
14. South Western Railway/Hubli.
15. Western Railway, Mumbai,
16. West Central Rly., Jabalpur.

Sub: Prohibition on transportation of Explosives and inflammable materials in the trains.

1.0 As per the speech of the Hon'ble Minister for Railways while presenting the Railway Budget for the year 2004-05 in the Parliament on 6th July 2004, carriage of any type of explosives and inflammable material has been prohibited in trains. Excerpts, as contained in para 15 of Part-I of the MR's Railway Budget Speech, is reproduced below:-

> **"Incidents of fire in the coach and luggage vans of passenger carrying trains during the recent past have caused serious concern. Prohibition on carriage of any type of explosives and inflammable materials including LPG cylinders, kerosene stoves, etc, other than those required for security purposes or by the armed forces, by any passenger carrying train will be strictly enforced."**

2.0 In this context, attention is invited to Rule Nos. 505 and 506 of the IRCA Coaching Tariff No. 25, Part I (Volume-I), under which Explosive, Dangerous Inflammable articles, empty gas cylinders, dry grass and leaves, waste paper acids, corrosive substances enummerated in the Red Tariff must not be booke as luggage by passenger trains. Further, dangerous articles, such as explosive of any variety including fire works, inflammable materials such as oil, greas ghee, paint, dry grass and leaves of any variety, waste papers, acids and oth corrosive substances are prohibited to be carried by any person in th compartment.

contd/...

3.0 Attention is also invited to Chairman, Railway Board's recent letter No. 2004/TC(FM)/11/14 dated 14.06.2004 wherein zonal railways were asked to take immediate step to prevent any possibility of fire in the trains.

4.0 Board desires that rules regarding booking and carriage of any type of explosives and inflammable materials including LPG cylinders, kerosene stoves, etc., other than those required for security purposes or by the armed forces, by any passenger carrying train must be strictly enforced.

5.0 Action taken by the railways in this regard be advised.

6.0 Receipt of this letter be acknowledged.

(Ms. S.R. Sett)
Joint Director Freight Marketing

No. TC-II/2077/04/1. **New Delhi, dated 17.08.2004.**

Copy forwarded for information and necessary action to:

1. Chief Commercial Manager, All Indian Railways.
2. Chief Commercial Manager(FM), All Indian Railways.
3. Managing Director, Konkan Railway Corporation Ltd., Belapur Bhavan, Plot No.6, Sector 11, CBD Belapur, Navi Mumbai-400014.
4. Chief Commercial Manager, Konkan Railway Corporation Ltd., Belapur Bhavan, Plot No.6, Sector 11, CBD Belapur, Navi Mumbai-400014.
5. Chief Operation Manager, Konkan Railway Corporation Ltd., Belapur Bhavan, Plot No.6, Sector 11, CBD Belapur, Navi Mumbai-400014.
6. General Manager, Metro Railway, 33/1, JL Nehru Road, Kolkata-700071.
7. General Manager, Centre for Railway Information System (CRIS), Chanakyapuri, Near National Rail Museum, New Delhi.
8. Chief Commissioner of Railway Safety, Lucknow.
9. RDSO/Lucknow.

(Ms. S.R. Sett)
Joint Director Freight Mktg.

Contd.

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BY FAX

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

98/Elec(G)/165/1 Pt.1. New, Delhi, Dated: 15.09.2004.

Chief Electrical Engineers,
All Indian Railways,

Chief Electrical Engineers,
ICF & RCF

Sub: Procurement of Electronic Rectifier – cum-Regulating unit (ERRU) for 4.5 kW & 25 kW alternators of AC & TL coaches.

Ref:- Board's letter of even no. dated 17.8.2000

In continuation to Board's letter of even no. dated 07.05.2002 regarding the instructions to ICF & RCF for provision of Electronic Rectifier cum Regulating Units (ERRUs) in 20% newly manufactured AC & TL coaches, the matter has been further reviewed in the light of the recent performance feed back from RDSO. Accordingly, after careful consideration, following has been decided in respect of the adoption of ERRUs for passenger coaches instead of earlier decision of XIX MSG meeting for 100% switchover to ERRUs.

i). PUs shall provide 50% ERRUs in 4.5 kW and 25 kW alternators of all newly manufactured AC & TL coaches with immediate effect.
ii). Railway shall procure ERRUs for 4.5 kW and 25 kW alternators to the extent of 50% of their replacement requirement.
iii). Inspection of all ERRUs ordered by PUs & Zonal Railways shall be carried out by RDSO.

ICF/RCF shall ensure that the coaches turned down with ERRUs shall be despatched to 5 to 6 Zonal Railways, to the extent practicable, for effectively monitoring the performance of these equipments.

Sudha Saxena
15/9/04
(S.K.Saxena)
Director Electrical Engg.(G)
Railway Board.

Copy to: ED (PS&EMU), RDSO, Manak Nagar, Lucknow w.r.to their letter no.EL/1.6.9.25 dt. 19.12.03, 22.12.03 & 06.09.2004. In order to maintain the consistency in the quality of ERRUs, RDSO should inspect all the units ordered by PUs/Zonal Railways. RDSO should also closely monitor the performance of ERRUs by carrying out **Quality Audit** and submit the performance to Board on **six-monthly basis.**

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.99/Elec(G)/165/16 New Delhi, dated 1.10.2004

Sr. Executive Director (PS& EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Development of vendors for procurement of Train Lighting Lamps.

Ref: 1. RDSO's letter no. QE/6.4.11 dt. 22/24.9.04
2. Board's letter of even no. dt. 26.2.04 & 10.3.04

In partial modification to Board's letter of even nos. dt. 26.2.2004 & 10.3.04, following changes are made in nomenclature for Capacity/capability assessment & approval of sources for dev/ regular orders regarding existing (E) and revised (R) in respect of TL lamps.

Eqpt.	Preparation of drawings/spec		Capacity/capability assessment & approval of sources for dev/ regular orders		Placement of developmental orders		Prototype clearance	
	E	R	E	R	E	R	E	R
TL lamps	IS & RDSO	IS & RDSO	ICF, RCF & Zonal Rlys	ICF, RCF & Zonal Rlys	ICF, RCF & Zonal Rlys	ICF, RCF & Zonal Rlys	ICF, RCF & Zonal Rlys	ICF RCF Zon Rly

E-Existing, R-Revised.

(Lt. Col. V. K. Raheja)
Exec. Director Elec.Engg.(G)
Railway Board

Copy to:
1. CEEs/ All Indian Railways & PUs.
2. COSs/ All Indian Railways & PUs.
3. AM/RS, Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

Policy Circular No. RB/EL 03/

No. 2000/Elec(G)/181/21-Pt. New Delhi, dt. 22/11.2004

The General Managers, CR, ER, NR, NE, NF, SR, SC, SE, NR 30
All Indian Railways. ECR, ECOR, NCR, NWR, SECR, SWR, WCR

Sub: Bench marking for providing maintenance & escorting staff for AC coaches as well as maintenance staff for TL coaches.

Ref: (I) Board's letter of even no. dt. 9.10.2003.
(ii) Board's letter no. E(G)2003 EC 2-3 dt. 31.10.2003

At present different yardsticks are being followed by Zonal Railways for staff for AC TL coaches. In order to adopt a uniform yardstick for coaching stock (Electrical), Board ha decided to adopt the following uniform bench marking norms for provision of staff for A coaches, TL coaches, power cars, escorting staff & train passing staff in the coaching depo

Activity	Yardstick
(i) TL COACHES:	
(a) Primary maintenance:	0.30 staff per coach holding for prima maintenance.
(b) Secondary maintenance	0.15 staff per coach handled for seconda maintenance.
(c) Train passing @	0.07 staff per coach for Mail /Exp. Trains 0.06 staff per coach for passenger trains
(d). Sick line attention	0.05 per coach holding
(ii) AC COACHES:	
(a) Primary maintenance:	
SGAC coach with under slung AC equipment	1.75 staff/coach holding for primary maintenance
SGAC coach with RMPU type of AC equipment	1.40 staff/coach holding for primary maintenance
EOG AC coach with under slung AC equipment	1.40 staff/coach holding for primary maintenance
EOG AC coach with RMPU type of AC equipment	1.00 staff/coach holding for primary maintenance
(b) Secondary maintenance:	
SGAC coach with under slung AC equipment	0.90 staff/coach handled for Secondary maintenance
SGAC coach with RMPU type of AC equipment	0.70 staff/coach handled for Secondary maintenance
EOG AC coach with under slung AC equipment	0.70 staff/coach handled for Secondary maintenance
EOG AC coach with RMPU type of AC equipment	0.50 staff/coach handled for Secondary maintenance
Train passing staff for AC coaches @	0.12 staff per coach for Rajdhani/Shatabdi Trains 0.13 staff per coach for Mail/Exp./Pass. trains
(c) Sick line attention	0.25 per coach holding
(iii) POWER CARs:	12 staff per 10 power cars for maintenance

SCORTING STAFF:	As per Board's commercial circular no. 29 of 1999 circulated vide Board's letter no. 99/TG-V/12/2 dt. 13.9.99.
) Material storage/accountal	a) 13 men for depots holding in excess of 150 AC coaches. b) 15 men for depots holding in excess of 500 TL coaches (inclusive of AC coaches).
i) Statistical work	8 men (only depots holding 150 or more coaches).
ii) Staff training (requirement of ainers)	Not covered by the bench marking norms. To be provided on Need Basis
iii) ARTs & ARMEs	Not covered by the bench marking norms. To be provided on Need Basis.

@ - Up and down pair of trains are to be counted as one rake.
- No train passing staff is to be sanctioned at stations for those trains which are given primary/secondary attention at that station.
- No train passing staff should generally be sanctioned for en route attention at intermediate stations less than 200 kms. apart except the important stations.

Note: (a) In addition to the staff required for maintenance of power cars as mentioned in item (iii) above, power cars with AC guard cabin will also require the staff for maintenance of AC equipments which shall be taken equivalent to ½ AC coach.

(b) The above norms (other than sick line) are inclusive of rest giver allowance (RG) but leave reserves (LR) may be provided as applicable. For sick line both LR & RG included.

(c) The norms do not cover Ministerial staff and Divisional control staff which will be provided according to local practices.

2.0 These benchmarking norms are issued to achieve uniformity in maintenance practices wherever it exists while making good shortfall else where ensuring economy for the system as a whole. Immediate action may please be taken to review the levels of staff provision at existing AC & TL depots vis-a-vis these bench marking norms and action may be initiated to ensure convergence of staff sanctions at AC/TL depots as per the above norms. All future AC/TL maintenance staff provisions made on account of introduction of additional services must also comply with these bench marking norms.

3.0 In order to ensure that required no. of staff is made available on time to facilitate the desired level of maintenance and safety, the post required for maintenance of rakes in the context of introduction of new trains (w.e.f. 1.4.04 and onwards) shall be created on the lines as done for the crews by way of periodic review to the extent this involves introduction/induction of coaches in new trains as per the above benchmarking norms. The periodic review should be done in the month of March every year on the basis of the new train services announced in the Budget Speech. The post should be operated duly considering the proposed date for the introduction/increased frequency of the trains.

4.0 The posts so created should be set off as below (this exercise should be completed within 2 months):

a) All the surplus posts which are yet to be surrendered and credited to the vacancy bank and available on the Railway in the relevant categories which are covered by this review would be set off from the additional requirement.

b) Vacancies in the categories which are to be phased out/not to be filled would be adjusted against the additional requirement.'

c) Matching surrender should be provided by the Railways for the balance posts on additional account after (a) & (b) above has been done.

d) In case the Railways do not have adequate matching savings in the vacancy bank for the balance posts, then, the stipulated matching savings shall be debited to the vacancy bank, which shall be made good by the credits which accrue later on. The debits would be first set off by any future credits to the vacancy bank before utilisation of this bank for creation of any other post.

5.0 General Managers may please ensure that the aforesaid guidelines are strictly followed and a report be sent regularly to Railway Board by the end of May'2005 and onwards.

6.0 This is in continuation of Board's letter no.E(G)2003 EC 2-3 dtd 31.10.03.

7.0 This issues with the concurrence of the Finance Directorate of the Ministry of Railways.

(Lt. Col. V.K.Raheja)
Exe.Director Elect. Engg(G)
Railway Board.

Copy to: 1. CEEs/All Indian Railways. CR, ER, NR, NE, NF, SR, SC, SE, WR
2. CPOs/All Indian Railways. ECR, ECOR, NCR, NWR, SECR, SWR, WCR
3. The FA&CAOs, All Indian Railways. -do-
4. Executive Director (Finance), RDSO, Lucknow -do-

(Lt. Col. V.K.Raheja)
Exe.Director Elect. Engg(G)
Railway Board.

Copy to: Dy. Controller & Auditor General of India (Railways),
Room.No.224, Rail Bhavan, New Delhi.

30-11-04

31.11.04

For Financial Commissioner/Railways

.....4..

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2000/Elect(G)/109/21 New Delhi, dt. 13.12.2004

Chief Electrical Engineers,
All Indian Railways, ICF & RCF,

Sub: Measures taken to improve the reliability of train lighting & air conditioned coaches.

In order to improve the reliability of Train lighting & Air conditioned coaches, various measures including **technical up-gradation & adoption of new innovations** has been taken. These measures have not only resulted in **reduced Public Complaints** but also improved reliability, less on line failures and better availability of the assets. But the implementation of these directives is not forthcoming in some of the in Zonal Railways. It is therefore, advised that Zonal Railways should take the necessary steps to expedite the implementation of Board's directives issued in this regard from time to time. Accordingly, you are advised to furnish the compliance of the Board's directives issued in the following format.

S.No	Item	Board's reference	Concerned Rlys & PUs	Total coaches	Already provided with	Target for remaining.
1.	Provision of Fluorescent Tube light fitting in pace of Incandescent lamps	98/Elect(G)/180/6 dtd.13.4.99, 27.11.2000 & 3.6.02	All Rlys			
2.	Provision of 3rd fan in GS coaches	98/Elec(G)/107/2 dt. 23.3.01 & 2000/Elec(G)/165/8 dt. 6.2.03	ICF & RCF			
3	Procurement of electronic thermostat for RMPU	2000/Elec(G)/114/1 dt. 4.2.02 & 98 Elec(G)/165/1 pt.1 dt. 30.7.02 & 12.3.2003	ICF & RCF			
4	Procurement of 6V,120 Ah TL batteries with PP-CP container.	2003/Elec(G)/165/1 dt. 1.7.02	All Rlys, ICF & RCF			
5	Wearing of uniforms by AC coach attendants and coach attendant	98/Elec(G)/138/2 dt. 9.8.2002	All Rlys			
6	Provision of 110 V AC single phase two pin socket & switch for charging phone and laptop	2000/Elec(G)/109/14 dt. 22.10.02	All Rlys & PUs			
7	Development of Microprocessor based control system for RMPU	2002/Elec(G)/114/3 dt. 10.12.2002	NR & ICF			
8	Illumination of reservation chart and coach no. in passengers coaches	2000/Elec(G)/109/14 dt. 30.12.2002	All Rlys & PUs			
9	Provision of berth no. indication alongwith night lamp in 3AC coaches.	2000/Elec(G)/109/14 dt. 18.2.2003	ICF & RCF			

10	Provision of emergency lights in passengers coaches.	2001/Elec(G)/113/4 safety dt. 18.2.03 & 28.8.03	ICF, RCF, NR, SR & WR			
11	Provision of berth no. indication alongwith night lamp in sleeper class coaches.	2000/Elec(G)/109/14 dt. 18.2.2003	ICF & RCF			
12	Scale of electrical equipments to be provided in ARTs & ARMEs	99/Elec(G)/113/1 dt. 28.11.2002 & 16.7.2003	All Rlys & PUs			
13	Development of 1100 Ah LA flooded battery	2003/Elec(G)/165/1 dt. 25.7.03, 26.12.2003 & 4.11.04	All Rlys, ICF & RCF			
14	Procurement of Electronic Rectifier -cum-Regulating Unit (ERRU) for 4.5 kW & 25 kW alternator.	98/Elec(G)/165/1 pt.1 28.8.03	ICF			
15	Review of yardstick for maintenance & escorting staff for AC coaches as well as maintenance staff for TL coaches.	2000/Elec(G)/181/21-Pt. dt. 9.10.2003 & 22/30.11.2004	All Rlys			
16	Development of Brushless DC (BLDC) fan with permanent magnet for coaching stock fans	2000/Elec(G)/165/8 dt. 12.1.2004	ICF & RCF			
17	Development of scheme for extension of emergency feed in AC coaches from one coach to adjacent AC coach in case of failure of power supply on one coach.	2004/Elec(G)/114/2 dt. 6.2.04	ICF			

The progress in respect of the above should variably be sent to Board's office by 5th of every month.

(Lt. Col. V. K. Raheja)
Exec. Director Electrical Engineering (G)
Railway Board.

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BY FAX

PC

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2003/Elec(G)/156/2 New Delhi, dt. 23.02.05

Chief Electrical Engineers,
All Indian Railways.

Sub: Standardisation of PCDOs.

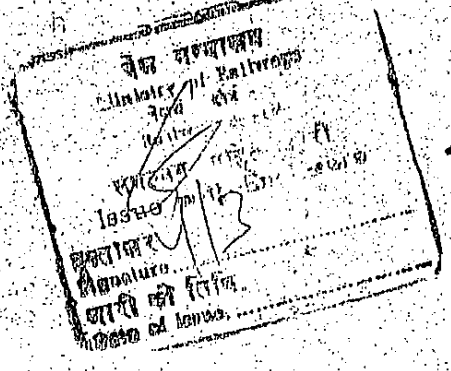
As the monthly PCDOs received from the Railways vary in content as well as in the format, it has been decided that henceforth the monthly PCDOs from CEEs to Board should be in a standard format. The main covering letter to be sent by CEEs is enclosed herewith. However, the Annexures to be enclosed alongwith the above PCDO has been E-mailed to you at railnet which may kindly be downloaded. The details of above Annexures are as under:-

a) **Annexure 1/1 to 1/6** – covers the aspects of decisions taken during CEE/CELE/CEDE/CESE MSG
b) **Annexure 2/1(A) to 2/1 (D), 2/2 to 2/14, 2/15(A), 2/15(B), 2/16, 2/17(A), 2/17(B) & 2/18** – pertains to the indices of electric locomotives.
c) **Annexure 3/1 & 3/2** - pertains to the indices of EMUs/MEMUs.
d) **Annexure 4** – pertains to the indices of energy charges(Traction)
e) **Annexure 5/1 to 5/4** – pertains to the indices of AC & TL
f) **Annexure 6** - pertains to the progress of Other Electrical Works and combined works.
g) **Annexure TRD-1 to TRD-3** - pertains to indices of TRD.

While the covering letter are to be sent regularly to ML & AM/L on monthly basis, the annexures are required to be sent to ML, AM/L and concerned Executive Directors as per the periodicity and marking mentioned therein. The PCDOs to the concerned EDs should be sent on quarterly basis enclosing all the annexures indicating the position at the end of each quarter i.e. in the first quarter (Jan-Mar), 2nd quarter (Apr-Jun), 3rd quarter (July-Sept), 4th quarter (Nov-Dec).

You are requested to ensure that beginning April, 2005 all monthly PCDOs should be sent in the revised format only.

(Lt. Col. V. K. Raheja)
Exec. Director Elec. Engg(G)
Railway Board.



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भारत सरकार GOVERNMENT OF INDIA
रेल मन्त्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

No. TC-II/2077/04/1.

रेल भवन, नई दिल्ली - 110 001, तिथि
Rail Bhavan, New Delhi - 110 001, dated 13.04.2005

General Managers,

1. Central Railway, Mumbai (CSTM).
2. Eastern Railway, Kolkata.
3. East Central Railway, Hazipur.
4. East Coast Railway, Bhubaneswar
5. Northern Railway, New Delhi.
6. North Central Rly., Allahabad.
7. North Eastern Railway, Gorakhpur.
8. Northeast Frontier Rly., Maligaon,
9. North Western Railway, Jaipur.
10. Southern Railway, Chennai.
11. South Central Rly., Secunderabad.
12. South Eastern Railway, Kolkata.
13. South East Central Rly, Bilaspur.
14. South Western Railway/Hubli.
15. Western Railway, Mumbai,
16. West Central Rly., Jabalpur.

Sub: Prohibition on transportation of Explosives and inflammable materials in the trains.

Attention is invited to Board's letter of even number dated 17.08.2004 on the above subject. A copy of the same is enclosed herewith for ready reference. It was desired that rules regarding booking and carriage of any type of explosives and inflammable materials including LPG cylinders, kerosene stoves, etc., other than those required for security purposes or by the armed forces, by any passenger carrying train must be strictly enforced. However, it has been observed that these instructions are not being followed by the zonal railways. This has been viewed seriously by Board.

Board desires that rules regarding booking and carriage of any type of explosives and inflammable materials including LPG cylinders, kerosene stoves, unathorised vending with 'Sigris' etc., other than those required for security purposes or by the armed forces, by any passenger carrying train must be strictly enforced. The dangerous, explosive, inflammable articles contained in Red Tariff should in no case be allowed to be carried in passenger's coach or brakevans of passenger carrying trains even in case of railway material. Regular as well as random checks may be conducted by the Ticket Checking staff, RPF staff and carriage of such articles should be intensified.

Ensure strict compliance of these instructions by all concerned.

(Ms. S.R. Sett)
Joint Director Freight Marketing

contd/....

No. TC-II/2077/04/1. New Delhi, dated 13.04.2005

Copy forwarded for information and necessary action to:

1. Chief Operation Manager, All Indian Railways.
2. Chief Commercial Manager, All Indian Railways.
3. Chief Passenger Traffic Manager, All Indian Railway.
4. Chief Mechanical Engineer, All Indian Railways.
5. Chief Safety Officer, All Indian Railways.
6. Chief Commercial Manager (FM), All Indian Railways.
7. Chief Security Commandant, All Indian Railways.
8. Managing Director, Konkan Railway Corporation Ltd., Belapur Bhavan, Plot No.6, Sector 11, CBD Belapur, Navi Mumbai-400014.
9. Chief Operation Manager, Konkan Railway Corporation Ltd., Belapur Bhavan, Plot No.6, Sector 11, CBD Belapur, Navi Mumbai-400014.
10. Chief Commercial Manager, Konkan Railway Corporation Ltd., Belapur Bhavan, Plot No.6, Sector 11, CBD Belapur, Navi Mumbai-400 4.
11. General Manager, Metro Railway, 33/1, JL Nehru Road, Kolkata-700071.
12. Managing Director, Centre for Railway Information System (CRIS), Chanakyapuri, Near National Rail Museum, New Delhi.
13. Chief Commissioner of Railway Safety, Lucknow.
14. RDSO/Lucknow.

(Ms. S.R. Sett)
Joint Director Freight Mktg.

No. TC-II/2077/04/1. New Delhi, dated 13.04.2005

Copy for kind information to:

1. CRB, FC, ML, MM, MT, MS, ME, DG/RPF, Secretary, Railway Board.
2. AM(T), AM(C), AM(Mech), AM(S&C), Adv.(PM), Adv. (F), Adv. (Vig), Railway Board.
3. EDPM, EDPG, EDTC(R), EDF(C&RM), EDME(Chg.), ED(Safety)/Railway Board.
4. DF(C), DTC(R), DTC(Cl.), DPM, DTC(G), JDTC(G)/Railway Board.
5. TC-I, TC-II, TC-III, TC-IV, TC(R), TG-I, TG-II, TG-III, TG-IV, TG-V, TC(CR), Vig.(SS), Chg.-II, F(C)/ Branches of Railway Board.

(Ms. S.R. Sett)
Joint Director Freight Mktg.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2003/Elec.(G)/165/1 Pt. New Delhi, dated: 28.3.2007

Executive Director (PS&EMU),
RDSO, Manak Nagar,
Lucknow.

Chief Electrical Engineers
All Indian Railways
CLW/ Chittaranjan
ICF/ Chennai
RCF/ Kapurthala

Sub: Development of low maintenance (LM) lead acid batteries for electric locos & EMUs application.
Ref: 1. Board's letter of even no. dt. 8.8.05 & 5.4.05.
2. RDSO's letter no. EL/6.7.8 dt. 17.5.05, 13.7.05 & 12.3.07.

Board vide their letter of even no. dated 5.4.05 (ref-1) had advised that Railways should cut in 100% procurement of low maintenance (LM) lead acid batteries for electric locos/EMU application in PPCP containers only. Subsequently, Board vide letter of even no. dt. 8.8.05 at ref.(1) had granted one year w.e f issue of this letter for developing the sources for LMLA batteries with PPCP container. Till such time HR & PPCP container shall continue to be used to ensure regular supplies to Railways & production units.

Now, RDSO vide reference (2) dt. 12.3.07 has again approached Railway Board for further extending 100% cut in date of PPCP batteries for EMU and locos, citing reason that till date only one part II source of loco/EMU battery with PPCP container has been developed and sufficient sources are likely to be developed within next 6 months period.

The proposal has been considered and following has been decided:

i) Procurement of loco/EMU battery with hard rubber or PPCP container should continue upto 31.12.07 to ensure regular supplies of batteries to Railways and PU's.

ii) RDSO shall make all out efforts to develop more sources of LMLA batteries of loco/EMU with PPCP container within 31.12.07.

iii) Railways and PU's will cut in 100% procurement of LMLA batteries for loco/EMU application with PPCP container w.e.f. 1.1.2008.

This is issued with the approval of Board (ML).

(Jaideep) 28/3/07
Director Elec. Engg. (G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2003/Elec (G)/165/1 Pt. New Delhi, dated: 28.03.2007

Executive Director (PS&EMU),
RDSO, Manak Nagar,
Lucknow.

Chief Electrical Engineer
Rail Coach Factory
Kapurthala

Sub: Approval of sources for procurement of items pertaining to TL /AC items of LHB coaches
Ref: 1) Board's letter no 99/Elc(G)/165/16 dt 14.02.01
2) AM/L's DO letter no 2001/Elect(G)/165/4 dt 27.11.03
3) ML's DO letter no 2001/Elect(G)/165/4 dt 18.06.04

Board vide letter ref (1), had issued comprehensive guidelines regarding approval of sources for procurement of different equipments of AC/TL coaches.

The issue regarding approval of sources for procurement of items pertaining to TL/AC of LHB coaches on the pattern of conventional coaches has been advised vide Board's letters at ref (2) & (3), but the system has not been streamlined yet.

In view of above, in order to streamline the procurement policy of AC/TL items in LHB coaches, it has been decided that:

i) RCF should follow same guidelines in respect of agency responsible for preparation of specification, capacity/capability assessment, placement of developmental order, prototype clearance etc. for LHB items as being followed for TL/AC items of conventional coaches in terms of Railway Board's letter under ref (1) above and amendments issued therein from time to time.

ii) The matter regarding fixing responsibility for preparation of specification, development of vendors, prototype clearance etc. of AC/TL items in LHB coaches not covered in the list of items mentioned in Railway Board's letter under ref (1) & amendments issued therein, should be referred to Board by RCF or RDSO for further clarification within a month from date of issue of this letter.

iii) RCF will give drawings, specifications, assessment and their approved list to RDSO (PS&EMU Dte.). RDSO will develop and approve sources in part I & II categories based on the feedback of RCF. RCF will continue to follow their list of approved sources till RDSO issue their list of approved sources for TL/AC items of LHB coaches.

This is issued with the approval of Board (ML).

(Jaideep) 28/03/07
Director Elec. Engg. (G)
Railway Board

Copy to: CEEs, All Indian Railways & CEE/ICF/ Chennai.

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ACTL/LHB

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2003/Elect(G)/165/1

New Delhi, Dt. 9.4.07

Executive Director (PS&EMU),
RDSO; Manak Nagar,
Lucknow.

Chief Electrical Engineer,
RCF, Kapurthala.

Sub: Approval of sources for procurement of items pertaining to TL /AC of LHB coaches.

