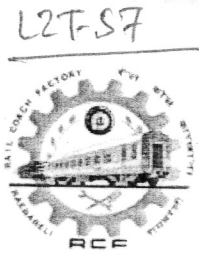




रेल डिब्बा कारखाना, रायबरेली
RAIL COACH FACTORY, RAEBARELI



FORM NO: RCF/RBL/QMF 8001
VERSION: 2012-01-01

ROLLING STOCK CERTIFICATE

Rolling Stock Certificate No.: RCF/RBL/QC/RSC

Date: 19/05/2014

SHELL NO	L	W	A	C	C	W	3	0	6	2	-	2	0	1	3	DATE OF DISPATCH	1	2	0	3	2	0	1	4
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RLY	C	R	Type	L	W	A	C	C	W	Coach No.	1	4	0	5	1	/	C
-----	---	---	------	---	---	---	---	---	---	-----------	---	---	---	---	---	---	---

- Railway Board's Order No. : 2013/M(C)/142/3, dated 03.03.2014
- Tare Weight of Coach : 44.5 Tonnes
- Carrying Capacity : (a) Seating : 52 (b) Sleeping : 52 (c) Luggage : NIL

4. SHELL LEADING DIMENSIONS:

S NO	DESCRIPTION	DIMENSION (MM)
1.	Maximum length over body	23700
2.	Maximum width over body	3240
3.	Maximum height from Rail Level	4039
4.	CBC height/Buffer height from Rail level 1105 +0/-15	1) 1092 (NPPE) 2) 1095 (PPE)

5. TRACEABILITY OF SHELL ITEMS:

S NO	ITEM	MAKE/SUPPLIER	SERIAL NO			
1.	Buffers	N.A.				
2.	Centre Buffer Coupler	M/s Escorts	PP END	2273	NPP END	2339

6. AIRBRAKE TEST REPORT:

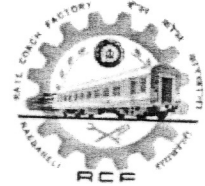
S NO	ITEM	DESCRIPTION	SPEC. VALUE	OBSERVED
1.	Full brake application	<ul style="list-style-type: none"> ➤ Reduce pressure of BP from 5.0 to 3.4 kg/cm². ➤ Max. pressure in BC ➤ All Brake are applied 	6 – 10 sec. 3.0 ±0.15 kg/cm ² . OK	9 sec. 3.0 kg/cm ² OK
2.	Insensitivity	<ul style="list-style-type: none"> ➤ Exhaust BP @ 0.3 kg/cm²/min. 	No brake application	OK
3.	Sensitivity	<ul style="list-style-type: none"> ➤ Exhaust BP @ 0.1 kg/cm²/Sec, after 02 Sec. 	Brake must apply	OK

7. PAINTING DAETAILS:

S NO	DESCRIPTION	TYPE OF PAINT	MAKE	AVERAGE GLOSS VALUE
1.	Paint	P.U.	M/s Narolac	-----
2.	Insulation	Satisfactory		



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RAIL COACH FACTORY, RAEBARELI



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VERSION: 2012-01-01

ROLLING STOCK CERTIFICATE

Rolling Stock Certificate No.: RCF/RBL/QC/RSC

Date: 19/05/2014

SHELL NO	L	W	A	C	C	W	3	0	6	2	-	2	0	1	3	DATE OF DISPATCH	1	2	0	3	2	0	1	4
RLY	C	R	Type	L	W	A	C	C	W	Coach No.	1	4	0	5	1	/	C							

8. DETAIL OF BOGIES :

ITEMS	PP SIDE				NPP SIDE			
Bogie No	137158							
Bogie Type	FIAT							
Axle No	T-4561				RWF-109960			
Wheel Dia.	917.00	917.00	915.50	915.00	917.50	917.50	917.00	917.50
Wheel Disc No	262- 48028/ZB13	215- 46433/ZB13	253- 46433/ZB13	169- 48028/ZB13	218- 48028/ZB13	217- 51781/ZB13	043- 50861/ZB13	268- 50800/ZB13
R B Nos.	03531	11479	03544	91629	11444	40711	77255	77500
C.T. R. B. Make	SKF				SKF			

