

2.0 EMU:

2.1 Holding

Holding of the EMU coaches is as under :-

S.No	Type of coach	Stock	No. of coaches as on	
			31.03.2012	31.03.2013
1.	Motor coaches	DC	65	26
		Alstom	38	38
		Siemens	301	277
		RF AC EMU	4	32
		ICF AC EMU	0	40
		Total	408	413
2.	Trailer coaches	DC	158	87
		Alstom	77	77
		Siemens	602	554
		RF AC EMU	8	64
		ICF AC EMU	0	80
		Total	845	862
Grand Total			1253	1275

2.2 Commissioning of new coaches :

The following EMU coaches were commissioned during the year 2012-2013.

<u>Sr.No.</u>	<u>Description</u>	<u>2012-2013</u>
1.	Motor coaches	40
2.	Trailer coaches	80
	Total	120

2.3 Condemnation of assets :

The following EMU coaches were condemned during the year 2012-2013.

<u>Sr.No.</u>	<u>Description</u>	<u>2012-2013</u>
1.	Motor coaches	15
2.	Trailer coaches	23
	Total	38

In addition to above 72 coaches i.e. 6, 12-car rakes have been transferred to Central Railway.

2.4 Performance of EMUs

S. No.	Indices	<u>As on 31.03.12</u>	<u>As on 31.03.13</u>
a)	Effective Rake holding vs. Rakes given for traffic (in terms of 9-car)	109.6/100.6	124.3/108.3
b)	Percentage ineffective : (in terms of 9-car)	8.21	12.87
c)	On line (Holding) : Motor coaches	329	373
d)	On line (Holding) : Trailer coaches	658	746
e)	In use (Traffic) : Motor coaches	302	325
f)	In use (Traffic) : Trailer coaches	604	650
g)	No. of services/day		
	9-car	196	110
	12-car	1040	1150
	15-car	14	30
h)	Average No. of trains schedule run per day	1189	1230
i)	Average No. of trains actually run per day	1185	1225
j)	Total statistical motor coach failure	Nil	Nil
k)	Average Motor coaches Kms per month	4793456	4985619

2.5 Safety aspects –

There has been no case of accident and fire on account of EMU maintenance and operation.

2.6 Passenger Amenities:

Introduction of additional EMU services

During 2012-13, 40 additional services (24, 12-car & 16, 15-car formation) were introduced in CCG-VR section. In addition to this, 86 services were also augmented from 9-car to 12-car formation.

2.7 Schedule repairs (Running sheds):

Schedule inspection in sheds and on line are carried out as under:

Sr.no.	Schedule	Location	Average/month 2012-13
1.	Daily (rakes)	Stabling depots & carsheds	2310
2.	IA/IB/IC (Rakes)	Bombay Central / Kandivali Carshed	IA 331 IB 44 IC 11

2.8 Schedule repairs /Shop :

POH of EMUs is carried out in EMU shop -Mahalakshmi. POH of EMU stock is carried out on 18 months basis. The quantum of work carried out at EMU Workshop, Mahalakshmi during 2011-12 and 2012-13 is as under.

S. No	Activity	2011-12			2012-13		
		MC	TC	Total	MC	TC	Total
1	POH	155	306	461	250	475	725
2	Nominated Repairs	13	17	30	6	10	16
3	Tower Wagon	2			2		

2.9 Development & Highlights:

Following developments / innovations / achievements have taken place in the workshop/shed during the year 2012-13.

i. Commissioning of new AC EMU Rakes

Rly. Bd. has allotted 10, 12-car BG AC EMU rakes to Western Railway vide letter No. 2011/Elect(G)/181/1EMU dtd.11.05.12. All 10 rakes have been received and put in to passenger services after commissioning and conducting of necessary trials.

ii. Retrofitment of DC EMU rakes to AC EMU rakes

In 2012-13, 6, 12-car EMU rakes have been retrofitted by MX shop with conventional AC Electrics of BHEL and inducted in passenger service on Western Rly. Performance of these rakes is continuously monitored.

iii. Maintenance activities at Virar carshed

After commissioning of Virar carshed in last year, various maintenance activities have been started during the year. This shed is handling more maintenance activities with modern facilities.

iv. Earnings by operation of Siemens rakes

68 DC/AC Siemens rakes are in passenger service and have worked cumulative 452.31 lakhs kms (in terms of 12-car) so far. These rakes are highly energy efficient due to regeneration and energy saving is of the order of 30%. Thus, a total saving of Rs. 174.1 Crores has been achieved so far. In 2012-13, this saving is Rs. 61.96 Crores.

In addition, these rakes have potential of yearly earning of 35558 carbon credits equivalent to Rs. 2.84 Crore per year.

2.9 INNOVATIONS

Adoption of universal mobile multipurpose automatic tube swagging machine.

A portable work centre has been developed for maintenance of pneumatic piping system in EMUs at EMU car-shed BCT. This has following facilities:-

Automatic tube swaging

- i. Tube cutting & deburring
- ii. Tube bending
- iii. Threading

Above multipurpose work centre ensures quality & leak-proof joints of stainless steel pipe fittings and pneumatic installation in EMUs.

2.10 Zonal Electrical Training Centre MX :

Initial, Refresher and specialized training is imparted in rolling stock and traction distribution at Zonal Electrical Training Centre, Mahalaxmi. Details of training courses conducted during the year are as under.

A. INITIAL COURSES:

Sr. No.	Type of course	Duration	2011-12	2012-13
1.	App. SE (Deg, Holder)	52 Weeks	0	1
2.	App. JE (Diploma Holder)	78 Weeks	2	8
3.	App. Mech (Intermediate App.)	78 Weeks	11	6
4.	App. ELF III (ITI) RRB	26 Weeks	1	58
5.	App. ELF III (Non ITI) Comp. Ground	156 Weeks	39	28
6.	App. ELF III (Group D to C)	26 Weeks	73	73
7.	App. Motormen (RRB)	52 Weeks	21	6
8.	Trainee Motormen (Elect.)	13 Weeks	0	0
9.	Trainee Motormen (Diesel)	20 Weeks	0	10
10.	App. 1961 Act (Non ITI)	156 Weeks	5	0
11.	App. 1961 Act (ITI)	52 Weeks	18	5
12.	App. 1973 Act	52 Weeks	5	3
	Total		175	198

B. REFRESHER COURSE

Sr. No.	Type of course	Duration	2011-12	2012-13
1.	Motormen	12 W/Days	302	58
2.	Artisan	12 W/Days	7	50
3.	Supervisor	12 W/Days	24	10
	Total		333	118

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C. SPECIAL COURSES:

Sr. No.	Type of course	Duration	2011-12	2012-13
1	Orientation Courses	07 W/Days	172	788
2	DC to AC Conversion TRD (Supervisor)	02 Weeks	0	0
3	DC to AC Conversion TRD (Artisan)	02 Weeks	2	0
4	Electric Fire & Failure	03 W/Days	0	44
5	Pragati Development course for Group 'D' staff	03 W/Days	0	0
6	Pre Promotional Training	15 W/Days	80	0
7	AC /DC Siemens handling course for Loco Pilots	03 W/Days	0	110
8	Transportation course for carshed supervisor & staff.	06 Days	71	71
9	Crash course on Measuring instruments	03 W/Days	20	0
10	Crash course on IE Rules for TRD staff	03 W/Days	25	0
11	Outside Engg. Students	12 W/Days	64	34
	Total		444	1047