Ref: 1. Board's letter of even no. dated 28.3.07.
2. Board's letter no. 99/Elect(G)/165/16 dt. 14.2.01.
3. AM/L's DO letter no. 2001/Elect(G)/165/4 dt. 27.11.03.
4. ML's DO letter no. 2001/Elect(G)/165/4 dt. 18.6.04.

Board vide reference (1) has issued guidelines, regarding approval of sources for procurement of different AC/TL equipments of LHB coaches. Subsequently, the policy guidelines on subject matter has further been reviewed by Board (ML). In view of above, the revised guidelines on the subject matter will be as under:

i) RCF should follow same guidelines in respect of agency responsible for preparation of specification, capacity/ capability assessment, placement of developmental order, prototype clearance etc. for LHB items as being followed for TL/AC items of conventional coaches in terms of Railway Board's letter under ref (1) above and amendments issued therein from time to time.

ii) The matter regarding fixing responsibility for preparation of specification, development of vendors, prototype clearance etc. of AC/TL items in LHB coaches not covered in the list of items mentioned in Railway Board's letter under ref (1) & amendments issued therein, should be referred to Board by RCF or RDSO for further clarification within a month from date of issue of this letter.

iii) RCF will give drawings, specifications, assessment and their approved list to RDSO (PS&EMU Dte.). RDSO will develop and approve sources in part I & II categories based on the feedback of RCF. RCF will continue to follow their list of approved sources till RDSO issue their list of approved sources for TL/AC items of LHB coaches. RDSO list will be taken as final for adoption only after few part I sources (at least one) is in approved list of RDSO.

This letter super cedes earlier letter issued on subject matter vide reference (1) above.

This is issued with the approval of Board (ML).

Please leave from up to

(Jaldeep) 9/4/07
Director Elect. Engg. (G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2006/Elec(G)/138/3Pt.I New Delhi, Dt. 10.4.2007

Chief Electrical Engineers,
All Indian Railways
Konkan Railway, Mumbai.

Sub: Scope of work for electrical items in Mid Life Rehabilitation.

During the CESE conference held on 30.8.06 a Committee was formed comprising CESE/CR, Director (PS&EMU), RDSO & CESE/WCR (Convener) for deciding the Scope of Mid Life Rehabilitation for electrical items of AC/TL coaches. Recommendation of the Committee with Board's comments are enclosed. Member Electrical has approved the recommendations of the committee alongwith Board's comments.

In addition to above, following has also been approved by Board:

i) In case new equipment provided by the Railway does not require replacement during MLR, same should be advised by concerned Railway to MLR shop.

ii) MLR shop will hand over details of new equipments and copy of complete test records to zonal Railway along with the coach after Mid Life Rehabilitation (MLR) for monitoring performance and warranty claim etc.

Jaideep 10/4/07

(Jaideep)
Director Elect.Engg(G)
Railway Board.

Copy to: 1. Director, IRIEEN, Nasik
2. ED(PS&EMU), RDSO, Lucknow

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD).

No. 2005/Elec (G)/109/14 New Delhi, dt. 10.4.07

Executive Director (PS&EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Air conditioning of one bed room and window trailing portion of non AC Inspection Carriages.

Ref: Railway Board's letter no.2001/M(C/137/10 vol. II Pt. dt. 28.3.07.

In reference to above with the approval of Board it has been decided that one bedroom and window trailing portion of non AC inspection carriages utilized by Advisor level officers in Railway Board and AGM/PHODs/CHODs in Zonal Railways, be provided with one window type air conditioners (capacity 0.75 T) each. Instructions have also been issued to Railways to carry out necessary modifications in existing non AC carriages being utilized by Advisor/ AGM/PHODs/CHOD level officers vide letter under reference.

In view of above, RDSO should standardize electrical scheme for air conditioning of one bedroom and window trailing portion of non AC inspection carriages. The proposal for the same should be sent to Board for approval.

Jaideep 10/04/07

(Jaideep)
Director Electrical Engineering(G)
Railway Board

Copy to:→ 1. All Indian Railway CEEs / CEEs Ref & Ref
2. DOME/RU/RB.
3. Director/IRIEEN/NASIK
4. Konkan Railway/CEE/Mumbai

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MOST URGENT
BY FAX/ BY POST

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 2001/Elect.(G/113/4 New Delhi, dt. 1.5.07

Chief Electrical Engineers,
All Indian Railways & Production Units.

Sub: Electrical Safety Week in first week of May.

Ref: 1. Board's letters of even no. dated 24.2.05 & 4.5.06.
2. Central Electricity Board's letter no. 5/7/99/CEB/474 dt. 19.4.02.

Kindly connect Board's letters of even no. dated 24.2.05 & 4.5.06 in which Railways have been advised to observe the Electrical Safety Week in the 1st week of May every year as decided during the 35th Ordinary Meeting of CEB held at Thiruvananthapuram on 28-29th January, 1999. Accordingly, it is understood that Railways have already undertaken to observe **Electrical Safety Week from 7.5.07 to 12.5.07.**

The activities to be undertaken during the above **Electrical Safety Week have already been specified in the above referred letter are reiterated below:**

i) Posters and banners depicting electrical safety measures.
ii) Safety seminars on electrical safety aspects
iii) Special drive for checking of electrical installations including earth resistance.
iv) Training of electrical supervisors and staff.
v) Awareness regarding Electricity Rules particularly, role of electrical inspectors.
vi) Coverage and publicity through media.
vii) Any other issues as deemed fit.

You are requested to send the detailed report after observance of above Electrical Safety Week.

1/5/07

(Sudheer Kumar)
Exec. Director Elect. Engg. Management.
Railway Board.

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ACTL/Pantry Car

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.97/Elec(G)/180/35 New Delhi, dt. 10.5.07

Chief Electrical Engineers,
All Indian Railways, ICF & RCF.
Executive Director (PS & EMU),
RDSO, Lucknow.

Sub: Maintenance of Pantry Car equipments.

A review meeting was held in Board's office for reviewing the performance of pantry equipments provided in pantry cars & sub pantries. The following guidelines and action plan for Railways , PUs & RDSO is issued with the approval of Board (ML) :-

i) ICF should broad base their list of approved suppliers for deep freezer and bottle coolers by incorporating standard renowned makes as has been done in WCBs (non AC pantry cars). ICF should also interact with RCF to include LHB pantry equipment sources in their approved supplier list. Non performing suppliers should be weeded out from the approved list as per extant procedures.

ii) ICF should circulate approved list of suppliers for sub pantry equipments i.e. hot case and refrigeration unit used in ACCN and ACCW of ICF Rajdhani trains.

iii) Fridge unit used in pantry cars should be of standard makes preferably of industrial grade.

iv) ICF/RCF should do type test of deep freezer & bottle cooler provided in pantry cars & sub pantries and refrigerating units provided in ACCW & ACCN of Rajdhani trains. NR & WR will also do field trials to ascertain whether the specified temperature is achieved in test condition and submit their report to ICF/RCF.

v) The capacity of deep freezer provided in ICF WCBAC should be standardized and deepfreezer of 0.4KW capacity should be provided as being provided of standard makes in ICF WCBs. If necessary two of such units may be provided instead of one number of 0.7KW capacity currently available in ICF WCBAC whose performance is not satisfactory.

vi) RCF should sort out the problem of NR of water boiler and arrange for necessary replacement rectification on priority.

vii) In the long run, with a view to standardize specification of pantry equipments being provided by ICF & RCF, following policy guidelines should be followed for preparation of specification, capacity / capability assessment, placement of developmental order and prototype clearance.

Equipment	Preparation of Drawing/ Specifications	Cap/ Capability Assessment & approval of sources for developmental/ . regular orders	Placement of developmental order	Prototype Clearance
Pantry & subpantries electrical equipments in different trains manufactured by ICF and RCF including LHB trains	RDSO in consultation with ICF and RCF	ICF/RCF	ICF/RCF	ICF/RCF

The Railways/PUs & RDSO should give feedback on the action taken

10/5/07

(Jaideep)
Director Electrical Engg.(G)
Railway Board.

Issue date

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.97/Elec(G)/114/1

New Delhi, dt.23.5.07

Executive Director (PS &EMU)
RDSO,
Manak Nagar,
Lucknow.

Chief Electrical Engineers,
Integral Coach Factory, Chennai
Rail Coach Factory, Kapurthala.

Sub:- High capacity generator cars for End On Generation rakes
Ref: RDSO letter no. EL/0.6.2/Test dt. 19.4.07

1. In view of the increase in number of coaches in Rajdhani trains, RDSO was asked to submit the report for augmentation of power cars. RDSO vide reference above, has submitted the report for augmentation of power cars for 26/ 24 coach conventional/ LHB Rajdhani trains. Following are the salient features of the report:

a) The capacity of Diesel alternator set should be enhanced so that it should be able to supply 410 kW hotel load at site condition.

b) The fuel tank capacity should be enhanced to 5500 litres to meet the fuel requirement of longest journey of Rajdhani trains mentioned in Annexure B of report.

c) Inter vehicle coupler rating should be enhanced to 450 Amp from present capacity of 310 Amp and use of 150 mm^2 electron beam cable for feeder cable of coaches and power car for handling higher currents.

d) RDSO in their report has also mentioned that dimension of proposed diesel Alternator set will be similar to existing design of 336 kw Diesel Alternator set. Similarly the mechanical dimension of 450 Amp inter vehicle coupler will also be kept same by using electron beam cable so as to have operational flexibility in using coaches.

2. Based on RDSO report following has been decided:-

i) RDSO recommendations in para 1 (a) to 1 (d) have been accepted.

ii) RDSO should develop the specification of Diesel Alternator set of 410 kW, inter vehicle coupler of 450 Amp. immediately as per Railway Board letter no 99/Elec(G)/165/16 dt. 3.10.06 & 14.2.01

iii) Suitable identification mark through colour coding should be made on the couplers of coaches and power cars to distinguish it from existing stock.

iv) RDSO in their report vide ref. above has mentioned diversity factor of 0.7 for conventional Rajdhani coaches in Annexure A of report. Whereas in fuel consumption calculation in Annexure B of report diversity factor of 0.6 has been taken. This aspect may be reviewed by RDSO. It shall be ensured by RDSO that proposed enhanced capacity of fuel tank is suitable for longest journey of Rajdhani trains.

v) There should be two fuel tanks per power car with total capacity of 5500 litres subject to review as mentioned in para 2 (iv) above. This will facilitate to provide one standby under slung Diesel Alternator by removing one of the fuel tanks when HOG scheme is introduced.

Acid/Glonatex battery

vi) Subject to approved production program, PUs will manufacture five rakes of Garib Rath (conventional ICF design) and five rakes of LHB Rajdhani with augmented power cars and coaches with higher capacity inter vehicle couplers, 150 mm ^{2} electron beam feeder cable etc. for extensive field trials.

vii) RDSO will monitor the performance of these power cars and coaches. After satisfactory performance PUs will immediately cut in production for augmented power cars and coaches with high capacity inter vehicle couplers, 150 mm ^{2} electron beam feeder cable etc.

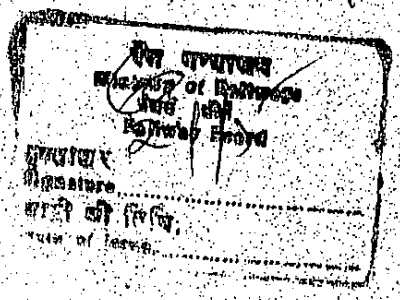
viii) After development of design of higher capacity fuel tanks, RDSO should also review whether these can be retrofitted in existing power cars so that refueling of power car in long route can be avoided.

ix) Diesel Alternator sets in existing power cars will not be replaced by proposed higher capacity 410kW Diesel Alternator sets. Similarly inter vehicle coupler and feeder in existing coaches will not be upgraded to 450 Amp. These power cars will continue to be used in smaller Rajdhani trains and will be phased out in normal course on completion of codal life. However, wherever Railways procure Diesel alternator sets on replacement account, higher capacity 410kW sets will be procured after RDSO clears the same after extended field trials as mentioned in para 2 (viii) above.

This is issued with the approval of Board (ML).

(Jaideep) 23/5
Director Elec.Engg(G)
Railway Board

Copy to:- CEEs/ All Indian Railways.



I.C. SHARMA
ADV. ELECT(G)

भारत सरकार
रेल मंत्रालय, (रेलवे बोर्ड)
नई दिल्ली-११०००१
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NEW DELHI-110001

DO No. 2007/Elec(G)/125/1

New Delhi, dt.20.8.2007

My dear Shri Kumar,

Sub: Detention of trains.

Ref: NCR's letter no. EL/TL-AC/NCR/Failure dt. 8.8.07.

Vide reference above, NCR has reported failure of supply for signals in Allahabad division resulting in punctuality loss of seven trains on 3.8.07. The problem occurred due to entry of rats in distribution board of East Cabin causing short circuit. This failure has resulted in loss of punctuality of 7 important mail/ express trains and as such this has been viewed seriously at Board's level.

In view of this failure, I request you to please launch a drive to ensure proper maintenance of distribution board cables etc. please advise whether installations which should have been handed over to S&T department in terms of Board's letter no. 82/RE/250/1 Vol.II dt. 13.09.02 has actually been taken over and are being maintained by them. Till such time they are physically been taken over by S&T department, you may please ensure their proper upkeep/ maintenance to avoid recurrence of incidence like the one happened in NCR on 3.8.07.

You may kindly furnish a feedback about handing over of assets to S&T in terms of instructions contained in joint circular mentioned above. A feedback of action taken may be advised to Board latest by **15.9.07 positively.**

With best wishes,

Yours sincerely,

21/8/07

(I.C. SHARMA)

Shri Satish Kumar,
Chief Electrical Engineer,
Central Railway,
Mumbai.

ERly, ECR, ECOR, NCR, NFR, NR, NWR, NER, SR, SCR, SER, SECR, SWR, WR, WCR

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No2001/Elect(G)/165/16. New Delhi, dated 21.8.07

The General Managers.
All Indian Railways & Production Units.

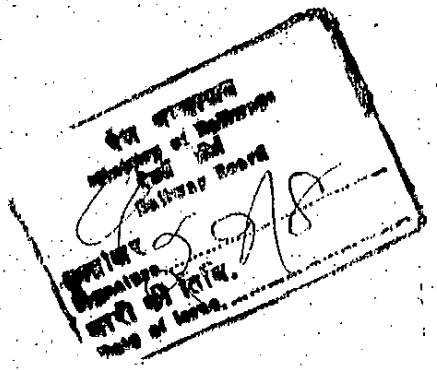
Sub: Approval of sources for procurement of items pertaining to train lighting and AC coaches.

Ref: 1. Board's letter of even no. dated 14.2.01.
2. Railway Board's letter nos. 99/Elect(G)/165/16 dt. 26.2.04, 10.3.04, 14.7.05, 18.4.06, 21.8.06, 11.9.06, 1.10.04, & 3.10.06
3. Railway Board's letter no. 2001/Elect(G)/165/2 dated 14/15.7.03.
4 Railway Board's letter no. 96/Elect(G)/114/7 dt 17.10.05
5. Railway Board's letter no. 2004/Elect(G)/113/4 dt13/26.10.05
6. Railway Board's letter no. 98/Elect(G)/165/1 dt 19.3.07
7. Railway Board's letter no. 97/Elect(G)/180/35 dt. 10.5.07
8. Railway Board's letter no. 2003/Elect(G)/165/1 dt 9.4.07

1.0 Vide reference (1) above, Board has issued guidelines regarding fixing of responsibility between RDSO/PU/Zonal Railway for preparation of specification/ drawings, capacity/capability assessment, approval of sources for placement of development/ regular orders & prototype clearance to have no ambiguity in procurement of quality spares of TL & AC items. The TL/AC items have been divided into four paras A, B, C & D depending upon agency for preparation of specification, development of sources and prototype clearance.

2.0 In past several amendments have been issued in the Railway Board letter vide ref(1) above, regarding change in responsibilities between RDSO/PU/ Zonal Railway of different activities viz. preparation of specification, development of sources, prototype clearance etc. and some new items have also been added in the list vide Board's letters referred (2) to (8) above.

3.0 In order to develop better quality product and bring uniformity in quality of product being developed by different vendors, it has been decided that prototype clearance of following items of conventional SG and ICF Rajdhani coaches will now be entrusted to ICF only. The other responsibilities regarding preparation of specification, capacity/ capability assessment, development of sources and placement of developmental order will be as per existing guidelines except for items viz. battery box, FRP tray for battery box, junction box cum rotary switches, fuse distribution board where the placement of developmental order will lie only with ICF/ RCF. The list of such items is as under:-



Sl No.	Equipment	Preparation of drawings/specifications		Cap/capability assessment & approval of sources for dev./regular orders		Placement of developmental orders		Prototype clearance	
		E	R	E	R	E	R	E	R
1.	Fluorescent light fittings	RDSO	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
2.	Fluorescent tube light	IS & RDSO	IS & RDSO	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
3.	Electronic ballast for 110V DC	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
4.	Train lighting lamps	IS & RDSO	IS & RDSO	ICF/RCF & Rlys.	ICF/RCF & Rlys.	ICF/RCF & Rlys.	ICF/RCF & Rlys.	ICF/RCF & Rlys.	ICF /I Rlys
5.	Electronic ballast for 110V AC	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
6.	LED Emergency light	ICF/RCF with approval of RDSO	ICF/RCF with approval of RDSO	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
7.	Belt tensioning device	RDSO	RDSO	Rlys	Rlys	Rlys	Rlys	Rlys.	ICF
8.	Fuses	IS & RDSO	IS & RDSO	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
9.	Battery box	RDSO	RDSO	ICF/RCF & RDSO	ICF/RCF & RDSO	ICF/RCF/ Rlys	ICF/RCF	ICF/RCF & RDSO	ICF/ RDSO
10.	FRP tray for battery box	RDSO	RDSO	ICF/RCF & RDSO	ICF/RCF & RDSO	ICF/RCF & Rlys.	ICF/RCF	ICF/RCF & RDSO	ICF/ RDSO
11.	Junction box cum rotary switches	RDSO	RDSO	ICF/RCF & Rly	ICF/RCF	ICF/RCF & Rly	ICF/RCF	ICF/RCF & Rly	ICF
12.	Distribution fuse board	RDSO	RDSO	ICF/RCF & Rly	ICF/RCF	ICF/RCF & Rly	ICF/RCF	ICF/RCF & Zonal Rly	ICF
13.	Inter vehicular coupler	RDSO	RDSO	ICF	ICF	ICF	ICF	ICF	ICF
14.	Power car power panel	RDSO	RDSO	ICF	ICF	ICF	ICF	ICF	ICF
15.	Rotary switch	RDSO	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
16.	Pre cooling plug and socket	RDSO	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
17.	Cable PVC aluminium	RDSO	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
18.	Cable PVC copper	RDSO	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
19	Ceiling light fittings	RDSO	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
20.	Night light fittings	RDSO	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
21.	Reading light fittings	RDSO	RDSO	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
22.	Toggle switch	RDSO	RDSO	ICF/RCF	ICF/RCF I	ICF/RCF	ICF/RCF	ICF/RCF	ICF
23.	RC fans	IS & RDSO	IS & RDSO	RDSO	RDSO	ICF/RCF	ICF/RCF	ICF/ RCF	ICF
24.	Inverter upto 10 KVA	PUs with approval of RDSO	PUs with approval of RDSO	ICF/RCF	ICF/RCF	ICF/ RCF	ICF/RCF	ICF/RCF	ICF
25.	Distribution Transformer upto 3kVA rating	PUs with approval of RDSO	PUs with approval of RDSO	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF
26.	Pantry & sub pantries electrical equipments in conventional coaches	RDSO in consultation with ICF/RCF	RDSO in consultation with ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF/RCF	ICF

4.0 The items viz. LED Emergency light, RC fans, inverter upto 10 kVA, distribution transformers, distribution fuse box have common specification for conventional and LHB variant coaches. As such for these items being common for both conventional and LHB coaches, prototype clearance will be done by ICF only and the other responsibilities viz. preparation of drawing/ specifications, capacity/ capability assessment & approval of sources for placement of developmental orders and placement of developmental orders will remain same as per existing guidelines.

5.0 The responsibility regarding Capacity/ capabilities assessment & approval of sources for developmental/ regular order, placement of developmental order and prototype clearance for items of LHB coaches should be entrusted only with RCF, as only RCF is manufacturing LHB coaches. The list of such items is as under:

S.No.	Eqpt.	Preparation of drawings/specifications		Cap/capability assessment & approval of sources for dev./regular orders		Placement of developmental orders		Prototype clearance	
		E	R	E	R	E	R	E	R
1.	Fluorescent light fittings	RDSO	RDSO	ICF/RCF	RCF	ICF/RCF	RCF	RCF	RCF
2.	Fluorescent tube light	IS & RDSO	IS & RDSO	ICF/RCF	RCF	ICF/RCF	RCF	RCF	RCF
3.	Electronic ballast for 110V DC	ICF/RCF	RCF	ICF/RCF	RCF	ICF/RCF	RCF	RCF	RCF
4.	Electronic ballast for 110V AC	ICF/RCF	RCF	ICF/RCF	RCF	ICF/RCF	RCF	RCF	RCF
5.	Fuses	IS & RDSO	IS & RDSO	ICF/RCF	RCF	ICF/RCF	RCF	RCF	RCF
6.	Battery box	RDSO	RDSO	ICF/RCF & RDSO	RCF	ICF/RCF	RCF	RCF	RCF
7.	FRP tray for battery box	RDSO	RDSO	ICF/RCF & RDSO	RCF	ICF/RCF & Rlys.	RCF	ICF/RCF	RCF
8.	Junction box cum rotary switches	RDSO	RDSO	ICF/RCF & Rly	RCF	ICF/RCF & Rly	RCF	ICF/RCF	RCF
9.	Power car power panel	RDSO	RDSO	ICF	RCF	ICF	RCF	ICF	RCF
10.	Rotary switch	RDSO	RDSO	ICF/RCF	RCF	ICF/RCF	RCF	ICF/RCF	RCF
11.	Pre cooling plug and socket	RDSO	RDSO	ICF/RCF	RCF	ICF/RCF	RCF	ICF/RCF	RCF
12.	Night light fittings	RDSO	RDSO	ICF/RCF	RCF	ICF/RCF	RCF	ICF/RCF	RCF
13.	Reading light fittings	RDSO	RDSO	ICF/RCF	RCF	ICF/RCF	RCF	ICF/RCF	RCF
14.	Pantry & sub pantries electrical equipments for LHB coaches	RDSO in consultation with ICF/RCF	RDSO in consultation with ICF/RCF	ICF/RCF	RCF	ICF/RCF	RCF	ICF/RCF	RCF

6.0 In addition to above, at present there is no policy guidelines issued so far from Board regarding procurement of certain items of LHB coaches viz. switch board cabinet electronic battery charger, 70 Ah lead-tin battery, earthing brush, ZS coupling and RCF have evolved their own policy.

In addition to above, it is seen that till date there is only one source for roof extractor unit of power car developed by ICF in past. This product has also not yet stabilized and the fan blades used in the unit are prone to breakage. For procurement of such items following policy guidelines will be followed:

ACTL/Stores

S No.	Eqpt.	Preparation of drawings/specifications		Cap/capability assessment & approval of sources for dev./regular orders		Placement of developmental orders		Prototype clearance	
		E	R	E	R	E	R	E	R
1.	Switch board cabinet	RCF	RDSO	RCF	RDSO	RCF	RCF	RCF	RDSO
2.	Battery charger of LHB coach	RCF	RDSO	RCF	RDSO	RCF	RCF	RCF	RDSO
3.	70 Ah lead –tin battery	RCF	RDSO	RCF	RDSO	RCF	RCF	RCF	RDSO
4.	Earthing brush	RCF	RDSO	RCF	RDSO	RCF	RCF	RCF	RDSO
5	ZS coupling	RCF	RDSO	RCF	RDSO	RCF	RCF	RCF	RDSO
6.	Roof extractor unit	ICF	RDSO	ICF	RDSO	ICF/ RCF	RCF	ICF	RDSO

7.0 The procurement policy of TL/AC items of LHB coach will remain same as per Board's guidelines issued vide ref (8) above dated 9.4.07 except for change regarding capacity/ capability assessment & development of source, placement of developmental order, agency for prototype clearance for items mentioned in para 5.0 & 6.0 above.

8.0 Prototype clearance of items developed by vendors in the past and cleared by RCF & Zonal Railways for TL/AC items mentioned in para 3.0 and 4.0 above for conventional SG and Rajdhani coach will remain valid till there is a need to do prototype test again on account of quality problems or major change in specification/ designs.

This is issued with the approval of Board(ML).

(Jaideep)
Director Elect. Engg (G)
Railway Board.

Copy to:-

1. The Chief Electrical Engineers, all Indian Railways, ICF & RCF.
2. The C.O.S All Indian Railways.
3. ED(PS & EMU) RDSO
4. AM(RS), Railway Board.

I. C. SHARMA
ADV. ELECT(G)

DO No. 2007/Elec(G)/125/1 New Delhi, dt. 6 .9.2007

My dear CEEs,

Sub: Detention of trains.

As you are aware that there is increase in punctuality loss cases of Mail/Exp trains by 17% as compared to last year. on Electrical (G) account.

Recently a case of smoke emission from belt has taken place in one of the AC coach of MR special train in ECR on 1.9.07. This incidence was also published in leading news paper. It is worth mentioning here that EC Railway has provided the belts on 29.8.07 and coach was going on its first trip in MR special train after changing of belts.

It clearly shows lack of quality control & supervision in giving due attention to coaches in ECR.

During CEEs conference held in Board's office on 30th & 31st Aug'07. I have already advised CEEs of Zonal Railways to look into following areas for better reliability of coach.

1. Availability of Unit Exchange Spares in depots.
2. Following of 16 point action plan at primary depot.
3. Ensuring replacement of must change items during POH.
4. Timely replacement of batteries by workshops.
5. Working of dyna drive and checking of load sharing of alternator of AC coaches in depots/ workshops..
6. Implementation of SMI in depots/ workshops.
7. Use of batteries having adequate residual life i.e. during POH the batteries having adequate residual life which can last till next POH.

You will agree with me that with implementation of above measures we can achieve target of zero failure in AC coaches. I once again request you to ensure proper maintenance at depot & workshop level to achieve the desired results.

With best wishes,

Yours sincerely,

(I.C. SHARMA) 6/9/07

Chief Electrical Engineers,
All Indian Railways CR, ECR, ECOR, ER, NR, NER, NWR, NCR, NFR, SR, SWR, SECR, SCR, SER, WR, & WCR,

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2003/Elect(G)/138/2 New Delhi, dt. 18.9.07

Director General,
RDSO, Manak Nagar,
Lucknow.

General Managers,
Integral Coach Factory, Chennai.
Rail Coach Factory, Kapurthala.

Sub: Provision of fire detection system in passenger coaches.
Ref: RDSO's letter no. EL/6.8.15 dt. 22.8.07.

Vide reference above, RDSO has submitted a proposal for provision of fire detection system in BG-AC coaches. RDSO has also mentioned the reference of 27th Governing Council meeting (GCM) held at RDSO/ Lucknow on 3.11.06 wherein CRB has advised RDSO to work in the area of detection of fire in coaches.

The provision of fire detection system in coaches is essential for safety of passengers in case of fire. In view of RDSO proposal on subject matter, following has been decided :

i) RDSO should make specification of fire detection system suitable for SG & EOG AC coaches.

ii) The procurement policy of fire detection system viz. preparation of drawing/specification, capacity/ capability assessment and approval of sources for placement of developmental/ regular order and prototype clearance will be as under:

Equipment	Preparation of drawing/ specification	Capacity/ capability assessment & approval of sources for developmental/ regular orders	Placement of developmental orders	Prototype clearance
Fire detection system	RDSO	RDSO	ICF & RCF	RDSO

iii) Initially this system should be provided in newly manufactured 10 AC coaches each by ICF & RCF.RDSO should monitor the performance for six months before adoption of this system on all AC coaches. CEE/ICF & CEE/RCF may please pursue the provision of fire detection system with RDSO.