9. SECONDARY SUSPENSION LOAD DEFLECTION VALUES

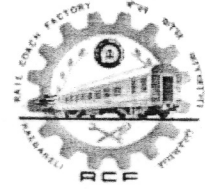
DESCRIPTION	BOGIE PP SIDE				BOGIE NPP SIDE			
	SECONDARY 1		SECONDARY 2		SECONDARY 1		SECONDARY 2	
	OUTER	INNER	OUTER	INNER	OUTER	INNER	OUTER	INNER
Make & Nos.	DN-12-08- 1890	G13-5- 5305	DN12-8- 1878	G13-5- 5216	DN12-8- 1839	G13-5-4957	DN12-8- 1705	G13-5-4991
Compressed Ht. at Tested Load	505	466	506	465	507	467	505	464
Alignment deviation (mm)	14	8	13	8	20	14	17	12

10. TRACEABILITY OF BOGIE ITEMS:

S NO	ITEM	MAKE/SUPPLIER	SERIAL NO	
			PP SIDE	NPP SIDE
1.	Primary outer Spring	L&S	L&S-08-12	L&S-08-12
2.	Primary Inner Spring	L&S	L&S-05-12	L&S-05-12
3.	Primary Damper	GEREP		
4.	Secondary Damper	SACHS		
5.	Lateral Damper	GEREP		
6.	Brake Cylinder & Caliper	KBI	H8115/691, H4761/691 H8116/691, H4891/691	H5362/691, H1963/691 H5361/691, H1964/691
7.	Yaw Damper	SV		
8.	Brake Disc	KBI		
9.	Traction Centre Elastic	SARITA		
10.	Ball Joint Control Arm	SGA		
11.	Rubber Spring	GMT		
12.	Ball Joint Roll Link	SARITA		
13.	Lateral Bump Stop	GMT		
14.	Ball Joint Traction Lever	GMT		
15.	Secondary Rubber Pad	TESPAK		
16.	Air Spring	N.A.		



