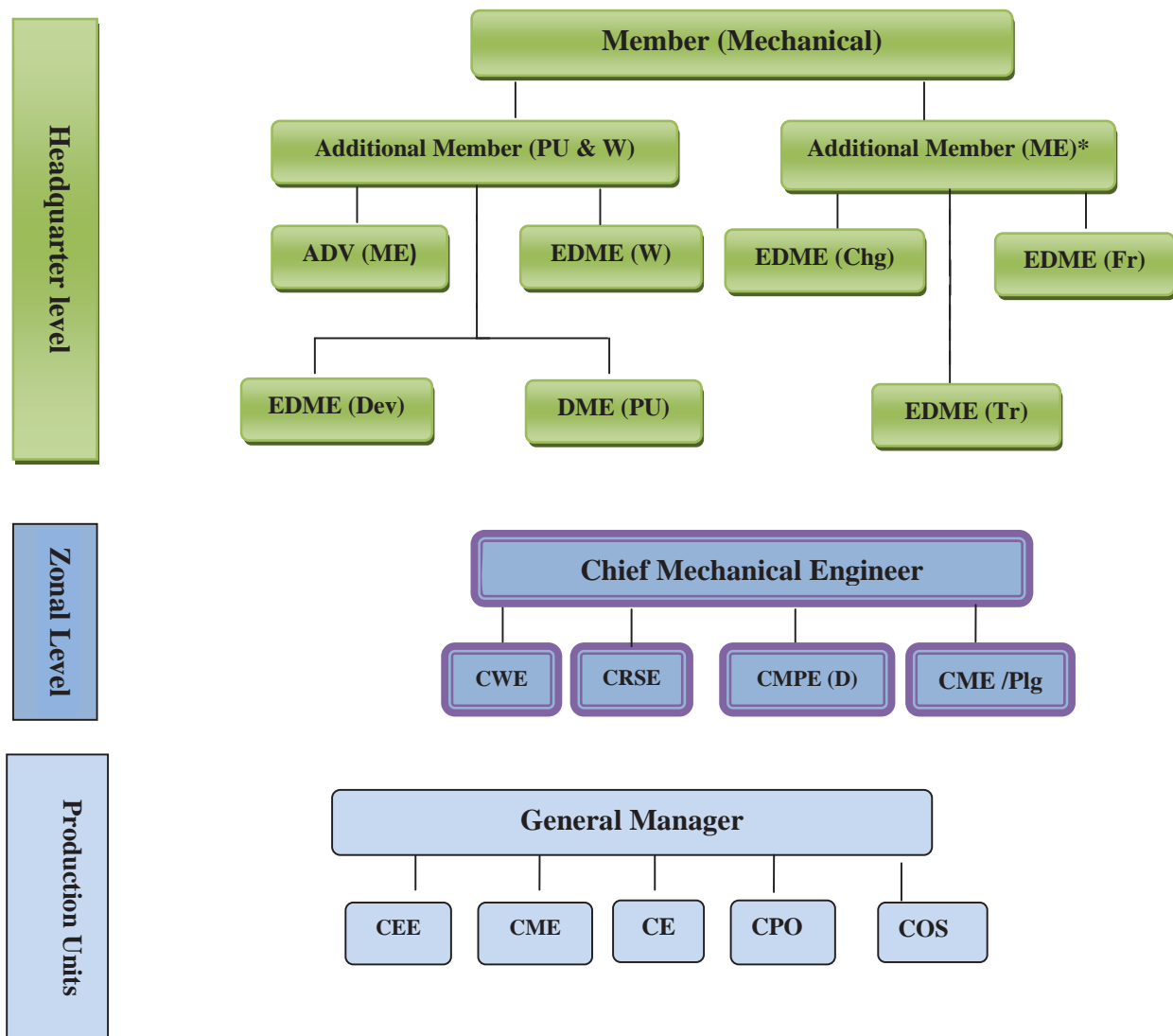


Appendix I (Ref Para 1.1)

Organization Chart



Headquarter level	
Zonal Rly level	
Production Units Level	

*Including Coaching Depots

Appendix II (Ref Para 1.4)**Statement showing details of workshops, sheds and PUs selected for sample study**