This is issued with the approval of Board(ML).

(Jaideep) 18/9/07
Director Elect. Engg(G)
Railway Board.

Copy to:- CEE/ICF, CEE/RCF & ED(PS& EMU), RDSO.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2005/Elec.(G)/145/3 New Delhi, dated: 21.9.2007

General Managers,
All Indian Railways.

Sub: Renovation of battery section

Ref: 1. Board's letter of even no. dated 31.5.06.
2. PS to MSR (V) note no MSR(V)/ B/ 3/ 2007 dt 5.1.07
3. Board's letter of even no. dated 17.1.07.
4. Hon'ble MSR(V)'s note no. MSR(V)/B/1431/2007 dt. 7.9.07

Vide reference (1) above, with the approval of Board (ML), comprehensive guidelines for good upkeep and longevity of battery section have been issued to Railways and PUs. The above guidelines recommends use of eco friendly sheet/ cribs for flooring instead of use of acid proof tiles. The eco friendly sheet/ cribs are non pollutant one and when welded together forms a joint less surface. The specification of same finds a detail mention in Annexure to RDSO letter no EL 6.7.2 dated 18.05.06. In addition to above, the use of constant current/ constant voltage battery charger, better ventilation system as per Ashrae standard 62.1/ 2004 etc. has also been recommended for renovation of battery section.

PS to MSR (V) vide reference (2) above, has communicated unhappiness of Hon'ble MSR(V) on progress made by Railways & PUs on subject matter. Accordingly Board vide letter ref (3) above, has advised Railways/PUs to make a time bound program for implementation of Board's guidelines regarding renovation of battery section. The feedback from Railways reveals a poor progress on subject matter. In view of poor progress PS to MSR(V) again vide reference (4) above, has brought out following directives of Hon'ble MSR(V) on the subject matter:

"Action taken/ proposed to be taken in respect of rehabilitation /renovation of existing battery section as well as construction of new battery sections with a suitable material in all workshops/ sheds on all Indian Railways in general and battery section of Carriage & Wagon workshop/ Alambagh/Lucknow/ Northern Railway in particular be sent to Board within 15 days."

Zonal Railways & PUs should send the requisite information latest by 24.9.07 for putting up the same to Hon'ble MSR(V) for his kind perusal.

Kindly treat the matter most urgent.

(Jaideep) 21/9/07
Director Elect. Engg. (G)
Railway Board

Copy to: 1. PS/MSR(V) – for kind information of MSR(V).
2. AM/ME, Railway Board.
3. AM/CE, Railway Board.
4. Chief Electrical Engineers, All Indian Railways including Production Units.
5. Chief Mechanical Engineers, All Indian Railways including Production Units.

-233-

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2001/Elec(G)/165/1

New Delhi, dt. 25.9.07
26

Chief Electrical Engineers,
All Indian Railways, ICF & RCF.
Executive Director (PS & EMU),
RDSO, Lucknow.

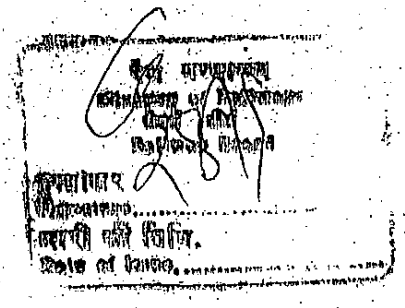
Sub: Minutes of review meeting held in Board's office on 13.9.07.

The minutes of the review meeting which was held in Board's office on 13.9.07 to discuss the matter regarding approval of sources for procurement of items pertaining to TL & AC coaches is enclosed herewith for information and necessary action please.

DA : As above

(Jaideep)
Director Electrical Engg.(G)
Railway Board.

Please
Forward
28/9/07



ACTI/Strides

MINUTES OF REVIEW MEETING TO DISCUSS THE MATTERS REGARDING APPROVAL OF SOURCES FOR PROCUREMENT OF ITEMS PERTAINING TO TL & AC COACHES HELD AT RAILWAY BOARD IN THE CHAMBER OF Adv. Elect/G ON 13.9.07

The participants of the meeting are as under:

i) Shri I.C. Sharma, Adv. Elect(G) — Rly Board

ii) Shri Jaideep, DEE/G

iii) Shri Narottam Das, CEE/ RCF

i) Shri L.M. Sahore, CEE/ICF

v) Shri AK Gupta, ED(PS)&EMU, RDSO — Railways

vi) Shri Ashok Kumar, Director/RDSO

Shri IC Sharma, Adv. Elect(G) welcomed all the delegates and emphasized on implementation of Board's instructions issued vide letter no. 2001/Elect(G)165/16 dt. 21.8.07.

Following points emerged during the discussion:

Proper maintenance of Air conditioning and train lightning equipment has to be given top priority in view of high expectation of passengers. As such as per para 1.0 of Railway Board letter no. 99/RS(G)/709/1 dt 16.09.99 PUs/ Rlys should ensure that the approval of sources should be done after ensuring acceptable QAP, technical capability, manufacturing of quality product, adequate testing equipment for maintaining quality standard, capacity and financial status.

Railway Board vide letter no 2001/Elect(G)165/16 dt. 21.8.07 has issued revised instructions regarding agency for preparation of specification, drawings, development of sources, placement of development/ regular order, prototype clearance for Train lightning and air conditioning items of coaches. The PUs should expedite to send the details about development of sources, prototype clearance, performance statistics, last three year order executed etc. to RDSO for the items transferred to RDSO as per revised guidelines to enable RDSO to review the specification and prepare Schedule of technical requirement. Similarly RCF and ICF will give similar details in respect of items transferred from ICF & RCF and vice versa.

1.0 RCF should procure RMPUs as per RDSO specification and sources appearing in the approved suppliers list of RDSO. RDSO will do revalidation of prototype test of RMPUs as per their ISO procedures. RDSO should impress upon the RMPU manufacturers to offer RMPU for prototype clearance. However a stipulation should be made in P.Os that supplies will be started only after prototype clearance by RDSO where ever necessary.

2.0 During the meeting CEE/ ICF has suggested for re-prototype test of certain certified products vendors of TL/ AC items developed by RCF. In this regard it has been decided that RDSO will scrutinize the prototype results of following critical items developed by ICF and RCF. Both PUs should send details of test results of these items to RDSO to validate the results:

i) 2.5/ 10 kVA inverter
ii) 100 VA mobile/ laptop charging point
iii) Emergency light

RDSO if on scrutiny of test results find any discrepancy in prototype results of above items should repeat type tests under advise to both PUs & Rly Bd.

3.0 The schedule of technical requirement for inverters of different rating upto 10 kVA should be framed by ICF and same should be got approved by RDSO as per Railway Board letter no 2001/Elect(G)165/16 dt 21.08.07. The eligibility criteria for vendors of inverters of different rating up to 10 kVA will cover existing vendors of inverters for 10 kVA and 25kVA underslung inverters of ICF/RCF/RDSO as well as other Indian vendors having requisite infrastructure and collaboration with an established suppliers/ manufacturers having adequate experience in design, manufacture and commissioning and after sales service of invertors of different rating up to 25 kVA. Such a collaborator should have produced at least 500-600 nos. of inverters of different rating up to 25 kVA and working for more than 2 years rolling stock in India and abroad. Such a Indian vendor should submit valid MOU with collaborator and should be of current date.

4.0 The reliability of emergency light and 100VA inverters provided in coaches should be of highest order. In view of above, prototype results of both the items may be submitted by both ICF and RCF to RDSO who should verify the prototype result and retype test only when there is any deficiency /discrepancy in the tests results of prototype testing done by RCF/ICF under advise to ICF/RCF/RDSO. RDSO should recommend any other test which is deemed fit for better reliability of item and the same should be incorporated in technical specification for improvement in quality. With a view to keep a check on quality of these items, RDSO should pick up random sample of different make of emergency light & 100 VA inverter procured by PUs and Railways and conduct thorough testing for compliance to specifications. This exercise should be done immediately and then continued on six monthly basis for ensuring quality/ reliability of these vital safety items and passenger interface items ..

With a view to comply the target of provision of emergency lights by March'08, some of the Railways are undertaking the works contract for provision of emergency light in coaches. With a view to ensure that emergency light are of appropriate quality and conforming to specification, it should be ensured by Railways that contractor should purchase emergency lights only from ICF approved sources and the material should be inspected by gazetted officers nominated by concerned CEE of the Railways. CEEs of zonal Railways shall ensure that this condition is incorporated in the works contract.

5.0 The preparation of specification/ drawings and prototype clearance of 25 kVA light weight inverter lies with RDSO. RCF is planning to procure light weight inverter as per their specification without consulting RDSO. RCF will not procure light weight inverter independently. RDSO should review the existing specification proposed by RCF and prepare/ revise specification incorporating various improvement/ development took place across the globe in recent past. The development of such item should not be pursued by PUs . where action is to be taken by RDSO.

6.0 RDSO should develop specification of static battery charger with regenerative feature having in built energy meter to enable to record energy saving during regenerative discharge cycle.

7.0 ICF and RCF should review their entire procedure for enlistment of part-I and part-II sources and upgrading source from part-II to part-I category. The criteria and upgradations of vendor should be prepared on the line of CLW and RDSO.

8.0 During the meeting RCF has brought out problem of development of sources for conventional coaches exclusively manufactured at RCF. This will be dealt separately and RDSO will examine the issues with a view to standardize such items for use in all type of AC coaches (excluding LHB coaches) produced at ICF & RCF.

*****

Add/BLDC fan

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2005/Elec(G)/165/1

New Delhi, dated 26.10.07

General Manager,
Integral Coach Factory,
Perambur
Chennai.

General Manager,
Rail Coach Factory,
Kapurthala.

Sub: Provision of 2.5KVA inverters for AC fans in non AC coaches.

Ref: 1. ICF's letter no. MD/DSS/Elec./Policy/ 209D dt. 17.9.07
2. Board's letter no. 2006/Elec(G)/138/3 dt. 15.3.07

Board(ML) has decided that 50% TL coaches manufactured by both the PUs should be provided with AC fans with 2.5 KVA bulk inverter. Out of balance 50% TL coaches ICF/RCF will manufacture 25% coaches with BLDC fans and remaining 25% coaches with DC fans.

The proposal of ICF for the provision of two 2.5 kVA inverters for AC fans for TL coaches at the cost of Rs. 154403/- per coach for immediate field trials has been concurred by Finance Dte.

However, ICF & RCF should ensure that provision of two 2.5 kVA inverter with one inverter as a fail safe arrangement should be discontinued as soon as development issues of provision of 2.5 kVA inverter are sorted out.

This is issued with the concurrence of Finance Directorate.

26/10/07

(Jaideep)
Director Electrical Engg.(G)
Railway Board.

No.2005/Elec(G)/165/1

New Delhi, dated 26.10.07

Copy to:

1 CEE/ICF, Perambur, Chennai - they are requested to advise the coach nos. fitted with BLDC fans & 2.5 kVA bulk inverter to the allottee Railways & RDSO.
2 CEE/RCF, Kapurtala

(Jaideep)
Director Electrical Engg.(G)
Railway Board.

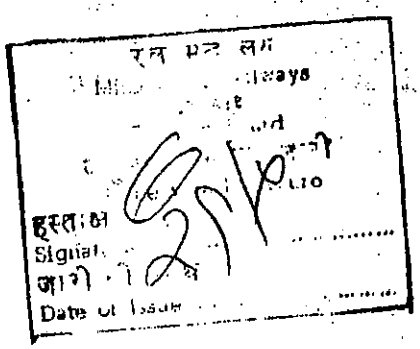
No.2005/Elec(G)/165/1

New Delhi, dated 26.10.07

Copy to:-
1. FA&CAO, ICF, Perambur.
2. FA&CAO, RCF, Kapurthala.

Sanjeev Kumar
For Financial Commissioner/Railways

C/L



GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2005/Elect(G)/145/3 New Delhi, Dt. 15.11.2007

General Managers,
All Indian Railways.

Sub: Renovation of battery section, carriage & wagon workshop, Alambagh, Lucknow – guidelines thereof.

Ref: 1) PS/MSR(V)'s note no. MSR(V)/B/1514/2007 dt. 29.9.07.

2) PS/MSR(V)/06 dt. 3.1.06 & 24.1.06.

3) RDSO's letter no. EL/6/7/2 dt. 18.5.06.

4) RDSO's letter no. EL/3.6.2 dt. 2.6.05

5) Board's letter no. 2005/Elect(G)/145/3 dt. 31.5.06.

Vide reference (1) above, PS to MSR(V) has mentioned that Hon'ble MSR(V) has desired that Railways should be intimated about all the instructions and guidelines issued by Board & RDSO on subject matter in order to have no ambiguity on this issue. In view of above, following is furnished:

2.0 Subsequent to Hon'ble MSR(V)'s inspection of Alambagh workshop and reference (2) thereof, RDSO was asked to connect/frame guidelines for upkeep and longevity of battery section. Subsequently RDSO has framed certain guidelines in that regard and with the approval of Board(ML) following has been decided for renovation of battery section. (Ref. 5).

- The traditional use of eco friendly sheets/cribs which are both eco friendly and non pollutant should be used in lieu of acid proof tiles for flooring of the battery section.
- Attention needs to be given towards ventilation, drainage systems etc.
- Use of CVCC chargers, infra red temperature sensors, torque wrenches, adequate charging/pre cooling points, measuring instruments, battery carrying trolleys for depots. For workshops, in addition to the above fork lifters, integrated charge/discharge units should also be available.
- For the ventilation a minimum exhaust rate of 1.50 cfm as per Ashrae standards 62.1/2004 should be ensured. The exhaust fans isolation should be provided on wall having no window opening to ensure efficient ventilation.

3.0 Railways while framing specification for different items required for renovation of battery section should follow Railway Board's guidelines issued vide reference (5) above and RDSO guidelines issued vide reference (2) & (3) above in toto without any exception. (Copy of letters enclosed).

4.0 Railways should also furnish progress of this work on quarterly basis so that Hon'ble MSR(V) may be apprised accordingly.

DA : As above.

15/11/07

(Jaideep)
Dir. Elect. Engg.(G)
Railway Board.

Secretary
Date of Issue

ACTL/Stores

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2001/Elec(G)/165/1 New Delhi, dt. 20.11.07

Chief Electrical Engineer,
RCF/Kapurthala.

Sub: Approval of sources for procurement of item pertaining to Train Lighting coaches.

Ref: 1. RCF's letter no. ED2010 dt. 11.9.07 & 19/20.20.07.
2. Railway Board's letter no. 2001/Elec(G)/165/16 dt. 20.8.07

CEDE/RCF vide ref (1) above, has requested Board for entrusting responsibility of making specification, source development and prototype clearance for LHB as well as conventional coaches. CEDE has also mentioned that 2.5 kVA inverter for AC fans to be used in TL coaches has become a critical item and it has been further brought out that this item is lying with the firm for prototype testing but RCF is not able to conduct prototype test in view of latest instruction issued by Board vide ref (2) above. As per revised instruction of Board the prototype clearance of this item lies with ICF only. It has been further informed by CEDE/RCF that the PO of this item has been placed before issue of revised instructions by Board. RCF has also mentioned as the procurement process was initiated before 21.8.07, RCF will be going ahead with the prototype testing of this item to avoid any shortfall in availability of material for coach production.

The matter has been examined in Board and in view of the placement of P.O. of this item before issue of revised guidelines issued by Railway Board and item being in initial stage of development by both ICF/RCF, permission is hereby granted to RCF for going ahead prototype testing of 2.5 kVA inverter to be procured against the current P.O. of RCF. In future, compliance of Railway Board's instruction issued vide reference (2) above, needs to be followed by RCF/ICF and RDSO for this item.

RCF has also informed the procurement action for a number of items related to conventional and LHB coaches was initiated much before issue of Railway Board letter dated 21.8.07 and for such items RCF will be going ahead with the prototype clearance. In this regard it is further clarified that for such items RCF should take specific approval of Board before going ahead with prototype clearance of such items.

21/11/07

Signature
Date of Issue 22/11/07

20/11/07

(Jaideep)
Director Electrical Engg.(G)
Railway Board.

Copy to:- 1. CEE/ICF
2. ED(PS& EMU)/RDSO/ Lucknow.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2001/Elec(G)/113/4

New Delhi, Dt. 12.12.07

General Managers,
All Indian Railways.

Sub: Provision of emergency light in coaches.

Ref: 1. Railway Board's letter no. 2000/Elect(G)/113/14 dt. 15.1.07.
2. Railway board's letter no. 2002/Elec(G)/129/10 dt. 6.09.2007.

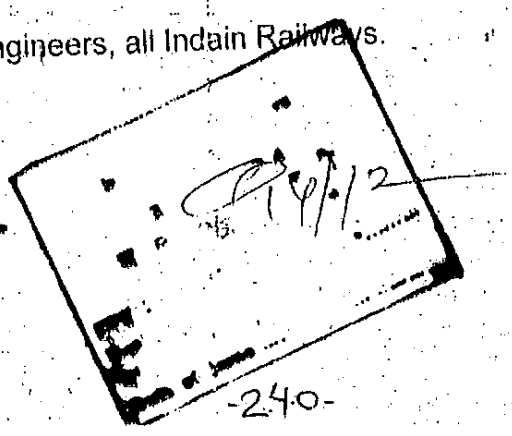
In pursuance of CRS, Eastern Circle recommendations regarding derailment of 2301 Rajdhani express on 9.9.02 over ER, Zonal Railways, ICF & RCF were advised to provide emergency light in all the coaches in consultation with RDSO. Subsequently this item has also been included as medium term item no. 28(01) in High Level Committee's recommendation on Disaster Management. Accordingly vide reference (1) above instruction has already been issued to provide emergency lights in all TL coaches with residual life of 10 years or more and all AC coaches during POH. It was further advised that Railways should complete this work during 2007-08.

In this regard, Board vide ref (2) above has also communicated sanction of emergency light against Bulk RSP 2007-08 (PB no. 753).

In order to expedite provision of emergency light, Railways may please draw up an action plan to complete the targeted work in a prescribed time frame. Railways are requested to furnish the time frame in which coaches will be provided with emergency light as per Railway Board's existing instruction.

(I.C. Sharma)
Advisor Electrical (G)
Railway Board.

Copy to:- Chief Electrical Engineers, all Indain Railways.



SN-8

भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

रेल भवन, नई दिल्ली-110001, तिथि 31/12/07
Rail Bhavan, New Delhi-110001, dated

No. F(X)II/94/EXP./2/Pt.

The General Managers, All Indian Railways & PUs.
The Director General, RDSO, Luknow.
The Director General, RSC/BRC.
The General Manager (Constn.), NF Railway, Guwahati.
The General Manager/CORE, Allahabad
The Directors, IRISET/SCD, IRIEEN/NK, IRICEN/PA, IRIMEE/JMP.
CAO, MTP/Mumbai, Chennai and Delhi.
CAO/DMW, Patiala, COFMOW, New Delhi.

Subject: Instructions with Financial Implications – Concurrence of Associate Finance.

Reference: (i) Board's letter of even no. dated 12.5.99
(ii) AM/Sig./RB letter no. 2006/Sig/G/12/Loose dated 6.7.06.

It is informed that Signalling Dte. has issued the above letter dated 6.7.06 without concurrence of the associate Finance Directorate of the Ministry of Railways. As per the existing instructions, letters having financial implications but issued without concurrence of the finance directorate of the Ministry of Railways are not to be taken into account for incurring or justifying any expenditure. It is, therefore, reiterated that instructions contained in this letter or in any other letter having financial implications and not issued with the concurrence of the Finance Directorate are not to be taken into account for incurring/justifying any expenditure.

Please acknowledge receipt.

(Harsh Kumar)
Executive Director Finance (Expenditure)-II
Railway Board

Copy to all FA&CAOs/All Indian Railways/PUs and other Units.

(Harsh Kumar)
Executive Director Finance (Expenditure)- II
Railway Board

Copy to : GM/NWR with reference to his DO letter no. SG-184/1 dated 6.12.07.

(Harsh Kumar) 31/12/07
Executive Director Finance (Expenditure)- II
Railway Board

241- 0

दक्षिण पूर्व मध्य रेलवे

कार्यालय
मुख्य विद्युत इंजिनियर
बिलासपुर

No. ELECT/SECR/814/ 795

Dated – 25.03.08

Secretary Electrical (General)
Railway Board, New Delhi.

[Kind attention Shri Jaideep (DEE(G))]

Sub: Instructions with financial implications – Concurrence of associate finance.

Ref: (i) Railway Board's letter no. 2005/O&M/2/6, dated – 25.05.2005.
(ii) EDF(Expenditure)/Rly.Bd's letter no. F(X)II/94/EXP./2/Pt., dated – 31.12.2007. (423)
(iii) CEE/SECR's letter no.ELECT/SECR/814/660,dated– 06.03.08.

*****

The proposal for "**Annual maintenance contract for inverters of AC coaches**" of Electrical department of S.E.C. Railway was not concurred by FA&CAO/SECR/Bilaspur. This proposal for AMC was processed in line with the instructions issued by Electrical directorate, Railway vide letter No. 2006/elct(G)/114/2, dated – 21.08.2006 on the subject of maintenance contract for equipments of AC coaches.

FA&CAO/SECR has not concurred the proposal indicating that the above mentioned letter of Railway Board is issued without concurrence of the finance Directorate of the ministry of railways and in terms of Railway Board's letter under reference (ii).

It was earlier requested to Railway Board vide letter under reference (iii) to issue necessary clarifications, as to whether instructions issued in Board's letter 2006/Elect(G)/114/2, dated – 21.08.06 have been issued with concurrence of Finance Directorate. But uptil now no instruction's has been communicated from Railway Board. S.E.C.Railway is facing problem for maintenance of equipments of AC coaches.

You are therefore once again requested to kindly issue necessary clarifications so that AMC for equipments of AC coaches could be processed early through OEM's.

25/3

(P. S. Kotangale)
Chief Electrical General Engineer
South East Central Railway
Bilaspur.

-242-

I.C. SHARMA
ADVISOR ELECTRICAL (G.)

भारत सरकार
रेल मंत्रालय, (रेलवे बोर्ड)
नई दिल्ली-११० ००१
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NEW DELHI-110001

No. 2001/Elect(G)/180/5

New Delhi, Dated : 17.1.08

My dear CEEs, all Indian Railways,

Sub: Running of Red Ribbon Express.
Ref: Board's letter no. 2007/PR/11/31 dt. 30.11.07.

Ministry of Railways on request of Ministry of Health & Family Welfare has decided to run Red Ribbon Express to promote multi sectoral efforts by which HIV/AIDS could be streamlined. This train was inaugurated on 1.12.2007 from Delhi Safdarjung. This train will be running in the country upto 28.11.2008 as per itinerary enclosed.

In the past one month various problems have been encountered in this train during its run on CR, SECR, WCR & NCR. Major problem has been on account of failure of Diesel alternator sets of power car, leading to non functioning of WRA, lighting and air conditioning of coaches. It is also observed that the problem of Diesel alternator set is mainly due to continuous running of Diesel alternator set even at station where electric supply can be fed from external static source. On certain occasion it is seen that staff of concerned Railways are not conversant with functioning of power car. The above failures has invited lot of criticism from NACO. You will appreciate that this train is prestigious project of Government of India and running of the train is monitored at highest level. We should make best effort to improve the maintenance of rake in general and power car in particular.

In order to overcome above problems in the rake following measures should be taken immediately by Railways:

a) Each Railway should nominate a team of Sr./ Jr. scale officer, supervisor and staff who will accompany the train during its run in the Zonal Railway.

b) The nominated team must be trained for functioning of power car troubleshooting, rectification of faults and maintaining DG sets its associated controls and protection system. The training of such personnel should be arranged by Delhi division of Northern Railway. The concerned Zonal railways should be in touch with CESE/ NR for arranging training to the staff.

c) Keeping a TSD/ operating manual prepared by NR readily available for escorting staff for their guidance.

d) Zonal railways should ensure that as far as possible this train is given external power supply if halting time of train at any station is more than 3-4 hours.

e) Any problem in the train should be immediately reported to the CESE of concerned Railway who should take requisite action to get the defects attended and arrange power supply at least for working of WRA and emergency lights in the rake for use of the personnel from NACO accompanying the team.

f) CESE of Railway where the train is running/stabled for exhibition will monitor the working of power car and AC/TL system and give the feedback to DEE/G/RB.

g) One or two 3KVA salient DG sets used in ART'S/MRTS may be kept in the rake for use during emergencies for working of WRA/lights etc.

You may kindly ensure trouble free, functioning of AC/TL/WRA of this rake. Feedback about action taken will be of great help.

With best wishes,

Yours sincerely,

(I.C. Sharma)

Shri By name,
Chief Electrical Engineers, All Indian Railways
CR, ER, ECR, ECoR, NR, NCR, NER, NFR, NWR, SC, SE, SR, SECR, SWR, WR, WCR,

-243-

I.C.SHARMA
Adviser/Electrical (G)

भारत सरकार
रेल मंत्रालय, (रेलवे बोर्ड)
नई दिल्ली-११० ००१
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NEW DELHI-110001

D.O. No. 2007/Elect(G)/125/1 Dt. 07.02.08

My dear Rajkumar,

Sub:- Loss of punctuality of 2452 Shram Shakti express due to late start at New Delhi on 06.02.08 on account of smoke noticed from the canvass cloth on PP side in coach no. ACCW NC – 83056.

Shramshakti Express, 2452 was detained from 2335 hrs. to 0135 hrs. on 06/07.02.08 at New Delhi on account of smoke noticed on PP side of ACCW NC- 83056 based at Kanpur for primary maintenance.

On investigation by Northern Railway, it is revealed that the vane relay was bye passed and as a result canvass cloth on PP side got over heated/burnt resulting in smoke emission.

The coach is provided with underslung compressor with following arrangement of heating/cooling coil:

Blower – canvass cloth – heater – cooling coil - coach duct i.e. the arrangement is called as forced draft type where the canvass cloth comes quite close to the heating coil leading to smoke.

To avoid such a situation RDSO has issued modification sheet No.RDSO/PE/MS/AC.0040-2007(Revision 0) and circulated to all Railways vide letter No.EL/7.1/31 dt. 26.3.07 for providing revised arrangement cooling/heating system as under:

Heater – cooling coil – canvass cloth – blower motor – coach duct

As per this arrangement there is no possibility of canvass cloth coming closer to heating coil.

All the Railways are supposed to carry out this modification during POH.

The above mentioned coach had under gone POH at Ajmer workshop on 30.9.06 and was due POH again in Nov. 2007 but has been allowed to continue in service for 3 months with the approval of competent authority in view of exigency of services. As per the position given by CESE/NCR, there are 8 such coaches which need to be modified. So far 2 coaches out of 8 have been modified and one coach has been condemned. Thus there are 5 more coaches in NCR which need to be modified as per modification sheet of RDSO mentioned above.

You are requested to pursue this matter with nominated workshop and get all these 5 coaches modified during POH to avoid such incidences.

Responsibility for permitting the coach from CNB (Primary maintenance base) with vane relay bye passed should be fixed and action against the staff found responsible should be taken and feed back furnished.

Pending the modification I suggest a drive should be launched to check the working of blowers and the functioning of vane relay and advise staff not to resort to bye passing vane relays.

With best wishes,

Yours sincerely,

(I.C.Sharma) 7/2/08

Shri Rajkumar,
Chief Electrical Engineer,
N.C.Railway, Allahabad.

Copy to All CEEs for information and necessary action with the request to furnish feedback about progress of the modification.

February 2008

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2007/Elect(G)/114/1 New Delhi, dt. 4.4.08

Executive Director (PS & EMU),
RDSO, Manak Nagar,
Lucknow.

Sub:- Failure of 60 kVA transformer in Garib Rath trains.