रेल डिब्बा कारखाना, रायबरेली RAIL COACH FACTORY, RAEBARELI



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VERSION: 2012-01-01

ROLLING STOCK CERTIFICATE

Rolling Stock Certificate No.: RCF/RBL/QC/RSC

Date: 19/05/2014

SHELL NO	L	W	A	C	C	W	3	0	6	2	-	2	0	1	3	DATE OF DISPATCH	1	2	0	3	2	0	1	4
RLY	C	R	Type	L	W	A	C	C	W	Coach No.	1	4	0	5	1	/	C							

11. TRACEABILITY OF FURNISHING ITEMS:

S NO	ITEM	MAKE/SUPPLIER	SERIAL NO
1.	Air Brake Module	M/s KBI, Faridabad, New Delhi	13M0524
2.	Pull box	M/s KBI, Faridabad, New Delhi	
3.	DV	M/s KBI, Faridabad, New Delhi	2013M0963
4.	PVC	M/s Responsive, Colaba, Mumbai	
5.	UIC Vestibule (PPE)	M/s Suncrest Kolkata	
6.	UIC Vestibule (NPPE)	M/s Suncrest Kolkata	
7.	Foot Step	M/s JVR Ludhiana	
8.	Entrance Hand Rail	M/s MTI	
9.	Decoupling arrangement	M/s SECO	
10.	Body Side Window	M/s AIKON Tech.pvt.ltd Solan (HP)+Rail Tech,KXH	
11.	Emergency Window	M/s AIKON Tech.pvt.ltd Solan (HP)	
12.	Lavatory/hooper Window	M/s AIKON Tech.pvt.ltd Solan (HP)	
13.	Roof Ceiling	M/s KAE Engineers, Sitarganj (U.K.)	
14.	Body Side Doors	M/s JBM Industries Ltd, Faridabad	
15.	Compartment Door (PPE)	M/s Rail Tech, Kapurthala Punjab	
16.	Compartment Door (NPPE)	M/s Rail Tech, Kapurthala Punjab	
17.	Vestibule Door(PPE)	M/s JBM Industries Ltd, Faridabad	
18.	Vestibule Door(NPPE)	M/s JBM Industries Ltd, Faridabad	
19.	CDTS (ORIENT)	M/s AIKON New Delhi	
20.	CDTS (WESTERN)	M/s AIKON New Delhi	
21.	Auxiliary Water Tank	M/s Amit Engg. (Mohali, Punjab)	
22.	Under Slung Water Tank(450 L)	M/s Shivalik Fasteners, Mohali Punjab	
23.	Under Slung Water Tank (2X685L)	M/s Shivalik Fasteners, Mohali Punjab	
24.	Flexible Faucet	M/s Hindustan Fibre Ltd. , Vadodara, Gujrat	
25.	Lotah Filler Tap	M/s Metco, New Delhi	
26.	Lavatory Modoules	M/s Hindustan Fibre Ltd. , Vadodara, Gujrat	
27.	Lavatory Doors	M/s Hindustan Fibre Ltd. , Vadodara, Gujrat	
28.	Waste Bin Arrangement	M/s Hindustan Fibre Ltd. , Vadodara, Gujrat	
29.	Fire Extinguisher	M/s Hindustan Fibre Ltd. , Vadodara, Gujrat	
30.	Side Wall panel	M/s Hindustan Fibre Glass Ltd., Vadodara, Gujrat	
31.	AC Trough	M/s CRG Industries Baddi, HP	
32.	Seat & Berth	M/s Manoj Enterprises Mohali	
33.	Light Luggage Rack	M/s Virendra Steel Enterprises, Chandigarh	
34.	Snack Table	M/s International Tractor. Ltd., Hoshiarpur	



रेल डिब्बा कारखाना, रायबरेली
RAIL COACH FACTORY, RAEBARELI



FORM NO: RCF/RBL/QMF 8001
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ROLLING STOCK CERTIFICATE

Rolling Stock Certificate No.: RCF/RBL/QC/RSC

Date: 19/05/2014

SHELL NO	L	W	A	C	C	W	3	0	6	2	-	2	0	1	3	DATE OF DISPATCH	1	2	0	3	2	0	1	4
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RLY	C	R	Type	L	W	A	C	C	W	Coach No.	1	4	0	5	1	/	C
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12. MODIFICATION (IF ANY) : NIL

13. DEVIATION (IF ANY) : NIL

14. ITEM FITTED ON THE COACH ON TRIAL : NIL

S NO	ITEM PARTICULARS	PURPOSE	REPORT	REFERENCE & PERIOD OF TRIAL
			Frequency	

15. WARRANTY:

S NO	COMPONENTS	WARRANTY
1	Brake blocks, wheels, push gravity cocks, flushing valves, moldings, window glasses, mirrors, roller blinds, curtain & bulbs etc. (items which are consumable in nature)	NIL
2	Other coach furnishing sub assemblies(bought out items)	24 months date of dispatch of coach or 30 months from date of supply of material whichever is earlier.

NOTE:

1. This warranty covers free supply of parts which wear out and falls within warranty period of normal service.
2. This doesn't covers faults arising out of accident, non standard maintenance practices, abnormal use or mishandling, vandal activity, arson & deficient/pilferage etc.
3. This doesn't cover any consequential liabilities or damages/loss incurred by anybody; furthermore, it shall in no case extend to repayment, return of the coach or replacement of complete coach.
4. Whether a defective part is to be replaced or repaired shall be at the discretion of RCF/RBL.
5. For any complaint/suggestion please contact on qualityrcfbl@gmail.com.