Sl. No.	Description	Total No. of Units	Criteria for selection of units	No. of units selected
1	Workshops-Mechanical	41	50 <i>per cent</i> subject to a minimum of two workshops.	30
2	Signal and Telecommunication Workshop	10	One workshop in each Zone.	10
3	Engineering Workshops	15	One workshop in each Zone.	9
4	Sheds	94	Two Diesel Loco Sheds and one Electrical Loco Shed.	43
5	EMU/MEMU/ DEMU Car Sheds	30	One Car shed.	12
6	Coaching and Wagon Depots	242	Two Major Depots – one coaching depot and one wagon depot. If there is no wagon depot, two major coaching depot.	34
7	PUs	6	All the six PUs were selected. In each Production Unit, 25 <i>per cent</i> of the Manufacturing Shops subject to minimum five shops.	6
TOTAL		438		144

Appendix III (Ref Para 1.4)**Statement showing details of workshops, sheds and PUs selected from all ZRs**

Mechanical Workshops		
Sl No.	Zone	Name of the Workshop
1	ECOR	Bhubneshwar
2	ECR	Samastipur
3	CR	Matunga
4		Parel
5	ER	Liluah
6		Kanchrapara
7		Jamalpur
8	NCR	Jhansi
9		Sithouli
10	NFR	New Bongaigaon
11		Dibrugarh
12	NER	Gorakhpur
13		Izzatnagar
14	NR	Charbagh, Lucknow
15		Jagadhari
16	NWR	Carriage Workshop, Ajmer
17		Diesel Loco & Wagon Workshop, Ajmer
18	SCR	Rayanapadu
19		Lallaguda
20	SECR	Motibagh at Nagpur
21		Raipur
22	SER	Kharagpur
23	SR	Perambur
24		PONMLAI GLD RCK
25	SWR	Hubli
26		Mysore
27	WCR	Kota
28		Bhopal
29	WR	Lower Parel
30		Dahod.

Diesel Loco Sheds		
Sl No.	Zone	Name of the Shed
1	ECOR	Vishakapatnam
2	ECR	Mugalsarai
3		Samastipur
4	CR	Kalyan
5		Pune
6	ER	Bardhaman
7		Andal
8	NCR	Jhansi
9		Gwalior
10	NFR	Siliguri
11		New Guwahati
12	NER	Gonda
13		Izzatnagar
14	NR	Alambagh, Lucknow
15		Ludhiana
16	NWR	Bhagat Ki Kothi
17		Abu Road
18	SCR	Gooty
19		Kazipet
20	SECR	Raipur
21		Motibagh at Nagpur
22	SER	Bondamunda
23		Kharagpur
24	SR	Tondiarpet
25		Ernakulam
26	SWR	Hubli
27		Krishnarajapuram
28	WCR	Itarsi
29		New Katni Junction.
30	WR	Ratlam
31		Vatva

Coaching Depots		
Sl No.	Zone	Name of the Depot
1	ECOR	Vishakapatnam
2	ECR	Rajendra Nagar
3	CR	Lokmanya Tilak Terminus
4	ER	Chitpur
5	NCR	Allahabad
6		Gwalior
7	NFR	New Jalpaiguri
8	NER	Lucknow
9	NER	Chhapra
10	NR	Moradabad
11	NWR	Jodhpur
12	NWR	Bikaner
13	NWR	Jaipur
14	SCR	Hyderabad
15	SECR	Bilaspur
16	SER	Tatanagar
17	SR	Basin Bridge Jn
18	SWR	Bangalore
19	WCR	Habibganj
20	WCR	Jabalpur
21	WR	Bandra Terminus
22	WR	Ahmedabad (BG)

Wagon Depots		
Sl No.	Zone	Name of the Depot
1	ECOR	Vishakapatnam
2	ECR	Mughal Sarai
3	CR	Bhusaval
4	ER	Andal
5	NFR	New Jalpaiguri
6	NR	Ambala Division
7	SCR	Ramgundam
8	SECR	Bhilai
9	SER	Bokaro Steel City
10	SR	Tiruchchirappal
11	SWR	Hospet
12	WCR	New Katni Junction
EMU car shed		
Sl No.	Zone	Name of the Workshop
1	ECR	Jhajha
2	CR	Kurla
3	ER	Bandel
4	NCR	Agra Cantt
5	NER	Chhapra Kacheri
6	NFR	Siliguri
7	NR	Saharanpur
8	SCR	Maula Ali
9	SECR	Bhilai
10	SER	Tikiapara
11	SR	Tambaram
12	WR	Kandivali.