Ref: RDSO's letter no. EL/7.1.108 dt. 1.2.2008

While investigating into the case of smoke emission from 60 kVA transformer Bhasin Packard make in power car no. 07867 of train no.2993 in Ahmedabad division on 8.2.08 by committee of CESE/NWR, Director/RDSO, Dy. CEE/Prod/RCF and Sr.DEE/Jaipur, it was revealed that in this case the primary and secondary winding of transformer got burnt due to sustained fault current, as there was no fuse protection provided in the primary side of 60 kVA transformer. The committee has recommended for provision of fuse/MCB on primary side of 60 kVA transformer, provision of baffle plate between transformer and fuel tank or reorientation of transformer, and auditing of firms manufacturing process, specification, quality of material etc.

In addition to above case, four more cases of smoke emission from 60 kVA transformer of power car has been reported recently by ECoR, SCR & NER in Garib Rath trains.

The matter was examined in Board's office and with the approval of Board (ML) following has been decided :

i) RDSO will do one time audit of existing approved sources of RCF/ICF of 60 kVA transformer. ICF/RCF should not use 60kVA transformer of M/s Bhasin Packard make unless this transformer supplied by them is type tested and cleared by RDSO. Further procurement from this source should be resorted to only after RDSO complete auditing of their facilities and prototype cleared.

ii) Fuse protection on primary side of 60 kVA transformer feeding roof extractors and radiator fan motors should be provided on the lines of 50 kVA transformer meant for feeding RMPU for air conditioning of the guard cabin of power car and as such the protection scheme of LHB/Garib Rath design coaches should be reviewed by RDSO in consultation with RCF, and issue modified protection scheme.

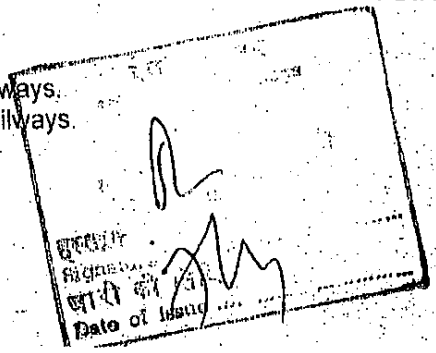
ii) RDSO should also review the equipment layout in under frame and explore the possibility of shifting 60 kVA transformers provided near the fuel tanks or provide baffle plate between transformer and fuel tank.

iv) RDSO should review the specification of 60kVA transformer on the lines of the design of 50kVA transformer working satisfactory in conventional EOG stock.

Jaideep 4/4/8

(Jaideep)
Director Electrical Engg (G)
Railway Board.

Copy to: 1. CEEs/ All Indian Railways.
2. COSs/ All Indian Railways.



Good file

ACTI/RMPU

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No.2007/Elect(G)/114/1

New Delhi, dt. 10.4.08

Chief Electrical Engineers,
All Indian Railways.

Sub:- Premature failure /smoke emission from 60 kVA /50 kVA Transformer provided in coaches/power cars of LHB rakes/Garib Rath trains.

Railways have reported cases of failure of 60 kVA/50 kVA transformers provided in LHB rakes/Garib Rath trains. The failures are predominant in 60 kVA transformers provided in power cars turned out by RCF. Despite all efforts put in by RCF and Railways, the failures of these transformers are on increase. In fact there have been a series of failure during March 2008 particularly in the power cars of the Garib Rath trains received from RCF recently. Preliminary investigations done by Railways and RDSO reveals that the failures are mostly on account of manufacturing defect and poor quality of materials used.

While GM/RCF has been advised vide this office letter of even number dt. 31.03.08 and 2.4.08 about the follow up action to be taken with regard to review of procedure adopted for prototype clearance, design, specification and auditing of the facilities of the transformers manufacturers and providing protection on the primary side of the 60 kVA transformer in power cars on the lines of the protection scheme in coaches as per the alteration sheet issued by RCF and also reviewing the status of the existing approved sources with the objective of weeding out the manufacturers whose performance has not been found to be satisfactory.

Till such time RCF implement the above measures, following measure are suggested for implementation for managing the services by Zonal railways/ RCF :-

i) Ensuring adequate stocking of 60 kVA /50 kVA transformers of the most reliable make, GM/RCF should organize immediate purchase of 60 kVA/50 kVA transformers from the firm having least failure rate and arrange to send these transformer, to the Railways where LHB/Garib Rath coaches and power cars have been dispatched in last 2 years. Railways should also make efforts to get these transformers repaired on priority and keep them as UES ready to use.

ii) Provision of protection on primary side by providing fuses of adequate rating as per RCF's coach alteration sheet no. ED/CAI-17 issued by RCF.

iii) Transferring of load of one of the exhaust fan motor of both DA sets from 60 kVA to 50 kVA transformers meant for guard cabin Air-conditioning

iv) Monitoring the temperatures of 60 kVA transformers – Power car staff may be provided with infra red thermometer. The power car staff should be instructed to check the temperature of 60 kVA transformer power cars on stations where the trains are having scheduled stoppage and shifting of the load of DA set of the effected power car to DA set of other power car in case temperature is found to be high.

v) Cyclic check of the condition of the transformer i.e measuring the IR value, no load current and full load currents with a view to watch any abnormal variations.

vi) Dropping the transformer for detailed checking and cleaning during the IOH for LHB & Garib Rath power cars, and checking for presence of rust in core limb and loose connections on terminal boards and taking corrective measures.

(I.C.Sharma)
Adviser/Electrical (G)

Copy to: 1. General Manager/RCF/ Kapurthala.
2. Executive Director (PS & EMU)/ RDSO/LKO.

-246-

I.C. SHARMA
ADVISER ELECTRICAL (G)

D.O. No.2007/Elect(G)/125/1 Dt. 23.04.08

My dear - CEEs - all Zonal Railways, ICF & RCF

Sub:- Punctuality loss/equipment failure - AC/TL coaches.

On 22.04.08 train no. 5657 Kanchanjunga Express from Howrah to Guwahati was detained at Malda in Eastern Railway for about 40 minutes on account of non-functioning of PP side AC plant. This problem has mainly arisen on account of failure of 25 kVA underslung inverter. The train was worked with PP side AC plant isolated for onward journey upto Guwahati.

All the inverters has memory module to store defects for 60-120 cases and is useful for failure investigation/pin pointing exact cause of failure. It has been observed that this information is not being made use of fully by Railways as most of the depots have not started downloading data by utilizing the software supplied by the inverter manufacturer to RCF and ICF. The software available with RCF and ICF should be collected by the railways and used for downloading the information related to defects/abnormalities of the inverter units atleast at primary maintenance point. This will enable in taking timely corrective action before the failure takes place on line leading to detention of trains.

Similarly, on 22.04.08 in another case train no. 5018 Gorakhpur-Dadar Kashi Express from Gorakhpur to Dadar got detained at Allahabad for nearly two hours due to low battery voltage in two AC coaches. On checking from NE Railway, it is understood that the average speed of the train between GKP to Allahabad is about 35 km per hour and on this particular day the train got detained at various stations and reach Allahabad late by more than two hours leading to drainage of batteries of both coaches due to poor generation. In such cases exact cause of battery low voltage/drainage due to frequent stoppages/slow moving could be ascertained from information available from data stored in ERRU or from the print outs/graph rolls of the locomotive working the train in the effected section/route. With a view to avoid cases mentioned above Railways should introduce the system of downloading/extracting information about various defects/abnormalities including slow moving of trains leading to poor generation from data stored in inverters/ERRUs/speed recording and take corrective action in time to forestall such failures.

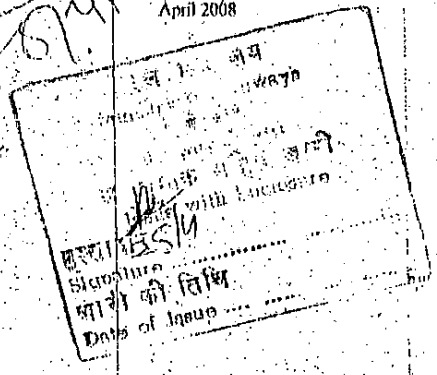
Please acknowledge the receipt of this letter.

With best wishes,

Yours sincerely,

(I.C.Sharma)

o/c



I.C.SHARMA
Adviser/Electrical(G)

D.O.No.2003/Elect(G)/165/2 Pt. Dt. 13.05.08

My dear - CEEs - all Zonal Railways, ICF & RCF

Sub:- Extension of feed in TL coaches.

In the event of failure of train lighting system in one of the coaches power is provided for working train light and fan in the affected coach by extending feed from the adjacent coaches. There have been number of cases where the precautions for isolating the batteries of the affected coach by removing the negative side fuse and switching off the L-H light circuit of affected coach have not been observed leading to melting of fuse/ tripping of MCB of adjacent coach from which the emergency feed have been extended.

While talking to Railways it is also revealed that such instructions either are not available with the Railways or issued long back and staff in the field are not aware about them.

With a view to ensure that the precautions for extended feed in emergency to the affected coaches from healthy adjacent coaches are followed by staff, a drive should be launched immediately to educate the staff down the line including supervisors through seminars, issue of pamphlets carrying these instructions and stenciling these instructions near EPTs on the coach end wall. CESEs of the Railways should be advised to ensure compliance of these instructions and should themselves conduct surprise checks to see that there is no slackness in this regard.

On the subject I would like to reiterate that ICF has already issued coach alteration No. MD/D/R65/750V-3 P/2 dt. 27.03.2000 for using rotary switches and HRC fuses and **not the MCBs in the TL coaches.** Some coaches are still having MCBs which some time misbehave leading to smoke emission from MCBs. Such coaches should be identified and replaced in next three months with rotary switches and HRC fuses of proper rating as given in the ICF coach alteration sheet No. ED 2045 dt. 13.02.08. Feed back may be furnished and acknowledgement about receipt of this letter is sent at the earliest.

With best wishes,

Yours sincerely,

(I.C.Sharma)

O/C

Copy to AML for kind information.

Signature .....
Date of issue .....

सुखबीर सिंह
सदस्य बिजली, रेलवे बोर्ड
SUKHBIR SINGH
Member Electrical, Railway Board

D.O.No.2006/Elect(G)/114/4

MOST IMMEDIATE
सदस्य बिजली, रेलवे बोर्ड
एवं
पदेन सचिव, भारत सरकार
रेल मंत्रालय
नई दिल्ली-110 001
MEMBER ELECTRICAL, RAILWAY BOARD
&
EX-OFFICIO SECRETARY
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
NEW DELHI-110 001

Dt. 23.05.08

Dear Ms. Gupta,

Sub:- Supply of CFC –12 Gas to Railways for use in Air conditioned passenger coaches.

M/s. Gujrat Fluoro Chemicals Ltd. (GFL), Noida had expressed their inability to supply CFC-12 Gas to the Northern Railway against pending order for 17,536 Kg., mentioning about recent stipulations laid down by the Ministry of Environment and Forest about immediate phasing out the production/consumption of CFC-12 Gas for the **service sector**. They have mentioned that this decision is part of the draft decision issued in the **"Executive Committee of the multilateral fund for the implementation of the Montreal Protocol"** held at Montreal Canada, attended by the Government of India in April 2008.

Indian Railways has a fleet of about 1,000 Air-conditioned coaches out of total population of about 5600 AC coaches, which are having air-conditioned plants working on CFC-12 Gas (R-12). To comply with the target of Montreal Protocol communicated earlier for phasing out the use of CFC-12 Gas well before 2010, IR had already converted about 100 coaches and has planned to convert balance coaches well before 2010.

It is not understood as to why M/s. GFL has refused to supply CFC-12 Gas against the pending order of Indian Railways who are providing essential transport services to the Nation, when the stipulation for immediate phasing out of the production/consumption of CFC-12 Gas is meant for the **service sector**.

The available stock of CFC-12 Gas with the zonal Railways will suffice for few days and non availability of CFC-12 Gas **will lead to withdrawal of about 1000 Air conditioned coaches from active service causing hardship to travelling public.** I shall be grateful if you can arrange to issue immediate instructions to M/s. Gujarat Fluoro Chemicals Ltd., M/s. SRF Ltd., New Delhi and other firms to continue supply of CFC-12 Gas to the Railways till end of 2009 by then Railways will convert all these coaches to work on eco-friendly HFC refrigerant. A copy of the communication to be issued in this regard may kindly be sent to my office for information and necessary follow up action.

With best wishes,

Sukhbir
23.05.08
(Sukhbir Singh)

Mrs. Meena Gupta,
Secretary,
Ministry of Environment & Forest,
Paryavaran Bhavan, CGO Complex,
Lodhi Road,
New Delhi.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No. 2001/Elect(G)/113/4 Pt.I

NEW DELHI, DT. 03.06.08

Chief Electrical Engineer/RCF, Kapurthala &
ED(PS&EMU)/RDSO/LUCKNOW.

Sub: Provision of LED based lights in coaches.
Ref: i) RDSO letter No. EL 6.4.8.1 dt. 08.05.08
ii) RDSO letter No. L/6.4.8.1 dt. 12.05.08.

Vide reference above, RDSO based on experience gained from the trials conducted by using LED based luminaries in coach No. 07107 turned out by RCF during Nov'07 and expected better energy efficiency from LED luminaries, have recommended extended field trials with LED based luminaries for the following application area in coaches:

i) Cabin/Corridor
ii) Toilets
iii) Wash basins- mirror lights
iv) Berth reading light cum mobile charger
v) Night light cum berth no. Indicator
vi) Toilet occupancy indicators
vii) Passenger alarm chain operation light
viii) Reservation chart light
ix) Emergency Exit light

With a view to develop state of art energy efficient, maintenance free and glare free luminaries and conduct extended field trials so as to decide to cut in their use at the earliest following decision has been taken with the approval of Board (ML):-

1. RCF will provide LED based light including berth reading light cum mobile charging point of 5 VA rating conforming to RDSO provisional specification no PDSO/ PE/ SPEC/ TL/D/0091(Rev0)-2008 in 80 AC coaches. Type and mix of AC coaches will be decided by RCF.

2. A three month trial period is considered adequate for measurement & evaluation of technical parameters and comparison with original value.

3. The LED based lights including berth reading light cum mobile charger should be procured from sources recommended by RDSO and who have developed LED based luminaries or evinced interest thus far, viz:

a) M/s Richardson Electronics Ltd. through authorised distributor M/s Srikon Enterprises – 177, Manhar Building, Lohar Chawl, Mumbai.
b) M/s Philips
c) M/s Osram
d) M/s Goldwyn, Noida
e) M/s MIC, Hyderabad
f) M/s Signotron, Kolkata.

4. This being a developmental work with state of art energy efficient illumination system, RDSO shall be associated while finalizing procurement action with regard to technical suitability of offers from above sources. RDSO shall carry out prototype test and associate in evaluation of trials & its report thereafter. A copy of RDSO letter No. L/6.4.8.1 dt. 12.05.08 bringing out the status of development by above sources is also enclosed for ready reference and guidance.

5. RDSO shall finalize and freeze the specifications of LED based luminaries after incorporating improvement and changes in their provisional specification based on experience gained during trials.

The progress of the developmental/ trials should be monitored jointly by RCF and RDSO and periodical feedback furnished to Secretary/Electrical(G) for information of Board.

(Jaideep) 3/6/8
Director Electrical Engg.(G)
Railway Board

Government of India
Ministry of Railways
Railway Board.

New Delhi, Dated 9.6.08

No. 2006/Elec(G)/114/4

Chief Electrical Engineers,
All Indian Railways.

Sub:- Conversion of underslung coaches from R-12 to R-134a refrigerant system to comply with Montreal protocol.

Ref: Railway Board's letter no. 2006/Elect(G)/114/4 dt. 9.6.08.

As per Montreal Protocol, CFC refrigerant (R-12) are to be phased out by December'2010. However a decision has been taken by Executive Committee of United Nation Environment Programme (UNEP) in a meeting held in April 2008, for immediate phasing out of CFCs. As already advised by ML during last GMs conference of May'08, R-12 refrigerant will no longer be available. The conversion of such underslung AC coaches to R-134a has become emergent.

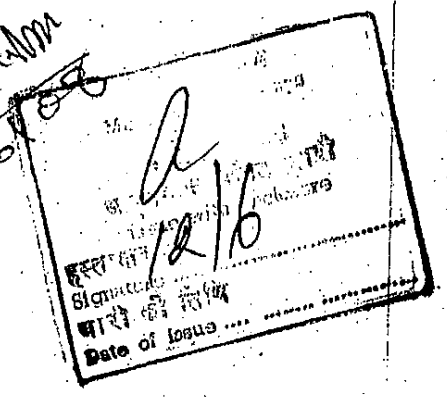
So far progress made by Railways in converting the coach is far from satisfactory. Board has approached MOEF for supply of R-12 refrigerant gas for one more year. MOEF has shown their inability to allow manufacturing of R-12 refrigerant in India. MOEF has suggested to import recycled R-12 refrigerant from sources available in USA/ Canada. Board vide letter no. 2006/Elect(G)/114/4 dt. 9.6.08 (copy enclosed) has nominated Northern Railway as centralized agency for arranging import of recycled R-12 refrigerant for 9 months requirement. Zonal Railways should send vetted requisition of the recycled CFC-12 (R-12) gas as per the quantities mentioned in Annexure of Board letter reference above latest by 16.06.08 to COS/ NR keeping CEE/ NR informed.

In order to tide over the current crisis and to control the consumption of R-12 refrigerant an action plan has been prepared which is enclosed herewith.

Zonal Railways are requested to send the compliance to the enclosed plan within 15 days time. The progress of conversion should be sent in ML's PCDO.

(I. C. Sharma)
Adv.Elect(G)
Railway Board.

DA: As above



GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

115

No. 2006/Elec(G)/129/1 New Delhi, Dated: 8th July 2008

Chief Electrical Engineers,

1. Central Railway, CSTM, Mumbai
2. Eastern Railway, Fairlie Place, Kolkata
3. East Central Railway, Hajipur
4. East Coast Railway, Bhuvneshwar
5. Northern Railway, Baroda House, New Delh
6. North Eastern Railway, Gorkhpur
7. Southern Railway, Park Town, Chennai
8. South Central Railway, Secunderabad.
9. S. E. Rly., Garden Reach, Kolkata
10. South Western Railway, Hubli
11. Western Railway, Churchgate, Mumbai
12. West Central Railway, Jabalpur

Sub: Distribution of quantity and allocation of funds against the work appearing in Railway Bulk RSP "Conversion of R-12 to R-134a refrigerant in 500 AC coaches" (PB Item no. 926//008-09) under DRF.

Ref: (i) Board's letter no. 2008-B-106 dated 13.6.2008.
(ii) Board's letter no. 2007-B-104 dated 8.7.2008.

Board vide letter under reference (i) have re-appropriated the funds for the work of "Conversion of R-12 to R-13 a refrigerant in 500 AC coaches" appearing in Railway Board's bulk RSP as Pink Book Item no. 926/2008-09 under DRF. Further, Board vide letter under reference (ii) have issued the corrigendum regarding correction in the nomenclature of the above item as **"Conversion of R-12 to R-134 a refrigerant in 500 AC coaches" (copy enclosed).** Based on the re-appropriated funds, the quantity and funds amongst zonal Railways are being distributed as under:

(Qty in number of coaches & Rs. in thousand)

Rlys.	CR	ER	ECR	ECoR	NR	NER	
Qty. allotted	50	70	15	20	180	10	
Funds allocated	*6000*	*8400*	*1800*	*2400*	*21600*	*1200*	
Rlys	**SR**	**SCR**	**SER**	**SWR**	**WR**	**WCR**	**Total**
Qty. allotted	30	10	35	30	40	10	**500 coaches**
Funds allocated	**3600**	**1200**	**4200**	**3600**	**4800**	**1199**	**59999**

Railways must ensure to convert the AC coaches as allotted above from R-12 to R-134a refrigerant during the year 2008-09 and funds allocated be fully utilised.

Jain 9/7/08

(JAIDEEP)
Director Elect.Engg.(G)
Railway Board

Copy for information to:
FA&CAOs/Central, Eastern, East Central, East Coast, Northern, North Eastern, Southern, South Central, South Eastern, South Western, Western & West Central Railways.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No.2006/Elec(G)/114/2 New Delhi, dt. 14.7.08

General Managers,
All Indian Railways.

Sub: Maintenance /Repair contract for Roof Mounted AC coaches.
Ref: Board's letter No. 2006/Elec(G)/114/2 dt. 21.08.2006.

Vide the above reference, Railways were advised that maintenance/repair contract for RMPUs if required, be carried out by RDSO approved sources. Both technical competence, organization and financial capacity are assessed by RDSO rigorously while approving a vendor and the system is time tested.

Instances have, however, come to notice that Railways, while inviting tenders for maintenance/repair contract of RMPU, also prescribe eligibility criteria as in Sudheer Chandra committee's report, in addition to the criteria of getting this work done from RDSO's approved sources, as a result only already established sources fulfill criteria. However, on some Railways where tenders have been invited from RDSO approved sources without Sudheer Chandra Committee's criteria, rates of maintenance contract are about 25% lower.

Following have been decided with the approval of Board(ML) in matters connected with repair/maintenance of RMPUs.

i) RDSO shall standardize assemblies/ sub assemblies of RMPUs, including evaporator coil and condenser coil and issue specification/ drawings to common footprints so as to ensure interchangeability.

ii) Railways will enter into repair contract of RMPUs from RDSO approved sources and scheduled maintenance of RMPUs will generally be done departmentally.

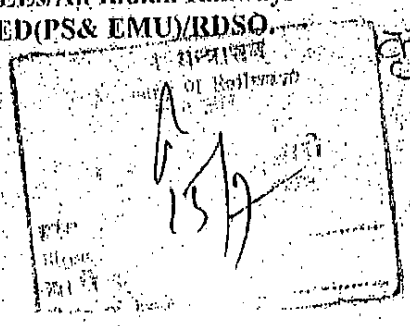
iii) Where adequate staff are not available for maintenance and repair works departmentally, Railways may contract out comprehensive maintenance of RMPU with GM's approval, from amongst RDSO's approved sources, for one year during which necessary posts shall be got created & manned for departmental maintenance of AC coaches. After creation of necessary posts, need for going in for repair contract may be reviewed by CEEs of Zonal Railways based on the local condition and requirement.

iv) Repair/ comprehensive maintenance contracts where required should be done from RDSO approved sources; criteria of 35% and 150% criteria as in Sudheer Chandra Committee's report recommendations, may not apply being restrictive.

v) Tenders invitation should be common for all makes of RMPU.

(Jaideep)
Director Electrical Engg.(G)
Railway Board.

Copy to: 1. CEEs/All Indian Railways.
2. ED(PS& EMU)/RDSO.



GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2003/Elect.(G)/165/1 New Delhi, dated:25 .7.2008

262

General Managers,
All Indian Railways.
Director General,
RDSO/ Manak Nagar/ Lucknow.

Sub: Electrolyte additives to enhance battery life for TL, AC, & EMUs.

Ref: RDSO letter no. EL/6.7.2dt. 22.2.07 & 12.3.08.

Life of batteries used in rolling stock application has been stipulated as 4 years. Some of the batteries however get replaced earlier than this. Now that the interval between POH of TL/AC coaches is to be raised from 12 months to 18 months, it is necessary to obtain higher life from batteries so that replacements coincide with third POH, i.e. after 54 months .

Technological development by way of additives to electrolytes that reduce sulphation & increase life of the battery have been claimed by several vendors & patent holders. Product literature and details are available on their sites. Similar product from ITE, Battery Research Institute (Japan) under brand name Signet Eco Tec Power has been tried out on CR, WR & NER earlier and reports of these have been examined by RDSO who have recommended for conducting trials on old batteries with above additive and develop new batteries using such additive for enhancing the life of batteries upto 60 months in view of increased periodicity of POH of coaching stock from 12 months to 18 months.

Before adopting use of above additive, extended field trials as per following stipulations are considered necessary for establishing the efficacy of such products.

i) RDSO shall prepare a functional specification for the electrolyte additives.

ii) RDSO shall conduct life cycle test on new and old batteries treated with such compounds to clause 5.11 of RDSO spec. no. RDSO/SPEC/AC/0058-2005 Rev(0) for low maintenance batteries and submit report to include cost benefit analysis.

iii) Extended field trials shall be conducted in 10% of old batteries of 42-48 months vintage, treated with additives on batteries of electric locomotives and EMU coaches & 10 rakes of passenger trains on each railway. RDSO shall issue instructions on preparation of electrolyte using the additives.

iv) Field trials shall be extended on 10% of new batteries for passenger coaches (TL-AC), EMUs & electric locomotive for one year. The additives will be added by the battery manufacturers at the time of manufacture of batteries. RDSO shall issue necessary amendment for this, in specification of LMLA batteries, in consultation with battery manufacturers.

Formats for reporting the trial initiation & for monitoring efficacy of the product will be advised by RDSO to Zonal Railways & PUs. Feedback on trials shall be compiled by RDSO after completion of 1st three months and periodically thereafter. Similar products which can meet this requirement may also be tried.

This issues with the approval of Board(ML).

Jain 25/7

(Jaideep)
Director Elect.Engg. (G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.97/Elec(G)/114/1

New Delhi, dt. 25.8.08

Chief Electrical Engineers,
All Indian Railways
RCF/ Kapurthala.

Sub: Provision of catalytic converter in power car.

Ref: RDSO letter no. EL/G.6.2 dt. 14.8.08.

Catalytic converters are used in petrol, diesel and gas based engines to control harmful pollutants viz. carbon monoxide (CO) & Hydro carbons. In order to achieve controlled emission from DG sets used in power cars trials were conducted in NR in one of the power car. As per the report received from RDSO vide reference above, the exhaust emission results with catalytic converter are encouraging. In view of satisfactory trial report following have been decided with the approval of Board (ML).

i) Catalytic converter shall be provided in all old DG sets of power cars, manufactured prior to 1.11.04.

ii) 50% of new DG sets being procured by PUs and Railways should be with catalytic converter.

iii) RDSO shall prepare specification of catalytic converters and develop more sources who can supply similar item.

iv) The responsibility regarding preparation of specification, development of sources, placement of development/regular order & prototype clearance for this item will be as under:

Item	Preparation of spec.	Development of sources	Placement of development order	Prototype clearance
Catalytic converter	RDSO	RDSO	PUs/Rlys	RDSO

v) RDSO shall also incorporate necessary amendment in the specification of diesel engine used in power car to include catalytic converter.

vi) Catalytic converters needs to be provided in all power car touching Delhi, before Common Wealth Games, 2010.

(Jaideep) 25/8/8
Director Elect. Engg(G)
Railway Board

Copy to: ED(PS&EMU), RDSO, Lucknow.

रेल मंत्रालय
Ministry of Railways
रेलवे बोर्ड
Railway Board
अनुलग्नक सहित जारी
Issue with Enclosure
हस्ताक्षर

-255-

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 2006/Elect(G)/113/1 New Delhi, dt. 3.9.08

Executive Director (PS& EMU),
RDSO, Manak Nagar,
Lucknow.

Chief Electrical Engineers,
All Indian Railways, NFR
Integral Coach Factory, Chennai.
Rail Coach Factory, Kapurthala.

Sub: Fire in 9038 Up Gorakhpur- Bandra Terminus Avadh Express between Lokodra- and Palej stations of Vadorada- Surat sections of Vadoodara- Surat section of Vadodara Divisions of Western Railway on 24.7.07.

Ref: JD/Safety's note no. 2007/safety (A&R)/1/24 dated 19.5.08.

In the fire case of coaches of 9038 Gorakhpur- Bandra terminus Avadh Express in WR CRS/Western Circle has given the following recommendation in the final report. (copy enclosed)

Recommendation no. 9.1

"The procedure of disconnecting Coach's battery circuit, while extending external feed from another coach, should be strictly implemented"

Recommendation no. 9.2

"Railways should include fire retardant properties in specifications for PVC pipes for electrical cables in coaches."

RDSO should issue necessary instructions regarding extending external feed from other coaches by 30.9.08.

RDSO should also examine and revise the specification for PVC pipes for electrical cables in coaches & include fire retardant properties in specification.

Railways & PUs should also take necessary action to implement the above recommendations of CRS/ Western Circle.