DY CME
RCF/RBL

Dy CME/Fur
उप सु० या० अ०/फर.
RCF/RBL(LLJ)
डि.का. रायबरेली (लालगंज)

SSE/QC
RCF/RBL

सीनियर सेक्शन इंजीनियर (गुणवत्ता नियंत्रण)
रेल डिब्बा कारखाना, रायबरेली
Sr Section Engineer (Quality Control)
Rail Coach Factory, Raebareli(Lalganj)



रेल कोच फैक्टरी, कपूरथला
RAIL COACH FACTORY, KAPURTHALA



Form No. : QMF 9454; Version: 03

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Date: 31-12-2013

Shell No.:- 3072 RBL

RLY	Type	LACCW	Coach No.
-----	------	-------	-----------

6.0 Wheel & Axle details:

Items	PP Side				Non PP Side			
Bogie No.	137158				137157			
Frame No.	FIAT-2796				FIAT-2781			
Bolster No.	3506GT				3452P			
Axle No.	T4561		RWF-109960		T-2965		RWF-110015	
Wheel Diameter	917.00	917.00	915.50	915.00	917.50	917.50	917.00	917.50
Wheel Disc No.	262-48028/ ZB13	215-46433/ ZB13	253-46433/ ZB13	169-48028/ ZB13	218-48028/ ZB13	217-51781/ ZB13	043-50861/ ZB13	268-50800/ ZB13
R.B. Nos.	03531	11479	03544	91629	11444	40711	77255	77500
R. B. Make	SKF		SKF		SKF		SKF	
RB Type	CARTRIDGE TAPER ROLLER BEARING							

6.1 Secondary suspension load deflection Values:

Description	Bogie PP side				Bogie NPP side			
	Secondary 1		Secondary 2		Secondary 1		Secondary 2	
	Outer	Inner	Outer	Inner	Outer	Inner	Outer	Inner
Make & nos.	DN-12-08-1890	G13-5-5305	DN-12-08-1878	G13-5-5216	DN12-8-1839	G13-5-4957	DN12-8-1705	G13-5-4991
Ht. Attest Load	505	466	506	465	507	467	505	464
Align. deviation	14	8	13	8	20	14	17	12

6.2 Component traceability:

SNO	ITEM	PP Side Bogie	NPP side Bogie	Make
1	Primary Outer Spring batch no.	L&S-8-12	L&S-8-12	L&S
2	Primary inner Spring batch no	L&S-5-12	L&S-5-12	L&S
3	Primary Damper			GEREP
4	Secondary damper			SACHS
5	Lateral Damper			GEREP
6	Brake cylinder & Caliper	H8115/691,H4761/691 H8116/691,H4891/691	H5362/691,H1963/691 H5361/691,H1964/691	KBI
7	Brake Disc			KBI
8	Ball joint Control arm			SGA
9	Lateral Bump stop			GMT
10	Traction center make			SARITA
11	Traction lever make			SARITA
12	Ball joint traction lever			GMT
13	Ball joint Traction centre			SGA
14	Secondary rubber pad			TESPAK
15	Rubber spring			GMT
16	Anti roll bar make			SARITA
17	Roll link make			SARITA
18	Fork make			EMSON

31/12/13
SSE/BC/box



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FOR ELECTRICAL ITEMS

ROLLING STOCK CERTIFICATE OF LHB/EOG 2T AC COACHES

ELECTRICAL TEST CERTIFICATE FOR LHB/EOG AC COACHES

TYPE COACH	LWACCW	SHELL/COACH NO	14051/C
RAILWAY	CR	DATE OF DESPATCH	
Sr no	Description of tests		Remarks
1.0	REFERENCE SPECIFICATION : L 446		
1.1	AIR CONDITIONING TEST : ELPS/TP/AC 01.		
1.2	CODE OF PRACTICE OF WIRING : ELPS/SPEC/EOG/AC-01		
2.0	INSULATION RESISTANCE : Setting of insulation monitoring relay at 30K ohms as per TD 111 of M/s LHB.		
	Observed status : HEALTHY		
3.0	AIR DELIVERY MEASUREMENT	OBSERVED VALUE	OK
3.1	Fresh Air	30.72 Cub mtr/min	OK
3.2	Return Air	57.62 Cub mtr/min	OK
3.3	Exhaust Air	5.28 Cub mtr/min	OK
3.4	Conditioned Air	146.62 Cub mtr/min	OK
4.0	PRE COOLING TEST : Max 01 hr. Time taken to pre cool from 45 deg centigrade to 24/22 deg C during OFF LOAD condition. Not done due to ambient temperature below 22deg. C		OK
5.0	PULL DOWN TEST : Max 02 hrs. Time taken to pull down from 45 deg C to 24/22 deg C during FULL LOAD condition. Not done due to ambient temperature below 22deg. C		OK