Engineering Workshop		
Sl No.	Zone	Name of the Workshop
1	CR	Manmad
2	NCR	Allahabad
3	NFR	Bongaigaon
4	NER	Gorakhpur Cantt
5	NR	Jalandhar Cantt.
6	SCR	Lallaguda
7	SER	Sini
8	SR	Arakkonam
9	WR	Sabarmati.
10	SWR	Bangalore

S&T Workshops		
Sl No.	Zone	Name of the Workshop
1	CR	Byculla
2	ER	Howrah
3	NER	Gorakhpur Cantt
4	NFR	Pandu
5	NR	Ghaziabad
6	NWR	Ajmer
7	SCR	Mettuguda
8	SER	Kharagpur
9	SR	Podanur
10	WR	Sabarmati.

Electric Loco Sheds		
Sl No.	Zone	Name of the Shed
1	ECOR	Vishakapatnam
2	ECR	Mugalsarai
3	CR	Ajni
4	ER	Howrah
5	NCR	Jhansi
6	NR	Ludhiana
7	SCR	Lallaguda
8	SECR	Bhilai
9	SER	Tatanagar
10	SR	Erode
11	WCR	Itarsi
12	WR	Vadodara

PUs		
Sl No.	Zone	Name of the Unit
1	NR	Diesel Modernization Works, Patiala
2		Rail Coach Factory, Kapurthala
3	SR	Integral Coach Factory , Perumbur, Chennai
4	SWR	Rail Wheel Factory, Yelahanka, Bangalore
5	RPU and Metro Railways	Diesel Locomotive Works, Varanasi
6		Chittaranjan Locomotive Works, Chittaranjan

Appendix IV(Ref Para 2.1.3)**Conditions of SPCB for granting of renewal of CFO**

Consent is valid for maintenance of wagons @ 400 FWU / month and coaches @ 212 VU / month
Daily discharge of mixed effluents should not exceed 2408 KL and should be discharged to North Tank through 4 outlets.
Any alteration in the existing system or place of discharge or introduction of new outlet should be informed to the Board and prior permission for the same to be obtained.
Railway should provide comprehensive facility for treatment of industrial liquid waste and domestic liquid waste and operate and maintain the same so that the quality of final effluent conforms to the prescribed standard: pH - 5.5 to 9.0; TSS - upto 100 mg/l; BOD - upto 30 mg/l; COD - upto 250 mg/l; Oil and grease - upto 10 mg/l. Analysis of discharged effluent to be done monthly.
Daily water consumption should not exceed 326 KL for domestic purpose and 2350 KL for processing whereby water gets polluted and the pollutants are easily bio degradable.
The Railway Administration should regularly submit to the SPCB the returns of water consumption in the prescribed form Form I on or before 5th of every calendar month and pay the cess.
The Railway Administration should install suitable device for measuring the volume of water consumed for different purposes giving correct result.
All the stacks connected to various sources of emissions must be designated by numbers and must be painted / displayed to facilitate identification.
The Railway Administration should install comprehensive control system consisting of pollution control equipment as is warranted with reference to generation of air emissions and operate and maintain the same continuously so as to achieve the level of pollutants to the Standard.
The Railway Administration should provide ports in the stacks and other necessary permanent facilities such as ladder, platform etc. for monitoring / sampling the air emissions.
The monthly fuel consumption should be limited to i) Hard Coke - 400 kg., Coal - 5 kgs.
The Railway Administration should take adequate measures for control of noise levels from its own sources within the premises within the standard limit of 75 dB (A) in day time and 70 dB (A) in night time.