DA: As Above.

रेल मंत्रालय (रेलवे बोर्ड)
(Railway Board)
11 SEP 2008

(Jaideep)
Director Elect. Engg. (G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

New Delhi, dt. 18.09.08

No. 2001/Elect(G)/113/4

Chief Electrical Engineers,
All Zonal Railways.

Sub:- Procurement of LED type emergency light to ICF specification No. ICF/Elec/917.

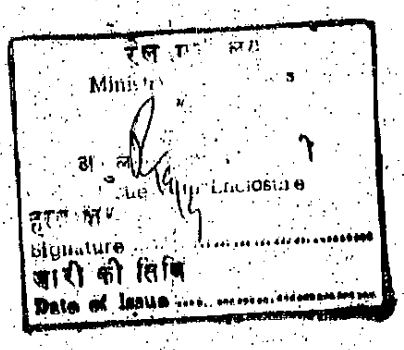
Ref:- ICF letter No. MD/BSS/SPEC/211 dt. 1.9.08.

ICF vide reference above has issued revised specification of LED type emergency light with the approval of RDSO (ICF/Elec/917) incorporating various additional features viz. micro processor based control for current and voltage, cycling discharging facility etc. The additional features will improve the quality and performance of the emergency lights.

Being a safety item, it is desirable that Railways should ensure further procurement of emergency lights as per revised specification from existing approved sources. The tender cases in pipeline/under process in Zonal Railways with older specification should be discharged and the procurement should be made with revised specification by retendering.

Jan 18

(Jaideep)
Director/Electrical Engg.(G)
(Railway Board)



भारत सरकार
रेल मंत्रालय, (रेलवे बोर्ड)
नई दिल्ली-११० ००१
GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NEW DELHI-110001

I. C SHARMA
Adv.Elect.(G)

DO No. 2006/Elect (G)/114/4Pt.

New Delhi, dt. 24.9.08

Dear Shri All GMs

Sub: Urgency in conversion from R-12 to R-134a refrigerant.

Ref: AM/L's DO letter of even no. 2006/Elect(G)/114/4 Pt. dt. 9.6.08.

Vide letters under reference, Railways in AC coaches with underslung AC equipments have been advised to expedite the conversion work from R-12 to R-134a refrigerant in view of decision taken by the Executive Committee of United Nation Environment Programme (UNEP) in April, 2008, for immediate phasing out of such CFCs.

Zonal Railway have also been advised to send vetted requisitions of the recycled CFC-12 gas to NR. After consolidating the demands of various Railways, NR has floated a global tender. The tender has already been opened on 15.9.08. No response from India/ abroad has been received against this tender for procurement of recycled R-12 refrigerant. In view of above, the conversion work needs to be expedited. Following action plan is being reiterated to tide over crisis like situation:

i) Expedite conversion work and finish all work before the target of Dec'08 set by Board(ML).
ii) Regular monitoring of conversion to be done at divisional, workshop and Zonal HQ level.
iii) R-12 gas not be wasted. Gas extraction plants to be made available in each depot.
iv) Released R-12 gas should be stored for use in other coaches during course of conversion.

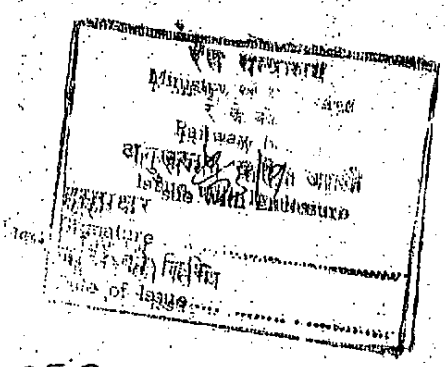
May I request you to give suitable directives to CEEs/CMEs for ensuring conversion of all coaches at depot/workshop level before Dec'08.

With regards,

Yours sincerely,

(I. C. Sharma) 24/9/08

General Managers
All Indian Railways except NFR, SR & SCR.



GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2001/Elec(G)/165/16 New Delhi, Dt. 30.09.2008

General Managers
All Indian Railways, PUs
Director General,
RDSO, Manak Nagar,
Lucknow.

Sub: Approval of sources for procurement of items pertaining to train lighting and AC coaches.

Ref:
1. Board's letter of even no. dt. 14.2.01.
2. Railway Board's letter nos. 99/Elect(G)/165/16 dt. 26.2.04, 10.3.04,14.7.05, 18.4.06, 21.8.06, 11.9.06, 1.10.04, & 3.10.06
3. Railway Board's letter no. 2001/Elect(G)/165/2 dated 14/15.7.03.
4. Railway Board's letter no. 96/Elect(G)/114/7 dt 17.10.05.
5. Railway Board's letter no. 2004/Elect(G)/113/4 dt13/26.10.05.
6. Railway Board's letter no. 98/Elect(G)/165/1 dt 19.3.07.
7. Railway Board's letter no. 97/Elect(G)/180/35 dt. 10.5.07.
8. Railway Board's letter no. 2003/Elect(G)/165/1 dt 9.4.07.
9. Board's letter of even no. dt. 21.8.07.

Vide reference (1) above, Board has issued guidelines regarding fixing of responsibility between RDSO/PU/Zonal Railway for preparation of specification./drawings, capacity/capability assessment, approval of sources for placement of development/regular orders & prototype clearance to have no ambiguity in procurement of quality spares of TL/ AC items. TL AC items have been divided in 4 categories depending upon responsibility of various agencies:

Category	Preparation of drawings/specifi cations	Cap/capability assessment & approval of sources for dev./ regular orders	Placement of developmental orders	Prototype clearance
A	RDSO	RDSO	ICF/ RCF	RDSO
B	RDSO	ICF/RCF	ICF/RCF	RDSO
C	ICF/RCF/RDSO	ICF/RCF	ICF/RCF	ICF/RCF
D	Items not used for manufacture of new coaches due to change in technology existing approved sources of RDSO/ICF to be followed.			

2.0 Several amendments in procurement policy of TL/AC items has been issued in past vide Board's letter reference (2) to (9) taking into consideration the difficulties expressed by PUs & RDSO time to time.

3.0 There are some cases where a supplier is on part I status for a particular item in approved suppliers list of a PU and for same item he is on part II status in approved supplier list of other PU. In order to standardize the specification of TL/AC items & proper categorization of TL/ AC items and to ensure that the status of vendor is same in all PUs for same item following have been decided with the approval of Board(ML):

i) Categorization of TL/AC items in 5 categories viz. functional, vital, safety, disaster and high-end technology items. The categorization of various TL/AC items in these categories is as per table below:

Functional items	All type of lights, (night lights, berth reading lights etc.), Pantry equipment
Safety items	Cable PVC aluminum, Cable PVC copper, Elastomeric cable, E-beam cable, Suspension bush of alternator, Battery box, MCBs, Vane relay, Junction box cum rotary switch panel and Fuses.
Vital items	Power panel, Inverters upto 10KVA (ratings from 100 VA to 10KVA), 25kva inverter, Pre cooling transformer cum rectifier, Pre cooling plug & sockets, Distribution transformer upto 3KVA rating, 50/60KVA step down transformer, Inter vehicular coupler, Alternator, Axle pulley, Alternator pulley, Bearing for TL/AC alternator, Belt tensioning device, V belts, Alternator regulator(RRU), Electronic Regulator cum Rectifier (ERRU), Diesel generating set 250/500kVA , 750V & above 3 phase 3 wire, Switch Board cabinet, Power car panel, Batteries flooded type, VRLA batteries, Lead-tin batteries, Battery charger, Static battery charger, FRP tray for battery box, Rotary switches, Air filters for AC system, Water raising apparatus / pump, Electronic Thermostat, Switches, Earthing brush, Refrigerant compressor for underslung AC coach, RMPU Compressor and RC fans.
Disaster related items	Emergency lights, fire sensors and alarm system
High end technology items	RMPU, AC control panel of RMPU, Microprocessor control panel, Micro processor based multiplexing control system, LED based light for coaches..

ii) The agency for preparation of specification/drawings, capacity/capability assessment, approval of sources, placement of developmental orders and prototype clearance for different categories shall be as under:

Category	Preparation of drawings/specifications	Cap/capability assessment & approval of sources for dev./ regular orders	Placement of developmental orders	Prototype clearance
Functional items	RDSO	ICF/RCF	ICF/RCF	ICF/RCF
Safety items	RDSO	RDSO	ICF/RCF	RDSO
Vital items	RDSO	RDSO	ICF/RCF	RDSO
Disaster items	RDSO	RDSO	ICF/RCF	RDSO
High end technology items	RDSO	RDSO	ICF/RCF	RDSO

iii) The responsibility with regard to preparation of drawings/specification, capacity/capability assessment, approval of sources, placement of developmental orders and prototype clearance for various items is enclosed as Annexure.

iv) CEE/ICF & RCF shall review their approved list in the month of October every year for the revised list to be published every year. Vendor on part I list on one particular PU shall automatically qualify for same status in other PU.

v) Criteria similar to RDSO should be followed by PUs for up gradation of sources from part II to part I which is based on quantity and performance for a particular period. The quantity and the period is dependant upon criticality of application and use.

vi) RDSO shall adopt the unified list of PUs for the items transferred from PUs to RDSO and publish the list including those items transferred from PUs positively by 1.12.08. .

vii) The procurement policy of items not used for manufacture of new coaches viz. items of underslung AC equipments except under slung compressor will be same as contained in Board's letter vide ref(1) above.

viii) No certificate for prototype testing on part II or up gradation shall be with any stipulation; certificate shall be clear and unequivocal.

-Sd-
(I.C. Sharma)
Adv.Elect Engg.(G)
Railway Board.

Safety items:

Item	Type of stock	Preparation of drawings/spec		Cap/capability assessment & approval of sources for dev./ regular orders		Placement of developmental orders		Prototype clearance	
		E	R	E	IR	E	R	E	R
Cable PVC aluminum	Conventional	RDSO	RDSO	ICF/RCF	RDSO	ICF/RCF	ICF/RCF	ICF	RDSO
Cable PVC copper	Conventional	RDSO	RDSO	ICF/RCF	RDSO	ICF/ RCF	ICF/RCF	ICF/RCF	RDSO
	LHB	RDSO	RDSO	RCF	RDSO	RCF	ICF/RCF	RCF	RDSO
Elastomeric cable	Conventional & LHB	RDSO	RDSO	RDSO	IRDSO	ICF/ RCF	ICF/RCF	RDSO	RDSO
I-Beam cable	Conventional & LHB	RDSO	RDSO	RDSO	IRDSO	RCF	ICF/RCF	RDSO	RDSO
Junction box cum rotary switches	Conventional	RDSO	RDSO	ICF/RCF & Rly	RDSO	ICF/RCF & Rlys	ICF/RCF	ICF	RDSO
	LHB	RDSO	RDSO	RCF	RDSO	RCF	ICF/RCF	RCF	RDSO
Distribution fuse boards	Conventional	RDSO	RDSO	ICF/RCF & Rly	RDSO	ICF/RCF & Rlys	ICF/RCF	ICF	RDSO
	LHB	RDSO	RDSO	RCF	RDSO	RCF	ICF/RCF	RCF	RDSO
Suspension bush of alternator	Conventional & LHB	RDSO	RDSO	RDSO	IRDSO	Zonal Rlys.	Zonal Rlys.	RDSO	RDSO
Battery box	Conventional	RDSO	RDSO	PUs & RDSO	RDSO	ICF/RCF & Rlys.	ICF/ RCF	PUs & RDSO	ICF/RDSO
	LHB	RDSO	RDSO	RCF	RDSO	RCF	ICF/ RCF	RCF	RDSO
Fuses	Conventional	IS & RDSO	IS & RDSO	ICF/ RCF	RDSO	ICF/ RCF	ICF/ RCF	ICF/ RCF	RDSO
	LHB	IS & RDSO	IS & RDSO	RCF	RDSO	RCF	ICF/ RCF	RCF	RDSO
MCBs	Conventional & LHB	IS & RDSO	IS&RDSO	ICF/RCF	RDSO	ICF/ RCF	ICF/RCF	ICF	RDSO
Vane relay	Conventional & LHB	RDSO	RDSO	ICF/ RCF	RDSO	ICF/ RCF	Rlys.	RDSO	RDSO

B-I) Vital items:

Item	Type of stock	Preparation of drawings/spec		Cap/capability assessment & approval of sources for dev./ regular orders		Placement of developmental orders		Prototype clearance	
		E	R	E	IR	E	R	E	R
Inverters upto 10KVA (ratings from 100 VA to 10KVA)	Conventional	PUs with approval of RDSO	RDSO	ICF/RCF	RDSO	ICF/RCF	ICF/RCF	ICF	RDSO
	LHB	RDSO	RDSO	RCF	RDSO	RCF	ICF/RCF	RCF	RDSO
25kva Inverter	Conventional & LHB	RDSO	RDSO	RDSO	IRDSO	ICF/ RCF	ICF/ RCF	RDSO	RDSO
Pre cooling transformer cum rectifier	Conventional	RDSO	RDSO	ICF/RCF	RDSO	ICF/RCF	ICF/RCF	ICF	RDSO
	LHB	RDSO	RDSO	RCF	RDSO	RCF	ICF/RCF	RCF	RDSO

Item	Type of stock	Preparation of drawings/spec		Cap/capability assessment & approval of sources for dev./ regular orders		Placement of developmental orders		Prototype clearance	
		E	R	E	R	E	R	E	R
FRP tray for battery box	Conventional	RDSO	RDSO	PUs & RDSO	RDSO	ICF/RCF & Rlys.	ICF/ RCF	PUs & RDSO	RDSO
Battery switch set	Conventional & LHB	RDSO	RDSO	ICF/ RCF	RDSO	ICF/ RCF	ICF/ RCF	ICF/ RCF	RDSO
Air filters for AC system	Conventional & LHB	RDSO	RDSO	RDSO	IRDSO	Rlys	Rlys	RDSO	RDSO
Water raising apparatus / pump	Conventional & LHB	RDSO	RDSO	RDSO	IRDSO	ICF/ RCF	ICF/ RCF	RDSO	RDSO
Electronic thermostat	Conventional & LHB	RDSO	RDSO	RDSO	IRDSO	ICF/ RCF	Zonal Rlys.	RDSO	RDSO
Switches	Conventional & LHB	RDSO	RDSO	ICF/ RCF	RDSO	ICF/ RCF	ICF/ RCF	ICF/ RCF	RDSO
Earthing brush	LHB	RDSO	RDSO	RDSO	IRDSO	RCF	ICF/ RCF	RDSO	RDSO
Refrigerant compressor for underslung AC coach	Conventional	RDSO	RDSO	RDSO	IRDSO	Zonal Rlys	Zonal Rlys.	RDSO	RDSO
DMPU compressor	Conventional & LHB	RDSO	RDSO	RDSO	IRDSO	Zonal Rlys	Zonal Rlys	RDSO	RDSO
EC fans	Conventional & LHB	IS& RDSO	IS & RDSO	RDSO	IRDSO	ICF/RCF	ICF/RCF	ICF	RDSO

c) **Disaster item**

Item	Type of stock	Preparation of drawings/spec		Cap/capability assessment & approval of sources for dev./ regular orders		Placement of developmental orders		Prototype clearance	
		E	R	E	R	E	R	E	R
Emergency light	Conventional & LHB	PUs with approval of RDSO	RDSO	ICF/RCF	RDSO	ICF/ RCF	ICF/ RCF	ICF/ RCF	RDSO
Fire detection system	Conventional & LHB	RDSO	RDSO	RDSO	RDSO	ICF/ RCF	ICF/ RCF	RDSO	RDSO

Item	Type of stock	Preparation of drawings/spec		Cap/capability assessment & approval of sources for dev./ regular orders		Placement of developmental orders		Prototype clearance	
		E	R	E	R	E	R	E	R
FRP tray for battery box	Conventional	RDSO	RDSO	PU& RDSO	RDSO	ICF/RCF & Rlys	ICF/ RCF	PUs & RDSO	RDSO
Rotary switch	Conventional & LHB	RDSO	RDSO	ICF/ RCF	RDSO	ICF/ RCF	ICF/ RCF	ICF/ RCF	RDSO
Air filters for AC system	Conventional & LHB	RDSO	RDSO	RDSO	IRDSO	Rlys	Rlys	RDSO	RDSO
Water raising apparatus / pump	Conventional & LHB	RDSO	RDSO	RDSO	IRDSO	ICF/ RCF	ICF/ RCF	RDSO	RDSO
Electronic thermostat	Conventional & LHB	RDSO	RDSO	RDSO	IRDSO	ICF/ RCF	Zonal Rlys.	RDSO	RDSO
Switches	Conventional & LHB	RDSO	RDSO	ICF/ RCF	RDSO	ICF/ RCF	ICF/ RCF	ICF/ RCF	RDSO
Earthing brush	LHB	RDSO	RDSO	RDSO	IRDSO	RCF	ICF/ RCF	RDSO	RDSO
Refrigerant compressor for undersling AC coach	Conventional	RDSO	RDSO	RDSO	IRDSO	Zonal Rlys	Zonal Rlys.	RDSO	RDSO
DMPU / compressor	Conventional & LHB	RDSO	RDSO	RDSO	IRDSO	Zonal Rlys	Zonal Rlys	RDSO	RDSO
RC fans	Conventional & LHB	IS& RDSO	IS & RDSO	RDSO	IRDSO	ICF/RCF	ICF/RCF	ICF	RDSO

C) Digaster item

Item	Type of stock	Preparation of drawings/spec		Cap/capability assessment & approval of sources for dev./ regular orders		Placement of developmental orders		Prototype clearance	
		E	R	E	R	E	R	E	R
Emergency light	Conventional & LHB	PUs with approval of RDSO	RDSO	ICF/RCF	RDSO	ICF/ RCF	ICF/ RCF	ICF/ RCF	RDSO
Fire detection alarm	Conventional & LHB	RDSO	RDSO	RDSO	RDSO	ICF/ RCF	ICF/ RCF	RDSO	RDSO

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 98/Elec(G)/165/1

New Delhi, dt. 1.10.2008.

Chief Electrical Engineers,
All Indian Railways & PUs

Executive Director (PS&EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Procurement of ERRU as per revised specification of RDSO.

Ref: 1. RDSO approved list effective from 1.7.08.
2. RDSO specification no. RDSO/PE/SPEC/AC/0013-2007(Rev-1)

RDSO has issued revised specification no. RDSO/PE/SPEC/AC/0013 -2007 (Rev-1) for electronic rectifier cum regulating unit (ERRU) for 25 kW & 4.5 kW alternators fitted on AC & TL coaches. In addition to incorporation of other improvements, new specification recommends use of UVC module preferably on single PCB.

In this regard, Board(ML) has approved the following directives with regard to procurement of ERRUs:

i) Procurement of ERRUs for 4.5 KW and25 KW alternators by Railways & PUs shall be as per RDSO spec. no. RDSO/PE/SPEC/AC/0013-2007 (Rev.1) for covering 10% of their annual requirement for maintenance and production.

ii) 90% of the procurement of ERRUs of 4.5 kW & 25 kW should be made as per RDSO spec. no. PE/SPEC/AC/0013-2007 (Rev.1) but UVC module continue to be on multiple PCB i.e. UVC module on more than one PCB as per the old specification/ design.

iii) The performance of ERRU supplied with UVC module on a single PCB as per RDSO's specification no. PE/SPEC/AC/0013-2007 (Rev.1) shall be monitored for a period of one year. The decision to cut in with this design shall be taken after evaluating the performance of ERRUs with UVC on single PCB.

iv) RDSO in their approved list has furnished remark for 4.5/25 KW regarding compliance of revised specification. These remarks of RDSO should have no bearing on approval status of the firms. However, the firms who have not complied to the revised specification should get their product cleared by RDSO before effecting supply to Railways/PUs of the ERRUs against 10% quantity order as per revised specification including use of UVC module with single PCB card. Inspecting agency shall ensure that ERRU against 90% quantity order will have all improvements incorporated as per revised specification except UVC module which will on multiple PCB as given in old specification. Placement of purchase orders against offers from all the sources approved by RDSO irrespective of the fact whether their sample has been cleared as per revised specification including UVC on single PCB will however be decided based on their technical suitability and relative commercial offers.

(Jaideep)
Director Elect. Engg(G)
Railway Board.

MSG.21.1

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2007/Elec(G)/138/1

New Delhi, dt. 23.10.08

Chief Electrical Engineers,
All Indian Railways,
Rail Coach Factory, Kapurthala,
Integral Coach Factory' Chennai.

Sub: Decision taken during 23rd MSG meeting for TL & AC held at Southern Railway, Chennai on 31st July & 1st Aug'08

Ref- 1. RDSO' letter No. EL/6.7.2 Dtd.23.10.08
2. Board's letter no. No.2003/Elect.(G)/165/1 dated 2.4.08
3. Board's letter no. No.2005/Elec(G)/165/1 dated 26.10.07

RDSO vide ref. (1) above, has circulated Minutes of Meeting duly approved by Board (ML) vide Board's letter 2007?Elec(G)/138/1 dt. 15.9.08 of 23rd MSG meeting for TL & AC held at Southern Railway, Chennai on 31st July & 1st Aug'08. Decision taken as under with regard to procurement policy of 120/1100 Ah VRLA battery, carriage fans and use of e-beam cables in lieu of Aluminum cables in TL coaches need to be implemented with immediate effect.:

A) 120 Ah/1100 Ah VRLA batteries for SG coaches :

i) Railways shall continue to provide 100% 1100 Ah VRLA batteries in SGAC for maintenance, as decided vide Board's letter ref(2) above.

ii) PUs shall now use only 100% 1100 Ah VRLA batteries for manufacture of SGAC coaches..

iii) 120 Ah VRLA batteries provided in 30% of new TL coaches manufactured by PUs & balance 70% with LMLA batteries. Out of total requirement of 120 Ah batteries for TL coaches, Zonal Railways shall procure 30% 120 Ah VRLA and balance 70% 120 Ah LMLA batteries.

B) Carriage fans for TL coaches:

i) ICF to turn out 50% TL coaches with BLDC fans, 35% with 2.5 kVA inverter and balance 15% with DC fans.

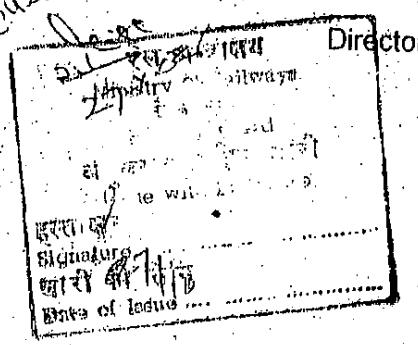
ii) Out of total annual requirement, Zonal Railways to procure BLDC/DC/AC fans with 2.5 kVA inverter for TL coaches in same proportion as mentioned above.

C) Use of e beam cable in TL coaches:

ICF/RCF shall manufacture TL coaches with low smoke, fire retardant & halogen free e beam cable.

(Jaideep) 23/10/08
Director Elect. Engg(G)
Railway Board.

Copy to:- 1. COS/ Indian Railways.
2. COS/ICF & RCF.
3. ED(PS & EMU)/ RDSO.



GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2007/Elec(G)/138/1 New Delhi, dt. 27.10.08

Chief Electrical Engineers,
All Indian Railways,
Rail Coach Factory, Kapurthala.
Integral Coach Factory' Chennai.

Sub: Decision taken during 23rd MSG meeting for TL & AC held at Southern Railway, Chennai on 31st July & 1st Aug'08

Ref- RDSO' letter No. EL/6.7.2 Dtd.23.10.08

RDSO vide ref. (1) above, has circulated Minutes of Meeting duly approved by Board (ML) vide Board's letter 2007/Elec(G)/138/1 dt. 15.9.08 of 23rd MSG meeting for TL & AC held at Southern Railway, Chennai on 31st July & 1st Aug'08. Decision taken as under with regard to fuel consumption in Railways and " Go green" concepts need to be implemented with immediate effect.:

A) Fuel consumption in power car

i) Railways should monitor the fuel consumption in power car of EOG trains.

ii) PUs should provide fuel flow meter, lube oil meter, energy meter, centrifugal lube oil filter, water and contamination separator in fuel pipe line in all new manufacturing power cars.

iii) RDSO should issue the retro fitment scheme for items mentioned (ii) above in existing power cars.

B) Go Greert concepts:

i) Railways should take measures to control emission of harmful gases from DA sets of power car.

ii) RDSO to prepare specification of solar panel for coach lighting and ventilation.

iii) ICF/RCF to turn out five TL coaches with solar panels on roof. Target - 31.5.09

(Jaideep)
Director Elect. Engg(G)
Railway Board.

Copy to:- 1. COS/ Indian Railways.
2. COS/ICF & RCF.
3. ED(PS & EMU)/ RDSO.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2003/Elect(G)/165//1

New Delhi, Dt.. 19.11.2008

Chief Electrical Engineers,
All Indian Railways,

Sub: Electrolyte additives to enhance battery life to TL, AC & EMUs.

Ref: 1. Board's letter of even no. dt. 25.7.08.
2. CESE/SCR's letter no. E227/TL&AC/4/16/Voll dt. 4.11.08.

Board vide letter under ref.(1) above, has issued directive for conducting extended field trials of electrolyte additive in flooded batteries of locomotive, EMUs & coaches to enhance the life of batteries. CESE/SCR vide letter under ref(2) has sought clarification on the number of coaching rakes to be treated with electrolyte additives.

In view of above, following clarifications are issued:

A) Extended field trials to be conducted on <u>New batteries</u>

10% new batteries for passenger coaches (TL&AC), EMUs & locomotive for a period of one year.

B) <u>Old batteries of 42-48 months vintage</u>

i) 10% batteries of locos & EMUs.
ii) 10 rakes of passenger coaches (TL-AC). These rakes should preferably have all battery cells of vintages mentioned above. Old batteries of this age group may be removed from existing rakes and provided in 10 rakes for the purpose of doing trials and close monitoring.

This disposes off CESE/SCR letter reference (2) above.

(Jaideep)
Dir. Elect. Engg.(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 98/Elec(G)/165/1

New Delhi, dt. 3.12.2008.

Chief Electrical Engineer,
Integral Coach factory, Chennai.
All Zonal Railways

Sub: Procurement of ERRU as per revised specification of RDSO.
Ref: Board's letter no. 98/Elect(G)/165/1 dt. 1.10.08.

Board vide reference above has issued policy directives with regard to procurement of 4.5 KW and 25 KW ERRUs as per RDSO revised specification no RDSO/PE/STEC/AC/0013Rev(1). Presently, the procurement policy of ERRUs is again under review in Board.

In view of above, procurement of ERRUs should be kept in abeyance till further directive of Board or a revised policy guidelines regarding procurement of ERRUs is issued by Board.

Please treat the matter as most urgent.

(Jaideep)
Director Elect. Engg(G)
Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2003/Elect(G)/165//1 New Delhi, Dt. 16.12.2008

Chief Electrical Engineer,
Central Railway,
Mumbai.

Sub: Electrolyte additives to enhance battery life to TL, AC & EMUs.

Ref: 1. Board's letter of even no. dt. 25.7.08.
2. CEE/CR's DO no. L.326.TL.Def.Cell dt. 1012.08.

Board vide reference above has issued directive for conducting extended field trials of electrolyte additive in old (42-48 months vintage) and new flooded type lead acid batteries used in TL/AC, electric loco and EMU application for enhancing battery life. In this connection, CEE/CR vide DO reference (2) above has brought out following issues:

i) Clarification whether in 10% of new batteries, electrolyte additive is to be added by Zonal Railways or battery manufacturers.

ii) Batteries of 40-48 months vintage are normally not available in their system and it has been requested to reduce the vintage of batteries for conducting field trials.

Regarding agency for adding electrolyte additive in new batteries, instruction is already contained in para (iv) of Board's letter reference (1) above. However, same is further reiterated as under:

"Electrolyte additive is to be added by the battery manufacturer at the time of manufacture of batteries".