(Signature)

**Senior Section Engineer
Quality control / Electrical
Rail Coach Factory Raebareli**



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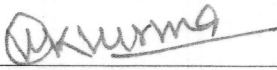


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FOR ELECTRICAL ITEMS

ROLLING STOCK CERTIFICATE OF LHB/EOG 2T AC COACHES
ELECTRICAL TEST CERTIFICATE FOR LHB EOG AC COACHES

Sr no	Description of test	Remarks
6.0	HUMIDITY CONTROL	OK
7.0	PUMP EQUIPMENTS	OK
8.0	WORKING OF EXHAUST FANS OVER LAVATORIES	OK
9.0	WORKING OF COMPOSITE PANTRY	OK
10.0	BERTH READING LIGHTS	OK
11.0	COMPARTMENT LIGHT	OK
12.0	PUBLIC ADDRESSING SYSTEM (PAS)	OK
13.0	WHEEL SLIDE PROTECTION SYSTEM (WSP)	OK
14.0	WORKING OF 60KVA TRANSFORMER	OK
15.0	WORKING OF REGULATED BATTERY CHARGER	OK
16.0	WORKING OF EMERGENCY BATTERY CHARGER	OK
17.0	SAFETIES :	OK
17.1	THERMOSTAT :	OK
17.2	ROTARY 07 SET POINTS (NORMAL CONDITION)	OK
17.3	MID SET POINTS (SENSORS FAILED CONDITIONS)	OK
17.4	HYGROSTAT	OK
17.5	CONTROL CIRCUIT	OK
17.6	POWER CIRCUIT	OK
18.0	REFRIGERANT USED	R 407C OK


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Rail Coach Factory Raebareli




Govt. of India- Ministry of Railways
(RAIL COACH FACTORY-RAEBARELI)



RCF/RBL/QEF7001
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ROLLING STOCK CERTIFICATE OF LHB/EOG 2T AC COACHES

Sr no	Description	Drg/Spec no.	Quantity per Coach
01.	Roof Mounted AC package unit for LHB AC coaches Make : SIDWAL Sr no of RMPU 1 (NPP side) : 14-A-011 Sr no of RMPU 2(PP side) : 14-A-024 Sr no of Microprocessor. : AE-14-01-0060	EDTS 075,Rev`c`, Col I.	02
02.	Switch board cabinet Make : ISG Sr no : 022-11/2013	EDTS 073 ,Rev -d	01
03.	Pump equipment with PLC controller & pump box Make: KIND Sr no: 050882 Sr no.1: 130505243 Sr no.2: 130505344 Pump controller sr. no.: 1305044	EDTS 094,Rev`a`	01
04.	Double inlet centrifugal blower 415V/03Ph /50Hz /120W/450 cum mtr/hr discharge for exhausting air from lavatory & switch board cabinet Make : INTEG	Cat no D2D 133 -AB06-19 of EBM or equivalent approved	02
05.	Vestibule Light Fitting Single w/o diffuser	LW 76004,Alt-b	06
06.	Ceiling light fitting DOUBLE w/o diffuser.	LW 76011,Alt-c	09
07.	Ceiling light fitting with NL w/o diffuser w/o item 2&3	LW 76013,Alt-c	09
08.	Emergency light system for EOG type coaches (AEL)	EDTS 151,Rev-c	04
09.	Lavatory light fitting assly	LW 76001,Alt nil	04


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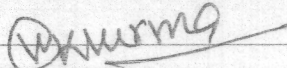
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(RAIL COACH FACTORY-RAEBARELI)