<p>The Railway Administration should provide for an alternate electric power source sufficient to operate all pollution control facilities installed by the Railway to maintain compliance with the terms and conditions of the consent. In absence of such an alternate electric power source, the Railway Administration should stop, reduce or otherwise control production to abide by the terms and conditions of the Consent regarding pollution level.</p>
<p>The Railway Administration should install a separate energy meter showing the consumption of energy for operation of pollution control devices.</p>
<p>The Railway Administration should ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.</p>
<p>The Railway Administration should provide drainage system for conveying industrial and domestic liquid waste, storm-water drain should be kept separate from drainage system meant for industrial and domestic liquid waste.</p>
<p>The Railway Administration should analyze the samples of hazardous wastes/lactates from the laboratory recognised of the concerned Pollution Board and ensured that they should conform to the limits stipulated. The test report should be sent to the Board.</p>
<p>The Railway Administration should provide adequate and safe facility for collection of air, wastewater and solid waste samples by the State Board's staff as well as State Board's authorised agencies.</p>
<p>The Railway Administration should submit to the State Board by the 30th September every year the Environmental Statement Report for the financial year ending 31 March of the current year in the prescribed Form V.</p>
<p>The Railway Administration should furnish to the State Board all information in respect of quality, quantity, rate of discharge, place of discharge of liquid effluent and air emissions.</p>
<p>The Railway Administration should have to make registration for the use of groundwater with Central Ground water Authority.</p>
<p>The Railway Administration should make an application to the State Board in the prescribed form for renewal of the consent at least 60 days before the date of expiry of the previous consent.</p>

The Railway Administration should not make any alteration, modification, expansion in the existing manufacturing process and equipment as well as the pollution control system without prior approval of the Board.

The Railway Administration should comply with the conditions as laid down in the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 and Hazardous Wastes (Management & Handling) Rules, 1989.

Appendix V (Ref Para 2.2.1)**Statement showing workshops, sheds and PUs where air pollution control equipment were not provided**

Zonal Railway	No. of shops/sheds provided with Air pollution control equipment	Name of the workshops/sheds provided with Air pollution control equipment	No. of shops/sheds not provided with Air pollution control equipment
CR	4	(WS/Parel & Matunga, DLS/Kalyan & Pune)	6
WR	5	CRW/Lower parel, DLS/Vatva, Ratlam, Loco carriage and wagon workshop/Dahod, EMU WS/Kandiveli),	5
SR	3	(EWS/AJJ, CW/PER, WS/GOC) 1 (WD/TPGY – Not required)	6
SER	3	(EWS/Sini, DLS/KGP, WS/KGP)	6
SWR	3	(CRS/Hubli, Loco shed/Hubli, KJM)	3
WCR	1	WRS/Kota	7
SECR	2	(WRS/Raipur, DLS/Raipur)	6
ECR	2	(DLS/Mugalsarai and Samastipur)	5
NWR	1	(DLS/Bhagat Ki Kothi)	7
ECoR, ER, NER, NR, SCR	Nil		44
14	24		95

Appendix VI (Ref Para 5.4)**Statement showing accidents and casualties in workshops, sheds and PUs****A. ZRs**

Zone	No. of units test checked	No. of Accidents	No. of casualties	No. of employees injured
CR	10	1635	4	1632
ECOR	5	186	0	186
ECR	7	18	1	17
ER	10	2489	7	2487
NCR	9	129	7	117
NER	9	566	2	564
NFR	9	48	0	48
NR	10	1215	1	614
NWR	8	577	2	577
SCR	10	561	2	560
SECR	8	612	3	611
SER	9	349	3	349
SR	10	587	5	582
SWR	6	244	1	243
WCR	8	798	0	784
WR	10	406	11	376
Total	138	10420	49	9747

B. PUs

Name of the PU	No. of accidents occurred during the review period	No. of employees injured during the review period
CLW	9	8
DLW	5	5
ICF	460	462
RWF	78	78
RCF	161	158
DMW	62	62

C. Yearwise summary of accidents and casualties in workshops, sheds and PUs

Year	No. of Accidents	No. of casualties	No. of employees injured
2007-08	2271	5	2052
2008-09	2284	4	2129
2009-10	2107	13	2038
2010-11	1955	8	1883
2011-12	1803	19	1645
	10420	49	9747