With regard to the issue raised by CEE/CR regarding vintage of batteries for conducting field trials, following clarification is issued with the approval of Board(ML):

Extended field trials to be conducted on flooded lead acid batteries of more than 30 months vintage by each Zonal Railway on 10 rakes of passenger coaches (TL/AC) and 10% of batteries of electric locomotive and EMUs/ MEMUs.

Other instructions contained in Board's letter reference (1) above will remain same. The last purchase rates of this item procured for trials by some of the Railways (CR,WR & NER) may be taken in to account for guidance while procuring this item.

All Zonal Railways and PUs should expedite the trials on priority and submit feedback to RDSO/ RB.

This disposes of DO of CE/CR.

(Jaideep) 16/12
Dir. Elect. Engg.(G)
Railway Board.

Copy to:- CEEs/All Indian Railways, CLW, ICF & RCF

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No 2003/Elect(G)/113/2 Pt. New Delhi, dt. 31.12.08

Executive Director (PS & EMU),
RDSO, Manak Nagar,
Lucknow.

Use offire survival cables in passenger coaches.

Ref: 1. RDSO's letter no. EL/2.2.3 7 dt. 8.5.08
2. Minutes of Meeting of Governing Council held on 1.3.08 at RDSO.

During the 28th Meeting of the Governing Council meeting held in RDSO on 15.3.08 AM/L in his address has mentioned that some critical portion of the wiring of the coach should be [illegible] fire survival cable so that relevant circuit remain integral in an unfortunate event of fire so as to help evacuation/escape of passengers. In view of above, RDSO vide reference (1) above has recommended use of fire survival cable in passenger coaches in following circuit:

i) General lighting and emergency light circuit.
ii) Passenger alarm circuit.
iii) Passenger information/alarm & announcement system.

In view of recommendation of RDSO, following is issued with the approval of Board(ML):

i) Fire survival cable should be used for Emergency light, passenger alarm, Passenger information/ Alarm & Announcement system and cable from battery to main panel in all type of coaches being manufactured for IR. Wiring of Corridor/ doorway lights should also be with fire survival cable. RDSO should also develop suitable fuse protection scheme for above circuits which should also survive at elevated temperature during fire.

ii) Metro coaching stock of Kolkata should also be provided with fire survival cable for door [illegible] system in addition to circuits mentioned above.

iii) The responsibility of various agencies regarding preparation of specification, approval of sources, placement of developmental order and proto type clearance for fire survival cable shall be as under:

Fire survival cable	Specification	Approval of sources	Placement of Developmen t order	Prototype clearance
	RDSO	RDSO	ICF/RCF	RDSO

iv) For immediate cut in of fire survival cable the international standard adopted for rolling stock application to be followed.

(Jaideep)
Director Elect. Engg. (C),
Railway Board.

Copy to: CEEs/ ICF & RCF

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 98/Elec(G)/165/1 New Delhi, dt. 9.1.2009.

Chief Electrical Engineers,
All Indian Railways, ICF & RCF.
Executive Director (PS&EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Procurement of ERRUs.
Ref: 1) Board's letter no. 98/Elect(G)/165/1 dt. 1.10.08.
2) RDSO letter no EL/1.6.9.25 dt 30.12.08

Board vide reference (1) has issued policy guidelines for procurement of ERRUs which calls for procurement of 10% ERRUs for 4.5/ 25 kW alternators by Zonal Railways & PUs as per RDSO specification no. RDSO/PE/SPEC/AC/0013-2007 (Rev-1) with all improvements including UVC modules on single PCB and remaining 90% of quantity ERRUs for 4.5/25kW alternator as per RDSO specification no. RDSO/PE/SPEC/AC/ 0013-2007 (Rev-1) with UVC modules on multiple PCB.

The above policy has been under review in Board as 10% quantity for development of ERRUs as per RDSO latest specification no RDSO/PE/SPEC/AC/0013-2007 (Rev-1) with UVC module on single PCB is too small amongst 4/5 manufacturers. There is also an improvement in performance of ERRUs supplied against RDSO specification no. RDSO/ PE/SPEC/AC/0013-2002 (Rev'0') in last three years. RDSO vide ref.(2) above has also given recommendation for review in existing procurement policy of ERRUs .

In view of recommendations of RDSO, procurement policy of ERRUs of 4.5/25 kW has been reviewed and following is issued with the approval of Board (ML):

i) ERRUs as per RDSO specification no. RDSO/ PE/SPEC/AC/0013-2002 (Rev-'0') with amendment 1 & 2 should be included in RDSO approved suppliers list w.e.f. 1.1.09.

ii) Procurement of 4.5/ 25kW ERRUs by PUs & Zonal Railways as per RDSO specification no RDSO/ PE/SPEC/AC/0013-2007 (Rev-1) with single PCB UVC module and specification no. RDSO/PE/SPEC/AC/0013-2002 (Rev-'0') with amendment 1 & 2 shall be in the ratio of 35: 65. This policy should be applicable to all future procurement. Tenders which have already been opened in Zonal Railways/ PUs should be decided as per tender specification.

iii) (a). List of approved sources for 4.5kW ERRUs as per RDSO specification no. RDSO/PE/SPEC/AC/0013-2007 (Rev-1) with single PCB UVC module covering 35% annual requirement of PUs & Zonal Railways shall be same as per RDSO approved list issued on 1.7.08 and subsequent changes thereafter. Details are as under:

Firm name	Status
M/s Steaslit	Part-I
M/s KEL	Part-II
M/s HMTD	Part-II
M/s SIL	Part-II
M/s Prestech	Part-II
M/s ICECPL	Part-II

iii) (b) For procurement of ERRUs for 25kW alternator as per Revision-1 specification of RDSO, all approved vendors to be kept in part-II category as 25kW alternator has certain critical features i.e. parallel operation of alternator with current sharing within close tolerance of 10 Ampere. List of approved sources for 25kW ERRUs as per RDSO specification no. RDSO/PE/SPEC/AC/0013-2007 (Rev-1) with single PCB UVC module covering 35% annual requirement of PUs & Zonal Railways shall be as under:

Firm name	Status
M/s Steaslit	Part-II
M/s KEL	Part-II
M/s HMTD	Part-II
M/s ICECPL	Part-II

Note: Any subsequent change in RDSO approved list should be followed by PUs & Zonal Railways.

iii)(c) The purchase order on approved vendors for supply of 4.5/25 kW ERRUs as per RDSO specification no. RDSO/ PE/SPEC/AC/0013-2007 (Rev-1) shall be considered for educational order only till prototype is cleared by RDSO. Regular/ developmental orders shall be placed only after prototype clearance from RDSO. However, status of vendors in RDSO approved list for supply of ERRUs as per RDSO/ PE/SPEC/AC/0013-2007 (Rev-1) shall be same as indicated in para iii (a) & (b) above.

iv) List of approved source for procurement of ERRUs of 4.5/25 kW alternator as per RDSO specification no. RDSO/ PE/SPEC/AC/0013-2002 (Rev-'0') amendment 1 &2 covering 65% of annual requirement of PUs & Zonal Railways shall be as under:

4.5 kW		25 kW	
Firm name	Status	Firm name	Status
M/s Steaslit	Part-I	M/s Steaslit	Part-I
M/s KEL	Part-II	M/s KEL	Part-II
M/s HMTD	Part-II	M/s HMTD	Part-II
M/s SIL	Part-II	M/s ICECPL	Part-II
M/s Prestech	Part-II		
M/s ICECPL	Part-II		

Note: Any subsequent change in RDSO approved list should be followed by PUs & Zonal Railways.

v) The performance of ERRUs as per RDSO latest specification no. RDSO/ PE/SPEC/AC/0013-2007 (Rev-1) shall be monitored for a period of one year by RDSO and compared with performance of ERRUs as per specification no. RDSO/ PE/SPEC/AC/0013-2002 (Rev-'0') amendment 1 & 2. Depending upon relative performance of ERRUs with both specifications decision shall be taken to procure ERRUs following one of the specifications in future.

This letter is issued in suppression to earlier policy guidelines issued vide Board's letter of even no. dt. 1.10.08 & 6.1.09.

(Jaideep)
Director Elect. Engg(G)
Railway Board.

Copy to: COSs/All Indian Railways.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.97/Elec(G)/114/1 New Delhi, dt. 19.3.09

Chief Electrical Engineers,
All Indian Railways,
Integral Coach Factory, Chennai.
Rail Coach Factory, Kapurthala.

Sub: Provision of catalytic converter in power car.

Ref: Board's letter of even no. dated 29.8.08

Board vide reference above has issued policy directive for provision of Catalytic converters in DG sets of power cars of Rajdhani/ Shatabadi/ Garib Rath trains including provision of catalytic converters in new DG sets of power cars.

In partial modification to para (ii) the above referred directive regarding provision of catalytic converters in new DG sets of power cars following is issued with the approval of Board (ML)

For new DG sets where requirement is found for use of catalytic converters may be provided with the same.

Other conditions stipulated in Board's letter reference above regarding provision of catalytic converter in old DG sets, agency regarding preparation of specification/ drawing, development of sources, placement of developmental order, prototype clearance, target etc. shall remain same.

Jaideep 19/3/09
(Jaideep)
Director Elect. Engg(G)
Railway Board

Copy to: Executive Director (PS&EMU), RDSO, Manak Nagar, Lucknow.

AGTL/RMPU

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No 2007/Elect(G)/114/1. New Delhi, Dt. 20.03.09

116

Chief Electrical Engineers,
All Indian Railways,
Integral Coach Factory, Chennai.
Rail Coach Factory, Kapurthala.

Executive Director (PS & EMU),
RDSO, Manak Nagar,
Lucknow.

Sub:- Approval status of approved sources for 60 kVA transformer.

Ref: i). Board's letter no. 2007/Elec(G)/114/1 dated 19.12.08.
ii) RDSO's letter no.EL/7.1.108/ TRANS/Pantronics dated.3.3.09

Board vide letter reference (i) above has issued the directive with regard to approval status of firms for supply of 50/ 60 kVA transformer. Directive has also been issued to RDSO for reauditing the facilities of M/s Pantronics Mumbai.

RDSO has reauditied the facilities of M/s Pantronics and submitted report vide reference (ii) above. In view of completion of quality audit by RDSO and issues brought out/ reference made by the firm regarding present status of approved firms for 50/60 kVA transformer, following is issued in partial modification to Board's letter reference(i) above with the approval of Board (ML):

i) RDSO to examine use of 60 kVA transformer as per RDSO'S specification no. RDSO/PE/SPEC/AC/0080 (Rev-0) -2007 in all type of coaches in lieu of 50 kVA transformer which will help in improving the reliability, reduction in cost due to volumes and inventory level and submit their recommendation within a week for consideration of Board (ML)..

ii) Status of M/s Bhasin Packard & M/s Pantronics should be restored to developmental (part-II) source i.e. the status existing in RCF vide CEDE/RCF's letter no. ED-3005 dated 28.7.07.

iii) The status of M/s Vimal Transformer shall remain as part-I i.e. the status existing in CEDE/RCF letter no. ED-3005 dated 28.7.07.

iv) M/s Design & Prototype shall be delisted from approved list of RDSO for 60 kVA transformer.

The list of approved sources of RDSO for 60kVA transformer shall be as under w.e.f.20.3.09:

Name of the firm	Status
M/s Vimal	Part-I
M/s Pantronics	Part-II
M/s Bhasin Packard	Part- II

RDSO to issue necessary amendment in their approved list with effective from 20.3.09.

(Jaideep)
Director Elect. Engg (G)

ACTL/RMPU

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2006/Elect(G)/114/2 Pt.

New Delhi, Dt. 22.04.09

Chief Electrical Engineers,
Eastern Railway, Kolkata.
Northern Railway, Baroda House, New Delhi.
Southern Railway, Chennai.
Rail Coach Factory, Kapurthala.
Chitranjan Locomotives Wworkshop, Chitranjan.

Executive Director (PS & EMU),
RDSO, Manak Nagar.
Lucknow.

Sub: Trials with anti graffiti clear coating on coach exteriors.
Ref: 1) M/s Clariant letter no. AVEC-CLARIENT-064 dt. 27.1.09.
2) Board's letter no. 89(MC) /137/22 Vol II dt. 8.8.08.

M/s Clariant letter at ref (1) has submitted the proposal for coach coating with 'Tutoprom' clear coat to enable to achieve anti graffiti/ dust free exteriors. Such coating in addition to anti graffiti charactstic also provides corrosion protection, scratch resistence, UV protection etc. to car body.

In view of the advantages and successful trials of product, Board (ML) has desired that trials of anti graffiti coating to be conducted on:

i) a) One rake of EMU each in CR, ER, NR & SR.
b) One MEMU new rake to be turned out from RCF during 08-09.
c) 5 Electric locomotives at CLW after PU painting.
d) 5 Electric locomotives after alkyd painting during POH at Kancharapara (ER).

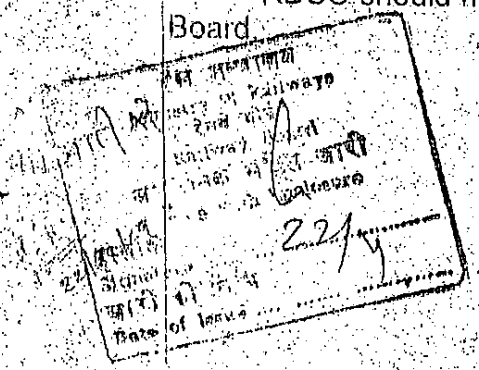
ii) PS & EMU Dte. of RDSO shall prepare the specification of anti graffiti coating for EMU/MEMUs and electric locomotives.

iii) Procurement for conducting trials shall be made through open tender as per RDSO specification.

iv) Trial scheme issued by M&C/Dte. of RDSO for coaches shall also be followed for EMU/MEMUs and Electric locomotives.

v) Performance of anti graffiti coating on above stock shall be monitored by respective Dte. of RDSO.

RDSO should monitor the performance and give their recommendations to Board.



Jaideep 22/4/09
(Jaideep)
Director Electrical Engg.(G)
Railway Board.

Acid/NM-battery

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2003/Elect(G)/165//1 New Delhi, Dt. 1.05.2009

Chief Electrical Engineers,
All Indian Railways.
Integral Coach Factory, Chennai.
Rail Coach Factory, Kapurthala.

Executive Director (PS & EMU),
RDSO, Manak Nagar,
Lucknow.

Sub:Battery health analyser for train lighting/air conditioning, electric loco, EMUs & traction installation batteries.

Ref: RDSO letter no. EL/6.7.2 dt. 14.11.08.

RDSO vide above referred letter has recommended use of battery health analyser for health monitoring of batteries used on IR for different application with a view to enhance reliability of the system. RDSO has also prepared specification no. RDSO/PE/SPEC/TL/0118-2008(Rev-0) for battery health analyser.

In this regard following has been decided with the approval of Board (ML) :-

i) Battery health analyzer should be available in each coaching depot and carriage workshop. Zonal Railways/workshop & PUs should take immediate action for procurement subject to successful trials of one set of battery health analyser in each Coaching depots at: NDLS (NR), BCT(WR), HWH (ER), Chennai(SR) for a period of 2 months. PDC-July, 2009.

ii) RDSO to circulate specification no. RDSO/PE/SPEC/TL/0018-2008(Rev-0) of battery health analyzer to Zonal Railways/ PUs

iii) RDSO should carry out the prototype test of the battery health analyser before commencement of supply.

Jai) 1/5/09

(Jaideep)
Dir. Elect. Engg.(G)
Railway Board.

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 97/Elec(G)/114/1 New Delhi, dt. 1.5.09

Chief Electrical Engineers,
All Zonal Railways,
Integral Coach Factory, Chennai
Rail Coach Factory, Kapurthala.

Executive Director (PS&EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Introduction of Centrifugal Lube Oil cleaner on DG set of Rajdhani/ Shatabadi trains.

Ref: 1. Board's letter no. of even no. dt. 7/13.10.05 & 8.11.07
2. RDSO letter no. EL/9.6.2/Test dt. 19.6.08.
3. RDSO letter no. EL/0.6.2/Test dt. 23.12.08.
4. RDSO letter no. SD.Fil.5 dt. 8.9.05.

RDSO vide letter no. SD. File 2005 dt. 8.9.05 have brought out that centrifuge lub oil cleaner (CLOC) developed by Ms CBS technologies have been very effective in removing the sludge and carbon soot from lube oil on Cummins & MAK engines of diesel locomotives. Further based on the performance of lube oil cleaner of M/s CBS technology used in diesel locomotives, Board vide ref (1) above, has directed WR & NR for conducting trials of centrifugal lube oil cleaner on DG sets of Rajdhani/ Shatabadi power cars. Accordingly, NR has conducted trials of CLOC (CBS technology make) on 6 generator cars and the results were encouraging/ satisfactory. Based on the successful trials in NR, RDSO vide reference (2) dt. 19.6.08 recommended to provide centrifugal lube oil cleaner on old/new DG sets of the power cars. The matter was examined in Board's office & following have been decided with the approval of Board (ML):

i) Zonal Railway to provide centrifuge lube oil cleaner in bypass lube oil circuit & centrifugal fuel filter in engines of DG sets used in power cars and other application.

ii) Fuel flow meters to be provided in all power cars by Zonal Railways.

iii) RDSO to include centrifugal lube oil cleaner centrifugal fuel filter and fuel flow meter in the specification of engine of DG sets of power car.

iv) ICF/RCF/ Zonal Railways should immediately cut in their procurement of engines of power cars with centrifugal lube oil cleaner in by pass lube oil circuit, centrifuge fuel filter & fuel flow meter.

v) The engines of DG sets used for static application should be procured with centrifugal lube oil cleaner in by pass lube oil circuit and fuel flow meter and centrifugal fuel filters.

Copies of RDSO's above mentioned letters reference (2), (3) & (4) are enclosed for guidance of Railways while deciding procurement action. In case these items are offered by sources other than CBS technologies, trials should be conducted as done on CBS make items and clearance should be taken from RDSO for placing even developmental orders.

(Jaideep)
Director Elect. Engg(G)
Railway Board.

Copy to:- ED(PS&EMU), RDSO is hereby advised to circulate detailed description of CLOC, centrifugal fuel filter and fuel flow meters for use in DG sets of power cars and DG sets used for static applications so as to enable Railways procuring these items.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAY
(RAILWAY BOARD)

No.98/Elect(G)/138/2 New Delhi, dt. 1.5 2009

General Managers,
All Indian Railways.

Sub: On board services.

Ref: 1. Director/T&C's letter no. 2006/TG-III/645/4 dt. 1.8.07. (Commercial circular no. 71 of 2007).
2. ED(T &C) letter no TG-III/654/4 (commercial circular no. 38 of 2006).
3. Board's letter no. 83/Elec-I/138/8 dt. 24/25.10.1985.

Indian Railway Tourism & Catering Corporation (IRCTC) vide Board commercial circular no. 38 has been entrusted with the responsibility of providing on board services like catering service, cleaning of coaches, sale of miscellaneous items etc. besides distribution of bedrolls in Mail/Express trains.

Now in view of above latest commercial circular of T & C Dte vide reference (1) above, it has been decided by Board that provision of bed roll services including procurement, washing and distribution should continue to be done by Zonal Railway as per earlier arrangement. IRCTC should handover the bed roll services to Railways which has been taken over 'as is where basis' from Zonal Railways.

In view of the above. It is advised that Railways should follow the instructions as contained in Board's letter no. 83-Elect-I/138/8 dt. 24/25.10.1985 regarding duty list of AC coach attendant for distribution of bed rolls in AC coaches.

In those trains, where the bedroll services are still being managed by IRCTC till the expiry of existing contracts awarded by IRCTC the extant instructions as stipulated in Board's Commercial circular no. 20/2007 may continue to be followed.

This issues with the concurrence of Passenger Marketing Dte. of Railway Board.

(Jaideep)
Director Elect. Engg. (G)
Railway Board.

Copy to:- CEEs/ Zonal Railways.

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2003/Elect.(G)/165/1 New Delhi, dt.:18.05.2009

Chief Electrical Engineers,
All Indian Railways.

Sub: Electrolyte additives to enhance battery life for TL, AC, & EMUs.

Ref: Board's letters of even no. dt. 25.7.08 , 19.11.08 & 16.12.08.

Board vide reference above, has issued directive for conducting extended field trials of electrolyte additive in flooded batteries of locomotive, EMUs & TL/AC coaches to enhance the life of batteries.

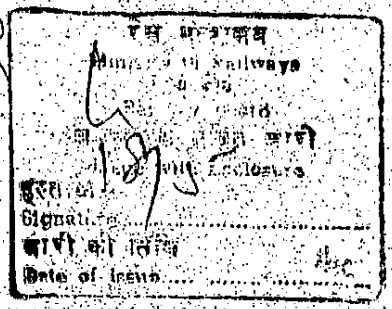
In this regard, you are requested to furnish the details of procurement and results of field trials of electrolyte additive in flooded batteries of locomotive, EMUs & TL/AC coaches to enhance the life of batteries latest by 22.05.09.

Jaid 18/

(Jaideep)
Dir. Elect. Engg.(G)
Railway Board.

PL issue fair

18/5/09



GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No. 2003/Elect(G)/113/4 Pt. Dt. 30 .06.09

Director General
R.D.S.O.
Lucknow.

Sub:- Provision of electric earthing in coaches

Ref:-i) RB's letter No. 2003/Elect(G)/113/4 Pt. Dt. 14.08.08.
ii) CEE/ECR's letter No. ECR/ELE/G/303-B dt. 05.08.08.
iii) ECR/ELE/G/303(B)/1419 dt. 15.06.09.

Subsequent to the happening of an unusual incident on 2.8.08 where shunting staff of Danapur divn. Experienced electric shock while attaching the slip coach No. 05215 with shunting engine, following incident had taken place:

i) Experienced with Coach No. WLRRM 90851 (Power car) by shunting staff on 28.056.08 in the backyard of Bangalore station.

ii) ON 30th May 2009, an incident took place in which one SLR derailed at Rajendra Nagar Coaching Complex, hit the OHE mast and OHE fallen on another coach. Tripping though took place but along with spark striking towards garbage lying on earth and garbage caught fire. It is suspected that the striking of arc towards earth may be due to non-earthing of coach.

This issue has already been reported to RDSO by both ECR and SWR. RDSO has also been advised vide this office letter of even no. dt. 14.08.08 (copy enclosed) for arranging immediate investigation by the team of officers of electrical and carriage Dte. and evolving remedial measures and submitting a report to RB and PUs for ensuring implementation so as to avoid such incidences. The progress made in this direction by RDSO is yet to be advised to Railway Board.

In the above context I would like to apprise you that the subject of induced voltage in coaches/rolling stock in electrified sections has been examined by Carriage Directorate of RDSO during January-February 2004 in view of failures of Axle box bearing of the coaching stock. RDSO vide letter No. SV/ICF dt. 27.02.04 and 28.09.04 has advised ICF for arranging trial by providing earthing contact in the Axle boxes for providing low resistance alternate path to the high current produced by induced voltage on account of OHE Power supply or return welding current.

It appears that no progress has so far been made by ICF in conducting the trials by providing low resistance alternate path to the high current produced by induced voltage on account of OHE Power supply or return welding current to overcome the above problem.

The development of induced voltage in the coaches can not only lead to bearing failures but can call fatal accidents on account of electric shock to the Railway staff/passengers in the absence of a proper earthing assembly.

The LHB coaches are having earthing contact on each bogies to overcome these problems mentioned above and PS/EMU & Carriage Dte. of RDSO should quickly finalize the design of earthing contact assembly for providing in the coaching stock taking into account the details provided by M/s NEI/Jaipur in collaboration with M/s Tibram, Maschinen- und Apparatebau Aarestrasse 29, CH-3661 Uetendorf Switzerland and earthing contact assembly working in LHB coaches and earthing brush assemblies used in WM1 and WAG4 class of electric locomotives.

As the issue pertains to safety an early action for evolving scheme for ensuring proper earthing of the rolling stock with rail through wheels/Axles is of utmost importance.

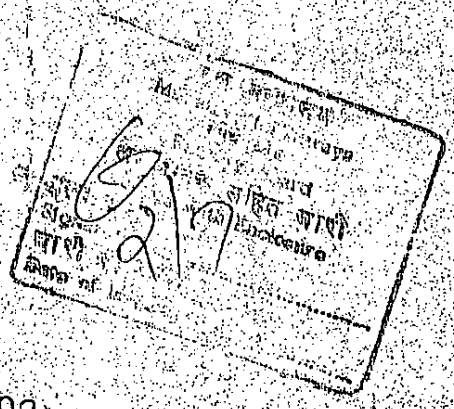
In view of the above you are requested to kindly direct the PS & EMU and Carriage Directorates for ensuring immediate follow up action.

(I.C. SHARMA)
Adviser/Electrical (G)
Railway Board

Encl: as above

Copy to:- General Manager/Electrical, E.C. Railway
General Manager/Electrical, S.W.Railway

Copy to :- PPS to ML for kind information of ML
PPS to MM for kind information of MM
AML for kind information please.
EDME/Chg. for kind information and necessary action from his end.



GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

New Delhi, dt. 23.7.09

No.97/Elec(G)/180/35

General Managers,
All Indian Railways.

Managing Director,
IRCTC,

Sub: Position of Pantry Car equipments.

While reviewing the policy of maintenance of provisioning of pantry car equipments of pantry car, Board (MT) has expressed his concern regarding non functioning of large number of equipments.

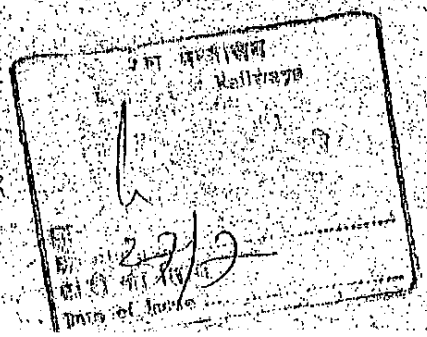
In view of the above, MT has asked for joint assessment regarding functioning/non functioning/deficiency of pantry car equipments. In view of above, requisite position of pantry car equipments jointly signed by representative of IRCTC may be sent to Board latest by 1.8.09. Such assessment should cover all the pantry cars working in different trains on each Zonal Railway.

Kindly treat the matter as most urgent and furnish feedback as requested above. List of standard pantry car equipment is also enclosed for ready reference.

DA: As above.

(I.C. Sharma)
Adviser Elect.(G)
Railway Board

Copy to:- 1. Chief Electrical Engineers, All Indian Railways.
2. ED/T&C/RB for information and issue of necessary instructions from his end to IRCTC.