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ROLLING STOCK CERTIFICATE OF LHB/EOG 2T AC COACHES

Sr no	Description	Drg/Spec no.	Quantity per Coach
10.	WC gauge signal light	LW 76006,Alt-c	02
11.	Passenger alarm coach indication light	LW 76005,Alt-d	02
12.	Reading Light fitting (Upper berth)	LW 76023,Alt-e	27
13.	Reading light for longitudinal berth LHS	LW 76022,Alt-e	09
14.	Reading light for transverse Lower Berth -LH	LW 76020,Alt-e	09
15.	Reading light for transverse Lower berth RH	LW 76021,Alt-e	09
16.	Fluorescent lamp 18W	RDSO/PE/SPEC/D/ TL 0011-2000,Rev I, Sec- I , 07/2001	33
17.	Diffuser complete w/o item 1& 2.	LW 76012,Alt-a	25
18.	Razor socket for WC 110/240V.	EDML 047 ,Rev nil	04
19.	Terminal strip	EDML 033,Rev-c	01
20.	Terminal connector	EDML 037,Rev` a`	04
21.	Single switch 06A/250V/AC ONE WAY ,complete with steel plate & cover frame	EDML 047,Rev nil, Item 1.	09
22.	Single switch 16A/250V/AC ONE WAY complete with steel plate & cover frame	EDML 045,Rev nil ,Item 2.	09
23.	PA system for LHB coaches Make :AHUJA	EDTS 173 Rev- a Am-1,2&3	01 set


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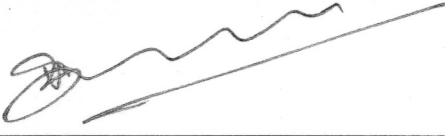
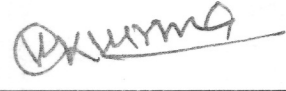
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RCF/RBL/QEF7001
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ROLLING STOCK CERTIFICATE OF LHB/EOG 2T AC COACHES

Sr no	Description	Drg/Spec no.	Quantity per Coach
24.	70AH/110V,54 Cells,02V each ,maintenance free pure lead acid tin monoblock ,battery set with 09 modules 12V each. , factory pre charged. Make : A. RAJA Lug date : 05/2013	EDTS 129,Rev nil	01 set
25.	Battery box for LHB coaches.	1 10113 0 76 700 005 w/o item 5,22 ,23 ,26 & 27.	01
26.	Battery fuse box +ve Make : ISG	LW 71001,Alt-d	01
27.	Battery fuse box -ve Make : NEC	LW 71002,Alt-d	01
28.	Regulated battery charger Make : PYRAMID Sr no: PRBCA-137-16	EDTS 074,Rev-c Cor.1	01
29.	Emergency battery charger Make : BHASIN Sr no: BC-0313024	EDTS 163,Rev `c` corg.-2&3	01
30	60KVA transformer Make : VIMAL Sr no: 1111/2010-11	EDTS 076 ,Rev-b Am-1	01
31.	ZS coupling 400A/750V/03Ph/50hz. Make : S INTERNATIONAL	EDTS 105,Rev-e Am1&2 Cor-1	02 sets
32.	Feeder junction boxes. Make : NEC	EDML 020,Rev-e	02
33.	Wheel set earthling equipment. Make : MAA LAXMI INDUSTRIES	EDTS 101,Rev-c	02
34.	Wheel Slide Protection System (WSP) Make: KNORR & Sr no : 0113380852	M/s : KNORR	01 set
35.	PANTRY EQUIPMENTS : Hot Case, Bottle cooler cum deep freezer Make : VISHAL GAS SERVICE	EDTS -139 Rev- Nil, Am-1,2,3&4	01

	
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SEE/RCF/RBL

वरिष्ठ विद्युत अभियन्ता
रेल कोच फैक्टरी, रायबरेली, लखनऊ
Sr. Electrical Engineer / RCF / RBL / Lucknow

SSE/EL/QC अभियन्ता

विद्युत उत्पादन-गुणवत्ता
रेल कोच फैक्टरी / लालगंज / रायबरेली
Sr. Section Engineer
Electric Production - Quality
RCF / RBL / LLJ