ANNEXURE A
(SHEET 1)

LIST OF STANDARD EQUIPMENTS IN PANTRY CAR (ICF COACHES)

Coach Type	Appliances	Total Load
WCBAC(Rajdhani Rake)	Hot Water Boiler(3kW x 3 Nos.)	9.000
	Toaster(2.5 kWx2 Nos.)	5.000
	Hotcase(1.0 kW x 1 No.)	1.000
	Cooking range(6.0 kWx1 No.)	6.000
	Fridge (0.7 kW x 1 No.)	0.700
	Bottle Cooler (0.7kWx1 No.)	0.700
	Deep Freezer (0.7 kW x 1 No.)	0.700
	Electric Chimney (0.2 kW x 2 Nos.)	0.400
	Total (kW)	23.500
WCB(With appliances working on 110 V dc)	Fridge (0.4 kW x 1 No.)	0.400
	Deep Freezer (0.4 kW x 1 No.)	0.400
	Exhaust Fan (0.055 x 2 Nos.)	0.110
	Exhaust Fan (0.038 x 4 Nos.)	0.152
	Total (kW)	1.062
WCB(With appliances working on 230 V ac)	Fridge (0.4 kW x 1 No.)	0.400
	Deep Freezer (0.4 kW x 1 No.)	0.400
	Exhaust Fan (0.055 x 2 Nos.)	0.110
	Exhaust Fan (0.038 x 4 Nos.)	0.152
	Total (kW)	1.062
WGSRJ (Jan Shatabdi SLR)	Coffee/Tea Vending Machine(2 kWx 1 No.)	2.000
	Hot Case (1.0 kW x 1 No.)	1.000
	Hot Water Boilef (2.0 kW x 1 No.)	2.000
	Bottle Cooler (0.75 kWx2 Nos.)	1.500
	Microwave Oven (1.0 kW x 1 No.)	1.000
	Exhaust Fan (0.06x8 Nos.)	0.480
	Total (kW)	7.980
WGSRCZAC(Jaishatabdi AC Chair Car)	Coffee/Tea Vending Machine (2 kW x 1 No.)	2.000
	Hot Case (1.0 kW x 1 No.)	1.000
	Hot Water Boiler (2.0 kW x 1 No.)	2.000
	Bottle Cooler (0.75 kWx2 Nos.)	1.500
	Microwave Oven (1.0 kW x 1 No.)	1.000
	Exhaust Fan (0.06x8 Nos.)	0.480
	Total (kW)	7.980
WGCZAC(Shatabdi rake with pub jantry)	Water Cooler (0.7 kW x 1 No.)	0.700
	Bottle Cooler (0.7 kW x 1 No.)	0.700
	Hotcase (2.5 kW x 1 No.)	2.500
	Total (kW)	3.900

ANNEXURE A
(SHEET 2)

LIST OF STANDARD EQUIPMENTS IN PANTRY CAR (LHB COACHES)

A) LHB HOT BUFFET TYPE COACH (Pantry Car)

S.No.	Equipment description	Load	Quantity	Total load
1	a) Deep Freezer, 230 Ltrs	400 Watt	1	600 W
	b) Water Filter	200 W	1	
2	Bottle Cooler, 90ltrs	200 Watt	1	200 W
3	a) Hot Case, 140 meals	1600 Watt	1	1620W
	b) Insect killer	20 Watt	1	
4	OVEN Toaster Grill	1200 Watt	2	2400W
5	Water boiler-1	3000 Watt	1	3000W
6	Water boiler-2	3000 Watt	1	3000W
7	Water boiler-3	3000 Watt	1	3000W
8	Elect.Burner-1	2000 Watt	2	4000W
9	Elect.Burner-2	2000Watt	1	2000W
10	Refrigerator-110Ltrs	300 Watt	1	300 W
11	Elect.Burner-3	2000 Watt	1	2000W
12	Elect.Burner-4	9900 Watt	1	9900W
13	Elect.Chimney-1&2	300 Watt	2	600W
14	a) Elect.Chimney-3	300Watt	1	320W
	b) Insect killer	20 Watt	1	

Total Load:36,940 Watt

B) Sleeper TYPE COACH (ACCN & ACCW)

S.No.	Equipment description	Load	Quantity	Total load
1	Hot case	1100 Watt	1	1100 W
	Refrigerating Unit	800 Watt	1	800 W

Total Load: 1,900 Watt

C) LHB Chair Car type coach:

S.No.	Equipment description	Load	Quantity	Total load
1	Hot case	1600 Watt	1	1600 W
2	Refrigerating Unit	800 Watt	1	800 W
3	Soup warmer unit	475 Watt	1	475 W
4	Water Boiler unit	2000 Watt	1	2000 W

Total Load: 4,875 Watt

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No.2006/Elect(G)/109/14 New Delhi, dt. 24.07.09

General Manager
Rail Coach Factory
Kapurthala

Sub:- Provision of LED based destination board system in coaches.

Ref:-CEE/RCF's letter No. ED2010 dt. 27.03.09.

CEE/RCF vide letter under reference had informed that Carriage Dte. of RDSO has prepared the specifications for LED based destination board of coaches which also incorporates the specification for Passenger Information System. It is learnt that RCF has already floated tender for about 800 coaches as per specification of Carriage Dte. and same has already been opened.

With a view to evolve an integrated approach and provide a total solution to the passenger information system in the coaching stock, Board vide letter No. ERB-I/2006/2/47 dt. 28.12.06 has formed a Committee consisting of EDs/Advisers from Electrical, Mechanical, Passenger Marketing and Finance Dte. of Board to suggest a comprehensive list of technology driven items including passenger information system for each type of service (Rajdhani/Shatabdi, long distance, suburban) and each type of coach (First AC, AC-II. AC-III, Sleeper & (GS) etc. Subsequently, ED/Tele has also been nominated as a Member of the above Committee. The committee is yet to finalise the report bringing out a comprehensive list of technology driven passenger amenity items including Passenger Information System and LED based destination Board with GPS etc. The issue regarding nodal directorate in Railway Board to deal with the subject of PIS has also been discussed in Board meeting held on 03.06.09. The Board decision about the nodal dte. to coordinate Passenger Information Dissemination and Management Information system is yet to be taken.

MM while discussing this issue with Adviser/Electrical(G) and AM/L desired to have joint presentation on this issue by the Electrical and Carriage dte. of RDSO in presence of officers from electrical and mechanical wing from RCF. The above presentation could not materialise as yet.

ED(PS&EMU) RDSO vide his Note No. EL 7.3.6 dt. 16.6.09 has submitted his comments/suggestions to ED Carriage about the specification No. RDSO/2008/CG-02 and Specification No. RDSO/2009/CG-01 corrigendum No. 1 for the installation and commissioning and maintenance of micro processor based destination board display system and PIS with GPS. The issues / comments as contained in the above note of PS&EMU Dte. of RDSO are as under:

i) Use of GPS based system for destination board application needs to be examined. LED destination board can be designed without GPS with all features at very low cost.

ii) Voltage levels defined in the specification is not compatible with existing power supply system of coach.

iii) Authorized frequency band for VHF unit has not been defined, which need to be clarified by Telecom Directorate of RDSO.

iv) The total electrical load for the system have not been indicated/defined.

v) Protection system has not been defined clearly in the specification. Short circuit may lead to disruption in normal supply/fire in the coaches.

vi) Agency of route logging is not specified.

In addition to the above following pertaining to specification issues also need to be addressed:

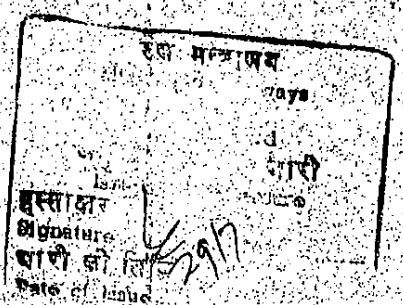
i) The grade of electronic component to be used i.e. Mil/industrial/Commercials had not been stipulated in the specification prepared by Carriage dte. of RDSO. This is one of the very important requirements and has bearing on cost as well as on the reliability of the system. In the absence of the stipulation of the grade of the component, a vendor is free to use even commercial grade electronic component where the cost of the product is very low with a very poor reliability as compared to the product manufactured with Industrial/Mil grade component.

ii) The vibration/shock level for which the system to be designed and tested (3g in all three axis) has not been specified. In the absence of this vital stipulation it is not clear as to how to inspect/conduct this vital test.

iii) The detailed procedure of endurance test has not been defined.

RDSO is being advised to look into the above mentioned issues of specification and prototype test and to evolve a broad based specification for an integrated PIS including the LED based destination Board which should be based on the report to be finalised by the ED/Adviser level committee constituted vide Board's letter dt. 28.12.06 and also the system should be compatible with SIMRAN system which is already under trial.

RCF is requested to keep the procurement action in abeyance till such time the committee finalise the report and the same is accepted by Board and concern directorate of RDSO finalise the specification and nodal directorate to deal this subject is decided by Board.



JAD 28/2/07

(Jaideep)
Director/Elect.Engg.(G)
Railway Board

Copy : DG/RDSO for information and necessary action please.

EDME/ Coaching / Railway Board

Government of India
Ministry of Railways
Railway Board.

No. 2006/Elect(G)/114/2 Pt.

New Delhi, dt. 5.8.09.

Chief Electrical Engineers,
All Indian Railways.

Chief Electrical Engineer,
ICF, Chennai.

Chief Electrical Engineer,
RCF, Kapurthala.

Sub: Use of 50/60 KVA transformer in LHB/ Garib Rath coaches.

Ref: 1. Board's letter of even no. dt. 4.4.08, 19.12.09 & 20.3.09
2.RDSO letter no. EL7.1.108 dt. 10.6.09.

Board vide ref (1) 20.3.098 above has issued the directive with regard to approval status of the firm for supply of 60 KVA transformer and RDSO has been asked to examine use of 60 KVA transrormer as per RDSO spec. no. RDSO/PE/SPEC/AC/00080 (Rev0)-2007 in all type of coaches in lieu of 50 KVA transformer to help in improving reliability, reduction in cost due to reduced inventory level.

RDSO vide ref (2) above has opined that the present practice of use of 50 KVA transformer in conventional EOG coaches and 60 KVA transformer in LHB EOG coaches should contine. In view of RDSO recommendation following is issued with the approval of Board(ML).

i) Use of 50 kVA transformer will continue in conventional EOG trains including Garib Rath trains.

ii) 60 kVA transformer will continue to be used in LHB design coaches and power cars of Garib Rath trains.

iii) The status of sources of 50 KVA transformer shall be as under in RDSO's approved list:

Name of the firm	Status
M/s Design & Prototype	Part-I
M/s Pantronics	Part-II
M/s Bhasin Packard	Part-II
M/s Vimal transformer	Part-II

iv) The status of sources for 60 kVA transformer should remain same as contained in Board's letter no. 2007/Elect(G)/114/1 dt. 20.3.09.

v) Further review in status (upgradation/ down gradation) of approved sources of 50/60 kVA transformer should be done by RDSO following their internal procedure/ extant rules based on number of supplies, failure rate etc.

Railway Board
Issue of Duplicate
Signature
Date of Issue

(Jaideep) 10/8/09
Director Elect.Engg.(G)
Railway Board.

भारत सरकार GOVERNMENT OF INDIA
रेल मंत्रालय MINISTRY OF RAILWAYS
(रेलवे बोर्ड RAILWAY BOARD)

No. 94/Elect(TRS)/441/1 Pt.III **New Delhi, dated 06.08.09**

General Managers

Central Railway, Mumbai
East Central Railway, Hajipur
Northern Railway, New Delhi
North Eastern Railway, Gorakhpur
North Western Railway, Jaipur
South Central Railway, Secunderabad
South East Central Railway, Bilaspur
Western Railway, Mumbai

Eastern Railway, Kolkata
East Coast Railway, Bhubaneswar
North Central Railway, Allahabad
North East Frontier Railway, Guwahati
Southern Railway, Chennai
South Eastern Railway, Kolkata
South Western Railway, Hubli
West Central Railway, Jabalpur

Director General, RDSO, Manak Nagar, Lucknow

Sub : Eligibility criteria for award of works contracts to undertake repairs/rehabilitation of equipment of electric locomotives, EMUs / MEMUs and AC / TL coaches including power cars.

In view of the difficulties expressed by Zonal Railways in various fora, Board (ML & FC) have reviewed the existing eligibility criteria based on B.S. Sudhir Chandra Committee recommendations, for awarding works contracts related to repair/rehabilitation of equipments of Electric locomotives, EMUs/MEMUs & AC/TL coaches including power cars and have decided as under :

(i) The technical eligibility criteria of having undertaken atleast one similar work of minimum value of 35% of advertised tender value in last three financial years may be dispensed with in cases of sources approved by RDSO for the work.

(ii) The financial eligibility criteria (*viz.* the turnover of the firm from the contractual payments received against supply / contracts during the last 3 financial years plus the current financial year till the date of tender opening should be minimum of 150% of the tender value) shall be applicable to only those firms who do not figure in the RDSO's approved list for undertaking such works.

(iii) Open tendering system has to be invariably adopted for award of all such works contracts.

(iv) When offer from one of the RDSO's approved sources for repair/ rehabilitation of electric rolling stock equipment happens to be the L1 in the open tender, the entire tender quantity may be awarded to the L1. No splitting of quantities among RDSO approved sources should be done.

...2/-

Aug '09

06.08.09

(v) Where offers of firms other than those figuring in the RDSO's approved list of sources for repair/ rehabilitation happens to be lower than that of any of the RDSO approved sources, then 20% of the tender quantity may be awarded amongst them without waiting for the approval of RDSO for placing developmental orders, provided these firms fulfill the RDSO's Schedule of Technical Requirement (STR).

(vi) RDSO should periodically expand the list of approved sources once in six months duly taking into consideration the performance of those firms on whom developmental orders were placed in terms of para (v) above.

Zonal Railways and RDSO are advised to strictly adhere to the above guidelines.

This issues with the concurrence of Finance directorate of Ministry of Railways.

Please acknowledge receipt.

06/08/09

(Mohit Chandra)
Dir. Elect. Engg. (RS)
Railway Board
e-mail: deers@rb.railnet.gov.in

No. 94/Elect(TRS)/441/1 Pt.III **New Delhi, dated 06.08.09**

Copy forwarded for information to:

(i) FA & CAOs – all Indian Railways.
(ii) Deputy Comptroller and Auditor General of India (Railways), 224 Rail Bhawan, New Delhi (with 46 copies)

06/08/09

for ***Financial Commissioner (Railways)***

No. 94/Elect(TRS)/441/1 Pt.III **New Delhi, dated 06.08.09**

Copy forwarded for information to:

(i) Chief Electrical Engineers – All Indian Railways
(ii) Sr.EDSE and ED(PS & EMU), RDSO, Manak Nagar, Lucknow

06/08/09

(Mohit Chandra)
Dir. Elect. Engg. (RS)
Railway Board
e-mail: deers@rb.railnet.gov.in

Copy to: F(X)II branch, Railway Board.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD

No.2006/Elect(G)/114/4 New Delhi, dt. 03.09.09

Executive Director (PS&EMU)
R.D.S.O.
Lucknow.

Sub:- Large scale failure of under slung compressors and shaft seals.

CEE/NR vide letter No.181-Elect/TL/Gas/Pt.IV dt. 20.08.09 has brought out the issue of large scale failure of shaft seals in under slung compressors modified with R134a gas.

The test conducted on the new shaft seals reveals that the rubber material used as SBR (Styrene Buta dyne Rubber) is not suitable for this application.

NR had obtained few samples of shaft seals of different material from Sujan Industries, Mumbai for trial, the result of which will be intimated to RDSO in due course of time by NR.

CEE/NR has also reported that viscosity of AVI-OIL has reduced to 47 cst as compared to standard value of 68 cst @ 40^0 C for fresh oil. Lower viscosity oil could be a reason for higher failure rate of compressors. M/s AVI-OIL are suggesting to use higher ISO VG grade oil for this application. As the failures of the compressor on account of shaft seal failure is a matter of serious concern and immediate action is required to be taken by RDSO in close liaison with M/s ACCEL to ascertain compatibility of the shaft seals of rubber being supplied by M/s ACCEL with AVI-OIL and other equivalent oils.

Whether there is a need to switch over to use ISO VG grade oil? It is also suggested that fresh samples of shaft seals with new rubber may be obtained from stock available with AC coach depot as well as from the M/s ACCEL Ahemdabad and tests conducted in lab of RDSO to ascertain the quality of rubber being used for manufacturing shaft seals. Similarly, shaft seal obtained by NR from M/s Sujan Rubber Industries may also be tested by RDSO in their M&C lab to examine their compatibility/suitability.

(I.C. SHARMA) 3/9/09
Adviser/Electrical (G)
Railway Board

Copy to CEE/NR as per the extant policy the spare part for under slung - compressors discharge valve, Shaft Seal 'O' Ring Gasket, supply of M/s ACCEL is to be procured from OEM only. Railways should not resort to procurement of vital parts of these compressors from other sources. If there is a need of conducting trials with alternate material from any other sources, the same has to be undertaken by RDSO with the prior approval of Railway Board.

CEEs of all Zonal Railways – for similar action.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.97/Elec(G)/180/35 New Delhi, dated 08.9.2009

General Managers,
All Indian Railways.

Sub: Maintenance of all electrical pantry cars equipments.
Ref: 1. Board's letter nos. 2006/TG-III/648/13 dated 2.11.06.
2. Board's letter nos. 2006/TG-III/648/13 dated 31.7.09.

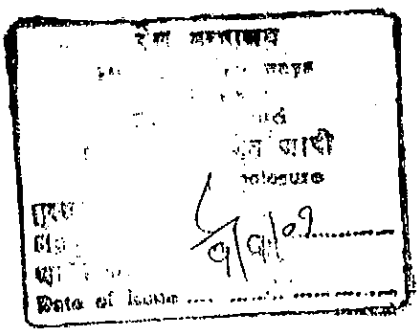
Board vide ref(i) above, issued directives to Railways for provision of standard electrical equipments in all pantry cars/ mini pantries and undertaking maintenance of such equipments against payment of 5% licence fee by IRCTC till 31.3.09. After 31.3.09 IRCTC was supposed to take over the maintenance & provision of pantry car equipments. However IRCTC could not develop adequate infrastructure for provision and maintenance of pantry equipments till 31.3.09.

In view of above, Board vide letter dated 31.7.09 has reviewed the policy and it has been decided that provision and maintenance of pantry car equipments will continue to be done by Indian Railways till IRCTC is able to take over the equipments in a phased manner. Further, IRCTC will continue to make additional payment of 5% of licence fee to Indian Railways for maintenance of pantry car equipments as decided earlier.

In view of the above, Zonal Railways are directed to arrange to rectify the deficiencies/ defects in pantry/ mini pantry cars on top most priority and ensure their proper up keep/ maintenance as has been the practice so far. Monthly feed back on the status of working of pantry car equipments may please be sent for information of Board.

(I.C. Sharma)
Advisor Electrical Engg.(G)
Railway Board.

Copy to:- MD/IRCTC for kind information and necessary action please.



GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2003/Elect(G)/165//1 New Delhi, Dt..16.09.2009

Chief Electrical Engineers,
All Indian Railways,

Sub: Electrolyte additive to enhance life of batteries used in TL, AC EMU & loco application.
Ref: 1. Board's letter of even no. dt. 25.7.08, 19.11.08 & 16.12.08.
2. RDSO's letter no.EL/6.7.2 dated 16/20.7.09

Board vide letter ref.(1) above; has issued directive for conducting extended field trials of electrolyte additive in flooded batteries of locomotive, EMUs & coaches to enhance the life.

In this regard, RDSO vide ref (2) has submitted the status of tests conducted by M/s HBL & M/s Kirloskar at their works after treating flooded batteries with Electrolyte additives. Following conclusions have been drawn from test:

i) Old cells with internal physical damage cannot be revived by adding the electrolyte additives.

ii) For conducting extended field trial, electrolyte additives should be added only in those batteries which shows improvement in battery/cell capacity during every charge/discharge cycles (total 3 cycle) and having capacity in the range of 70% to 80% as per guidelines contained in RDSO's letter dated 16/20.7.09.

iii) Railways should evaluate the results of Trials conducted so far with electrolyte additive and submit feed back to RDSO who in turn should examine the results and advise Board about further action to be taken for continuing trials .

In view of the above, it is advised that trials of electrolyte additive be conducted on old batteries used in TL/AC, EMU & loco application with more than 30 months life and meeting the above conditions as mentioned in (i) & (ii) above.

Jaideep 16/9

(Jaideep)
Dir. Elect. Engg.(G)
Railway Board.

Copy to;- ED(PS & EMU)/ RDSO/LKO.

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No.2009/Elect (G)/125/1

New Delhi, dt. 25.09.09.

General Managers,
All Indian Railways.

Sub: Failure of AC/TL coaches- measures adopted to ensure the performance/ reliability of AC/TL coaches.

The issue regarding failure of AC/TL coaches- measures adopted to ensure the performance/ reliability of AC/TL coaches was discussed in full Board meeting, where in it was decided that Railways should make available necessary infrastructure and start to ensure better reliability of coaches.

In view of above, following action needs to be taken by Railways:

1. Creation of posts required for AC/TL maintenance of rakes in coaching complexes in context of introduction of new trains (2003-04 & onward) to be done as per yardstick in terms of Board's letter no.2000/Elec(G)181/20 Pt. dated 22/30.11.2004 and the procedure issued by Railway Board's letter no. E(G) 2003/EC-2-3 dated 31.10.2003 for creating posts for TL/AC on the lines of running staff.
2. Immediate filling up of the vacancies in TL/AC category.
3. Review of turn around time of RPC-4 category train rakes which should not be more than 16-18 hrs. Such revision in pattern of maintenance should be made in consultation with Electrical directorate also as per policy circular no. 2006/ O & M/2/5 dt. 20.04.06.
4. Adequate charging and pre cooling facilities to be ensured at the platforms and washing lines.
5. Back up power supply i.e. DG sets in area where availability of normal power supply is poor should be provided to ensure precooling and charging of batteries.
6. Mail/ express trains with AC coaches having frequent stoppages should have adequate provision in time table for external charging of battery bank at major stations enroute. For such train 2x650 Ah battery bank should be provided.
7. Availability of adequate no. of coaches in depot and at critical location to be identified jointly by coaching directorate in consultation with electrical & mechanical directorate for enroute replacement of defective coach so as to avoid excessive detention all along the route and public/ passenger agitation and adverse publicity in media.
8. As far as possible POH of AC coaches to be done during winter/ slack season so that peak season requirement of coaches for running additional trains/ attaching extra coaches to clear waitlisted passenger is ensured.
9. ACCI to be provided with mobile phone under CUG scheme for better information dissemination for planning the corrective action including attachment of fresh coach to replace defective AC coach with minimum detention.
10. Procurement of vital spares viz. RMPU, RRU/ERRU, Inverter, alternator, batteries, power and AC panels and their components like. MCBs, rotary switches, relays, contactors through stores contract to be on the pattern of track items where convener of TC and accepting authority is from user department on the lines of system being followed for Track items.
11. Proposals of creation/ augmentation of coach maintenance facility should also be routed through Electrical Deptt and operating department of Zonal Railways as per joint procedure order issued vide Board's letter no. 2003/ M(C)/141/19 Vol-I dt. 26.10.06. Railway should follow the report issued by CAMTECH for standardization of facilities for TL & AC coaching depot vide no. CAMTECH/E/2008/F- coaches/1.0 of Feb'08.
12. Adequate budget allocation in RSP of TL/AC items for ensuring timely procurement of spares.

13. MIS system on the pattern of locomotives where fault diagnostic system is provided for logging defect enroute and information sent through the GPRS/ SIMRAN to the nominated coaching depot/ divisional/ Zonal head quarter to plan attention/ change of coach without detention / delayed departure.

14 Ensuring availability of printing log books for AC coaches and power cars on the pattern of locomotives for recording various observations/ defects by escorting staff.

15. In addition to above & to ensure the infrastructure, machinery & plant, test equipment, handling facilities, communication and safety requirement.

(I.C. Sharma) 30/9/19
Advisor Elect.(G),
Railway Board

रेल मन्त्रालय
Ministry of Railways
Railway Board
हस्ताक्षर
Signature 30/9/19
जारी की तिथि
Date of issue

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2004/Elec(G)/113/2 New Delhi, dt. 28.10.2009

Chief Electrical Engineers,
All Indian Railways.

Sub: Report of the Railway Safety Review Committee (Part-II)-98- Training to handle Fire Related Disasters.

Ref: Board's letter . E(MPP)98/3/8 dated 11.02.2003 (RBE no. 28/03).

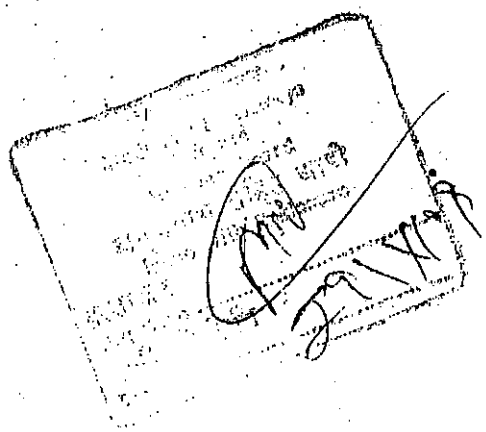
Railway Safety Review Committee vide Recommendation no. 3.15 have inter- alia recommended that on board staff i.e. running staff, AC attendants, Ticket Checking staff etc. should be given proper training on fire fighting/ use of fire extinguishers. Board have issued the instructions vide above referred letter. Copy of same is enclosed herewith.

It is therefore advised that Zonal Railways to reiterate the Board's instructions for training of staff to all the training institutes falling within their jurisdiction and report compliance there of to Board's office.

DA: As above

29/10/09

(I.C. Sharma)
Advisor Elect. (G)
Railway Board



Government of India
Ministry of Railways
(Railway Board)

No. 2001/Elec(G)/165/1 New Delhi, dt. 11.11.09

Chief Electrical Engineers,
All Indian Railways.
Integral Coach Factory, Chennai.
Rail Coach Factory, Kapurthala.
Executive Director (PS& EMU),
RDSO, Lucknow.

M/s Fenners India Ltd.
Khivraj complex –II, 480
Annasalai, Nandanam,
Chennai. 600035

M/s OMFA Rubbers Pvt. Ltd.
B-20 & 21 Sector 5,
Noida, G.B. Nagar-201301 (U.P)

M/s PIX Transmission,
J-7, MIDC Hingra,
Nagpur- 440016.

M/s Jyoti Rubbers Pvt. Ltd.,
A-451, Ground floor, Defecnce Colony,
New Delhi- 110024.

M/s Vinko Auto Industries Ltd.
Laldowali Road,
Jallandhar (Punjab) 144001.

Sub: Minutes of Meeting with V belt manufacturers to be held at Railway Board to 01.10.09.

The record note of the meeting which was held in Railway Board on 1.10.09 with V belt manufacturers to discuss the issues related with V belts is enclosed herewith for information and necessary action please.

DA: As above

(Jaideep)
Director Elect. Engg. (G)
Railway Board

Record note of meeting with V-Belt Manufacturers Railways & RDSO on 01.10.09

The participants of the meeting are as under:

i)	Shri V.K. Dutt, AM/L	Rly Board
ii)	Shri I.C.Sharma, Adv.L (G)	
iii)	Shri Jaideep, DEE/G	
iv)	Shri AK Gupta, ED(PS&EMU), RDSO	RDSO
v)	Shri Shalabh Tyagi, Jt. Director/PS&EMU./RDSO	
vi)	Anuj Gupta, Director	M/s Vinko Auto Industries.
vii)	R. K. Sharma, Manager Sales	
viii)	Shri S Majumdar, General Manager	M/s M/s Fenner
xi)	Dr. P. Thavamani, Vice President	M/s Pix Trans Ltd.
x)	Shri C. S Kale, Manager	
xi)	Shri Anuj Farasiya, Director	M/s OMFA Rubbers Pvt. Ltd.
xii)	Shri Sandeep Bansal, Director	
xiii)	Shri Manoj Aggarwal, General Manager Marketing.	
xiv)	Shri Sridhar, Railway sales manager, Delhi Branch.	
xv)	Shri K.C. Madansudhan, Technical Director	M/s Jyoti Rubbers.
xvi)	Shri Sandeep Bhalla, Manager	
xvii)	Shri Salil Agarwal, Manager	M/s Mekastar

Railways

i) Shri Jaipal Singh, Dy CEE/ (G) MTN, W/S/ CR
ii) Shri A.B. Mehlotra, Sr. DEE(G)/CR
iii) Shri R.Ray, Dy CEE/TL/ER
iv) Shri Dy CEE/LLH/ER
v) Shri G.Ray AEE/G/HWH/ER
vi) Shri A Biswas AEE/ G/SDAH/ER
vii) Shri A.K. Rawal CESE/NR
viii) Shri Pankaj Kumar Singh Dy CEE/ AMV W/S/NR

ix) Shri Vinod Kumar Singh Sr. DEE/Chg/DLI/NR
x) Shri Mukesh Gupta CTA/NR
xi) Shri H.K. Singh DEE/G/NER
xii) Shri V.K. Srivastava SSE/HQ/NER
xiii) Shri B. Rai CEE/HQ/NER
xiv) Shri B.B shukla AEE/TL/HQ/NER
xv) Shri S.K. Rai SSE/TL/ LJN /NER
xvi) Shri S. Chandra Dy CEE/NFR
xvii) Shri E.C. Hundekari CESE/SR
xviii) Shri G.V. NalliKarjunia Rao, Dy CEE/SCR
xix) Shri Madan Singh Dy CESE/ SER
xx) Shri A.K. Keshri Dy CEE/WS/KGP/SER
xxi) Shri L.C. Sarser CESE/WR
xxii) Shri M.L. Meena, Dy CEE/(W)/PL/WR
xxiii) Shri M. Ahmed CESE/NWR
xxiv) Shri O.P. Salwan Dy CEE(W)/AII
xxv) Shri Parmod Gupta Sr. DEE/BKN/NWR
xxvi) Shri Pati Ram CESE/WCR
xxvii) Shri Harish Ranjan WM (E) CRWS/WCR
xxviii) Shri Om Parkash CESE/NCR
xxix) Shri B.K. Pandey Dy. CEE/G/ECR
xxx) Shri N.S. Paple Dy CEE/HQ/SWR
xxxi) Shri S.S. Gunjal SE/SWR
xxxii) Shri Manj Mahajan, CESE/SECR
xxxiii) Shri P.S. Kotangate CEGE/SECR
xxxiv) Shri Kaushalish Singh Sr. DEE/G/BSP/SECR
xxxv) Shri S.K. Pathak SE/HQ/SECR

Adv.Elect(G) during his opening speech has expressed his concern over increasing trend in number of punctuality loss cases due to smoke emission from V-belts. Out of total 576 punctuality cases during 2009-10, 74 are on account of smoke emission or dropping of V-belts. Adv.Elect.(G) has emphasised that there is urgent need to check the condition of V-groove, replacement of tension rod where belt tension not proper, use of matched belt sets, maintaining proper alignment between axle and alternator pulley, stocking of alternator/axle pulley and use of proper quality of rubber pad in axle pulley.

AM/L in his opening speech has asked CESE to give necessary inputs for improving the performance of generation equipment of SG coaches including V-belt. He has emphasised that condition of alternator/ axle pulley need to be monitored and pulleys with worn out grooves to be replaced. AM/L has asked RDSO to try out few alternatives viz. use of cogged belts, high capacity V-belt, development of mid axle alternator, tension rod with rubber bonded component.

Following decisions were taken during the meeting:

i) Meeting with all important equipment manufacturers including V belts should be held once in a six months. RDSO to hold next meeting by April '10.

ii) Joint note between manufacturers and Railway for any failure on V-belt account should be prepared and submitted to RDSO.

iii) Instruction for changing of V belts during IOH needs to be reissued as there is no guidelines except CAMTECH manual issued on this subject. PDC-Dec.'09.

iv) RDSO to review the existing power transmission arrangement for alternator in SG coaches to make it suitable for speeds upto 160 Kmph to cater to future requirement.

v) Belt manufacturers to submit the feedback to RDSO regarding supplied quantity, cost of V belt with make-wise failure rate of last five years. PDC- 16.11.09.

vi) RDSO to explore the possibility of changing the axle/alternator pulley material to have better V belt life and less wear and tear of pulley V-groove. PDC- Dec.'09

vii) Few of the Railway suggested the possibility of using automatic belt tensioning device in place of existing device. RDSO to examine and trials to be conducted in few rakes. PDC- Dec.'09.

viii) Railways suggested that gauge for checking belt tension should be modified as with existing gauge, it is difficult to measure tension. On this issue, some of the belt manufacturers suggested use of ultra sonic instrument as being used in automobile industry. RDSO to examine and submit feedback. PDC- Nov.'09.

ix) Some Railways reported that even after tightening the belt tensioning device upto the specified mark, belts are not getting proper tension. Such coaches needs to be identified and jointly checked with mechanical deptt. for proper alignment of alternator bracket in bogie frame. Railway to submit list of such coaches to RDSO and Railway Board. PDC-Dec.'09.

x) For the trains which are running under safe to run category and leaving directly from platforms instead of going to pit lines at secondary maintenance point, standard check list to be prepared by RDSO. Zonal Railways to create necessary charging facilities at platform.

xi) Zonal Railways expressed difficulty in tightening inner nut bolt of axle pulley by torque wrench as per RDSO SMI. To overcome this problem, M/s. Meckastar Tools, Delhi had developed the torque wrench which can be used on axle pulley. This torque wrench has been practically tested at Alambagh Workshop, Lucknow/NR and found suitable. M/s. Meckastar Tools, Delhi has given a presentation and displayed the torque wrench in the meeting. Zonal Railways to procure torque wrench of similar design as developed by M/s Meckastar Tools, Delhi.

xii) RDSO to expedite development of high capacity V-belt/ cogged belt. For development of high capacity V belt following modification in specification /STR to be made by RDSO after interacting with approved sources. PDC-Dec.'09

A) **Modifications in specification**

a) Accelerated Ageing Test to be conducted for 400Hrs instead of existing 200Hrs

b) Duration of temperature rise test to be increased from 70 Hrs to 120 Hrs.

c) Test for adhesion between jacket vs rubber and cord vs base after keeping the belt for conditioning at 70°C at RH 65 ± 2% for 120 Hrs.

d) Test is proposed to be added at 800rpm, 40KW load for 100Hrs. Slip to be less than 1.5%.

e) Tensile and elongation tests on cords at 70 °C.

f) Ash content of base compound in finished belts.

g) Physical properties:

- Elongation at 300Kg with 5Kg pretension = maximum 0.5%
- Elongation at break: Max 5%
- Breaking Strength : 1700Kg
- Cord material : Aramid

B) Additions in STR

Sl.	Machines & Plants	Purpose
1	Simulation system/software of belt performance with slip/load and temperature	To simulate the design features/parameter of the belt and to understand that firm can design belts as per our requirement.
2	Thermogravimetric analyser (TGA)	To understand thermal characteristic of all ingredients used in rubber formulation. The thermogram will be able to find any Change in formulation can be detected.
3	Fourier Transform Infrared spectrometer (FTIR)	To Identify the polymer type in Product rubber compound
4	Thin layer chromatography	To Identify the Antioxidant in rubber compound
5	Differential scanning calorimeter (DSC)	The Polymer blend & Cure state of product by Heat absorption technique.
6	Dynamic Mechanical analyzer (DMA)	Dynamic property such as Dynamic modulus & Dynamic Heat Generation. Influence of heat on Dynamic properties of Product
7	Moving Die Rheometer	Cured rubber Dynamic characteristics such as Tan Delta
8	Multi cell aging oven	Heat / flex degradation of Cord adhesion, Jacket adhesion & rubber compound Properties
9	Product tester : DynaSpeed Belt Test Rig (Min. 16Kw)	Belt performance and Sllipage assessment at operating condition:

ACTL/Stores

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2006/Elect (G)/114/4

New Delhi, Dt. 13.11.09

Chief Electrical Engineers,
All Indian Railways.

Executive Director(PS & EMU),
RDSO, Manak Nagar,
Lucknow.

Sub: Approval of sources for procurement of underslung Refrigerant compressor and spares.

Ref: Railway Board letter no. 2001/Elec(G)/165/1 dt.8.14.07

The issue of procurement of underslung refrigerant compressor and spares thereof has been reviewed again in Board and following directives are being issued with the approval of Board (ML):

i) Procurement of spares of underslung compressor should be as per Board's policy guidelines issued vide reference above and against part nos. from OEM.

ii) To ensure the reliability of compressor being developed from new source, the prototype test has to be stringent and should be strictly as per laid down procedure with no relaxation. Endurance test need to be conducted for 60000 cycle and vibration shock test from NABL accredited lab.

iii) RDSO should advise time line to M/s Air Control & Compressor (I) Pvt. Ltd. for completing remaining prototype test. In case the firm not meeting the stipulated time line, otherwise persuation of development of compressor from M/s Air Control & Compressor (I) Pvt. Ltd. may be discontinued.

(Jaideep) 13/11/09
Director Elect. Engg. (G)
Railway Board

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 2006/Elect(G)/181/3 New Delhi, dt. 20.11.09

Chief Electrical Engineers,
All Indian Railways,
Kolkata Metro, Kolkata.

Sub: Running of trains in festival season.

For successful running of special trains, to the full satisfaction of the passengers :

1) The coaching stock to be provided must be mechanically and electrically fit in all respect. To implement above, following decisions has been taken by full Board.

a) Railway may engage retired staff for additional activities wherever required.

b) Temporarily out sourcing some of the non core activity viz. checking of light, fans, AC plant and its reposting, switching on of lights/fans in TL coaches at platform etc. as deemed fit by railways and cater after that safety is not affected.

c) Nomination of officers at major station during running of special trains be restored to wherever required in order to inspect the various areas concerning TL & AC and to address the public grievance.

(G.L.Meena)
Deputy Dir.Elect.(G)
Railway Board.

-2-

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RAILWAY BOARD.

No. 2001/Elect(G)/180/5 New Delhi, dt. 2.12.09

Chief Electrical Engineers,
All Indian Railways.

Sub: Running of second phase of 'Red Ribbon Express'.
Ref: DTT(Chg.)-I's letter no. 2004/Chg/II/33/NR/16 dt.23.11.09.(copy enclosed)

Red Ribbon Express has been flagged off ex Delhi Safdarjung on 1.12.09 by Hon'ble Chairperson of UPA Smt Sonia Gandhi & Hon'ble MR Ms. Mamta Banerjee. The train consists of 10 coaches(Shatabdi type AC coaches- 7 and Rajdhani type, ACCN-1 & Power car-2). The programme of this train is at Annexure I. The train will be going through different part of country during and complete its journey on 1.12.2010. This is a very important train and being monitored at highest level in Board. Following action needs to be taken by Zonal Railways to ensure proper working of generator car and AC/TL system of the coaches:

i) The electrical escorting staff of the train will be deputed by the concerned Zonal Railways/ divisions through which this train will pass as per itinerary at Annexure I.
ii) Staff should escort the train upto the next division/zonal Railway till it is taken over by new set of staff of that division/zone.
iii) The examination, maintenance and repair if any will be done by the respective Zonal Railways where the train will run.
iv) CESE of the Zonal Railway will be nodal officer of the Zone to ensure proper working of the DG set of power cars and ACTL of coaches and furnishing feedback to the Railway Board.
v) Any problem in the train should be immediately reported to the concerned CESE of the Railway, who should take requisite action to get the defects attended.
vi) Each Railway shall nominate a team of officers, supervisors and staff who will accompany the train during its run in the Zonal Railway.
vii) Zonal Railway may take outside assistance of OEMs of DG sets of power car to ensure its trouble free operation during entire trip.
viii) Since the train is working on EOG system therefore, Zonal Railways may nominate a team of supervisors/staff who can undergo training in DLI division of NR. CESEs of the Zonal Railway should be in touch with CESE/NR & Sr.DEE/Chg./DLI.
ix) In case of any problem in DG set/ AC /TL system Sr.DEE/Chg./NR may be contacted for technical assistance, *Mobile no. 9717631301.*
x) Zonal Railway should ensure that "B" check schedule are carried out on the engines of DG sets of the power car after every 300 hrs. The record of "B" check schedule done must be available in the log book of the power car.
xi) Zonal Railway to ensure fuelling of the DG sets of the power car as and when required to ensure smooth working.
xii) In case of halting time of the train more than 3-4 hrs. Zonal Railway should ensure that external power supply is given for working of WRA, emergency lights & AC system of ACCN coach available in rake which is used by personnel from NACO accompanying the train during their stay after exhibition hours.
xiii) DLI division should depute a trained artisan /supervisor well conversant with the working of power cars throughout the entire journey of the train to ensure a trouble free operation of generator cars. Adequate spares /consumables should be kept in this train.
xiv) CESE/NR should take daily position of the train and give the feedback about working of the DG set and AC system to Railway Board control on daily basis. Telephone 23382970(P&T) 43869 & 43876 (Rly.)
xv) All the defects/trouble/deficiencies should be entered in the log book of power car/coaches on daily basis. Attention given alongwith name/designation of the staff who have attended the rakes/ power cars should be entered in the log book on daily basis.

DA: As above

(I.C. Sharma)
Adv. Elect. (G)
Railway Board.

Copy to:- ED/Chg, Railway Board – for information.

Ministry of Railways
Railway Board
Date of Receipt 12

Government of India
Ministry of Railways
Railway Board.

No. 2006/Elect.(G)/114/2 Pt.

New Delhi, dt. 04.12.09

Chief Electrical Engineers,
All Indian Railways.

Sub: Regarding free supply of initial spares for Rajdhani, Shatabdi, Garib Rath & MEMU rakes.

Ref: RCF's letter no. ED-2008 dated 14.11.09(copy enclosed).

The issue of supply of initial spares with new rakes of LHB Rajdhani, Shatabdi, Garib Rath & MEMU coaches was discussed during the 24th MSG meeting at RCF on 9th & 10th Nov., 2009 wherein RCF has been advised to issue list of initial spares to be supplied with new rakes to enable the field units to maintain and operate the services smoothly.

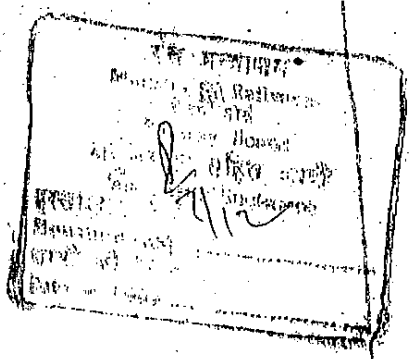
In this regard, RCF vide reference above has intimated that initial spares for LHB Rajdhani, Shatabdi, Garib Rath & MEMU rake can be collected in person from RCF.

Zonal Railways are advised to acknowledge receipt of the initial spares and intimate whether they require any other item as initial electrical spares so that percentage of the same may be advised to RCF/ICF.

DA: As above

(Jaideep)
Director Elect.Engg.(G)
Railway Board.

Copy to:- 1. ED(PS &EMU)/ RDSO.
2. CEEs/ ICF/ Chennai & RCF/Kapurthala.



LIST OF SPARE TO BE SUPPLIED ALONG WITH GARIB RATH EOG RAKE

Sn0.	Description	QPC	Qty. per rake to be issued
1	MODIFIED IVC COUPLER COMPLETE	2	8
2	BATTERY CHARGING UNIT	1	4
3	SMF VRLA 120 AH BATTERY	1	4
4	50 CUM 3 KVA DRY TYPE STEP DOWN INTEGRATED TRANSFORMER	2	8
5	60 KVA TRANSFORMER	1	4
6	BATTERY FUSE BOX	2	8
7	SET PRIMING MONO BLOCK PUMP WITH CONTROLLER	1	4
8	FEEDER JUNCTION BOX	3	12
9	24V STARTER BATTERY CHARGER	1	4
10	PASSENGER ALARM COACH INDICATION CUM RESERVATION CHART LIGHT	2	8
11	COMPACT FLUORESCENT LIGHT FITTING DOUBLE WITH 110 V AC BALLAST	20	80
12	COMPACT FLUORESCENT LIGHT FITTING SINGLE WITH 110 V AC BALLAST	4	16
13	EMERGENCY LIGHT FITTING WITH CFL	4	16
14	RAILWAY CARRIAGE FAN FIXED TYPE 300MM SWEEP 110V AC	5	20
15	RAILWAY CARRIAGE FAN BRACKET TYPE 225MM SWEEP 110V AC	4	16
16	JUNCTION BOX FOR ROOF	4	16
17	SWITCH PLATE ASSEMBLY FOR GARIB RATH COACHES	2	8
18	SWITCH PLATE ASSEMBLY UNIT & VHF CHARGING SOCKET TO DRG. NO. LP73200	1	4
19	EMERGENCY LIGHTING SYSTEM TO SRC NO. EDTS151	1	4
20	PROTECTIVE PLUG & SOCKET WITH SCRAPPING EARTH CONNECTION 10 AMP. 250V	2	8
21	GUARD SIDE LIGHT FITTING SKEL-4094	2	8
22	SMOKE DETECTOR UNIT	1	4
23	LIMIT SWITCH 10A, 500V WITH 1NO+1NC	2	8
24	WASH BASIN LIGHT FITTING	4	16

LIST OF SPARE TO BE SUPPLIED ALONG WITH MEMU RAKE

Sno	Description	QPC	Qty per rake to be issued
1	BATTERY CHARGER WITH FILTER CHOKE & CONDENSER	1	8
2	FLOURESCENT LIGHT FITTING DOUBLE, WIRE MESH GUART WITH 140V AC BALLAST TO DRG. NO. CC76286	8	64
3	FLOURESCENT LIGHT FITTING SINGLE, WIRE MESH GUART WITH 140V AC BALLAST TO DRG. NO. CC76219	4	32
4	ELECTRONIC LAMP BALLAST 110V DC	2	16
5	TWIN BEAM HEAD LIGHT 24V HOLOGEN LIGHT	1	8
6	LED BASE TAIL LIGHT WITH FLASHING MODE TO DRG. NO. RDSO/PE/SPEC/EMU/0063-2000 REV.-01	1	8
7	LOW MAINTENANCE LEAD ACID BATTERIES 110V, 90AH.	1	8
8	VACIIM CIRCUIT BREAKER	1	8
9	MCB PANNEL TO DRG. NO. ET75005	1	8
10	RAILWAY CARRIAGE FAN 140V AC, 450MM SWEEP FIXED TYPE WITH CRASHWORTHY FEATURES	10	80
11	OIL PUMP WITH MOTOR AND STARTING CAPACITOR	1	8
12	SET OF I.V. COUPLER FITTED WITH ONE MODULE & 1 A GLASS FUSES TO EDML055, REV-A, ITEM-2	1	8
13	THREE GAMG. FRAME FITTED WITH THREE MODULE & LAMP, GLASS FUSES TO EDML-055, REV-A ITEM-3	4	32
14	TWO GAMG FRAME FITTED WITH TWO MODULE & 1 AMP GLASS FUSE TO EDML-055, RV-A ITEM-3	4	32
15	THREE GAMG FRAME FITTED WITH THREE MODULE & LAMP, GLASS, FUSES TO EDML-055, REV-A ITEM-3	4	32
16	2.5 KVA INVERTER TO EDTS032	1	8
17	PROTECTIVE TYPE NON REVERSIBLE PLUG & SOCKET TO CAT NO. AS-10 & AP-10 OF M/S CGL	2	16
18	5 PIN PANEL MOUNTED SOCKET RATED 30A 415V TO CAT NO. 2417B OF M/S BCH	4	32
19	SMOKE DETECTOR UNIT TO EDTS087 REV-B, TYPE-1	1	8
20	PASSENGER ALARM COACH INDICATION LIGHT	2	8
21	PROTECTIVE TYPE NON REVERSIBLE PLUG & SOCKET 30A, 110V DC	1	16

LIST OF SPARE TO BE SUPPLIED ALONG WITH LHB RAKE

Sno.	Description	QPC	Qty. per rake to be issued
1	WHEEL SET EARTHING EQUIPMENT	2	1
2	JUMPER CABLE WITH CONNECTOR	2	2
3	SWITCH PLATE ASSEMBLIES FOR LHB EOG AC 2 TIER & AC 3 TIER COACHES	1	1
4	CEILING LIGHT FITTING (DOUBLE) W/O DIFFUSER	9	9
5	CEILING LIGHT FITTING WITH NL W/O DIFFUSER	9	9
6	SWITCH PLATE ASSEMBLIES FOR LHB EOG FIRST AC COACHES	1	1
7	SELF-PRIMING MOOBLOCK PUMP ASSLY. WITH CONTROLLER	1	1
8	ZS COUPLING 400AMP., 750V, 3PHASE, 50Hz	1	2
9	DIFFUSER COMPLETE	25	40
10	CEILING LIGHT FITTING (SINGLE) W/O DIFFUSER	7	25
11	LAVATORY LIGHT FITTING WITH CFL FOR LHB TYPE COACH	4	10
12	READING LIGHT FITTING (LONGITUDINAL BERTH-LH)	9	20
13	READING LIGHT FITTING (TRANSEVERSE BERTH-RH)	9	20
14	READING LIGHT FITTING (TRANSEVERSE BERTH-LH)	9	20
15	READING LIGHT FITTING (UPPER BERTH)	27	40
16	RAZOR SOCKET FOR WC 110V/24V COMPLETE WITH STEEL PLATE & COVER FRAME	1	5
17	ROOF MOUNTED AC PACKAGE FOR LHB RAILWAY COACHES	2	1
18	REGULATED BATTERY CHARGER FOR LHB AC SLEEPER COACHES	1	2
19	FEEDER JUNCTION BOX FOR POWER CAR	3	1
20	FEEDER JUNCTION BOX FOR LHB EOG AC COACHES	2	1
21	60 KVA TRANSFORMER	2	1
22	110V, 70AH. MAINTENANCE FREE PURE LEAD TIN BATTERY SET	1	1
23	BATTERY FUSE +VE	1	1
24	BATTERY FUSE BOX –VE	1	1
25	DOUBLE INLET CENTRIFUGAL BLOWER ASSEMBLY	2	4
26	SINGLE INLET RADIAL BLOWER 3PH,415V, 50HZ, 185W, 1045CU.MTS/HOUR DISCHARE	2	2
27	PASSENGER ALARM COACH INDICATION LIGHT	2	2
28	WC GAUGE SIGNAL LIGHT WITH FRP HOUSING	2	10
29	TAIL LIGHT LED TYPE WITH FLASHER UNIT & VHF CHARGING SOCKET TO DRG. NO. LP73200 ALT "C"	1	1
30	TWIN SWITCH 6AMP/250V AC	4	4
31	SINGLE SWEITCH FOR HOT BUFFET COACH	3	25
32	SWITCH PLATE COMPLETE FOR HOT BUFFET COACH	8	5
33	SWITCH PLATE ASSEMBLIES FOR LHB EOG FIRST AC COACHES	5	5
34	PRE-COOLING PLUG & SOCKETS 8-PIN ASSEMBLY COMPLETE	1	1
35	EXT. SUPP. SOCKET 125AMP. 415V, IP67, 5POLE (3P+N+E) WITH PILOT	2	8

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2001/Elect(G)/113/4 New Delhi, Dt. 9.12.09

General Managers,
Indian Railways.

Sub: Provision of emergency light in coaches.

Ref: i)Board's letter of even no. dt. 3.6.08.
ii) MOM of CESE conference held on 18th & 19th Feb'08.

During CESE conference held on 18th & 19th Feb'08 in Board, decision has been taken that Mobile/ laptop charging points and emergency lights should be procured through stores contract only. Railways may go for fitment contract of these items with the approval of PHOD/CHOD in case it is not possible to do the work departmentally.

Further in response to a reference received from NWR, Board vide letter (i) had reiterated instructions that emergency lights to be procured as store duly inspected by designated authorities for ensuing completion of all tests and compliance to specification. Any works contract may be limited to fitment only, be need based and to be done with specific approval of CHOD/PHOD.

As per the earlier instruction issued vide ref (i) above, emergency lights to be procured from ICF/RCF approved sources. Subsequently source approval authority for emergency lights mobile/ laptop charging points has been changed from ICF/RCF to RDSO vide Board's letter no. 2001/Elect(G)/165/16 dt. 30.9.08.

Board has recently received a representation from a company wherein one of the Railway has discharged store tender case for procurement of emergency light and has floated a fresh tender for procurement & fitment of emergency lights through work contract.

Board (ML) while going through the representation has desired that earlier instructions issued may be reiterated.

In view of above, the instructions issued vide reference above for procurement & fitment of emergency lights & mobile/ laptop charging points in coaches are reiterated for compliance. Further, in view of Board's directives dt. 30.9.08 procurement of such item be made from RDSO approved sources.

Railways may kindly acknowledge receipt of the letter and feedback to be furnished about the progress of these two important works for information of Board.

(Jaideep)
Director Elect. Engg. (G)
Railway Board

CEEs/ All Indian Railways.

-309-

I.C. Sharma
Adv.Elect.(G)

DO No.2003/Elect(G)/113/2 Pt. New Delhi, dt. 30.12.09

My dear CEEs

Sub: Fire prevention in coaches.

Smoke emission took place in coach no. 07402GS of train no. 2512 in Jhansi division on 19.11.09 from fan assembly of one particular bay.

On investigation by RDSO, smoke emission was on account of over generation from RRU. To prevent such cases, RDSO has issued modification sheet no. RDSO/PE/MS/TL/0021-2001 Dev/ during 2004 for provision of over voltage protection in RRU assembly.

In the said coach, OVP was not available in RRU. From the above incident it is revealed that TL coaches are still running without OVP in various Railways.

In order to prevent such cases, the progress made by your Railway in implementing the above modification sheet of RDSO in TL coaches may be reviewed and feedback furnished for appreciation of Board(ML).

Further, to prevent fire/smoke emission cases in coaches, an action plan as detailed in annexure to this letter has been prepared incorporating various measures/ modification to be implemented in TL/AC coaches. You are requested to take necessary action against each item and progress of the same should be monitored at divisional/ Zonal Railway by respective Sr. DEEs/CESE and regular feedback should be submitted to Board/RDSO periodically.

With best wishes,

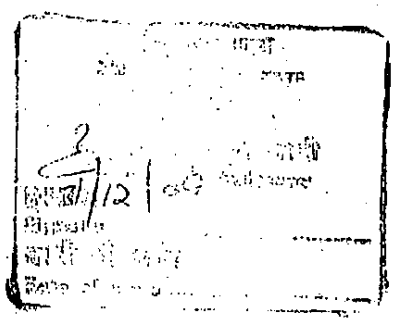
Yours sincerely,

(I.C. Sharma)

DA: As above.

Chief Electrical Engineers,
All Indian Railways.

Copy to: ED/PS&EMU/RDSO for issue of detailed guidelines covering all the items given in the annexure.



Annexure to Board's DO No. 2003/Elect.(G)/113/2

1. Use of standard size of fuse wires for the individual branch light & fan circuit of individual bays in TL coaches. Use of standard size of fuse/MCB in main control panel and other circuit/ equipment.
2. Use of standard size cables in different circuits of the coaches as per specification.
3. Ensuring minimum clearance of 10mm between any live part and the coach body and 4mm between parts of opposite polarities in coach wiring.
4. Regular checking of earthing on positive and negative wires of the coach following standard procedures prescribed by RDSO.
5. Use of protective grommet of PVC as per BS: 1765 or grade VI IS: 5861 with non inflammable properly to avoid damage to cable insulation from metallic sharp edges.
6. Provision of cable sleeve near terminals to avoid shorting of cable where clearances between live part and metallic body are critical.
7. Proper sealing of fuse distribution board in TL coaches to prevent entry of foreign material like bidi, cigarette, paper etc. by passengers. Regular checking during inspection schedule to be ensured.
8. Use of flush type light fittings in luggage compartment of SLR.
9. Provision of rotary switch panel with fuse in lieu of MCBs in TL coaches.
10. Provision of suck through arrangement type through evaporator unit in AC coaches with underslung AC equipments.
11. Ensuring provision of overheat protection in heater circuit of SG/EOG AC coaches.
12. Ensuring proper working of vane type relays in AC coaches.
13. Proper training to staff for feed extension from adjacent coach in emergency condition.
14. Use of non metallic fire retardant blades in chimney blowers of pantry cars.
15. Use of fire retardant, non toxic, low smoke canvas cloth for ducting of AC coaches.
16. Use of EPDM rubber ferrules at cable exit/entry points and critical locations to prevent damage to cable as per details to be obtained from ED/PS&EMU/RDSO.
17. Use of proper cleating alongwith EPDM ferrules of cable as specified in code of practice of wiring of AC/TL coaches/ scheme to be obtained from RDSO.
18. Use of low smoke, fire retardant, low halogen E-beam cable in TL & AC coaches.
19. Provision of over voltage protection in RRU of TL coaches as per RDSO modification sheet no. RDSO/PE/MS/TL/0021-2001 Rev 1 in Aug.'04.
20. Proper tightening and cleaning of battery connections.
21. Replacement of damaged/perished cables in coaches during POH/ major schedules.

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