



Driver Desk



Integral Coach Factory
Chennai - 600 038



Coach Interior



National Energy Conservation Award

Integral Coach Factory

Chennai - 600 038

Ministry of Railways

सवारी डिब्बा कारखाना
(भारतीय रेल की उत्पादन इकाई)



वार्षिक रिपोर्ट
Annual Report
2012-13

वार्षिक रिपोर्ट

Annual Report

2012-13



अशोक कु. अग्रवाल
महाप्रबंधक

ASHOK K. AGARWAL
GENERAL MANAGER



भारत सरकार, रेल मंत्रालय
सवारी डिब्बा कारखाना
चेन्नै - 600 038
Govt. of India, Min. of Railways
Integral Coach Factory
Chennai - 600 038

महा प्रबंधक का कार्यालय/General Manager's Office
चेन्नै/Chennai – 600038.

स. ए/डी/स्टाट/२२
No. A/D/Stat/22

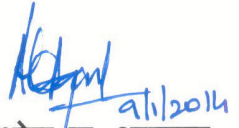
दिनांक/Dated: 09/01/2014



सचिव/Secretary
रेल्वे बोर्ड/Railway Board
नई दिल्ली/New Delhi – 110001.

मैं ३१ मार्च २०१३ को समाप्त वित्तीय वर्ष की सवारी डिब्बा कारखाने की वार्षिक विवरणात्मक रपट इसके सात भेज रहा हूँ ।

I forward herewith the Annual Narrative Report of the Integral Coach Factory for the fiscal year ended on 31st March 2013.


अशोक कु. अग्रवाल
ASHOK K. AGARWAL
महा प्रबंधक/General Manager



CONTENTS

CHAPTER	SUBJECT	PAGE
I	General	1
II	Production	39
III	Production Planning and Control	55
IV	Quality System	64
V	Design & Development	75
VI	Export	89
VII	Projects	96
VIII	Stores	100
IX	Accounts & Finance	107
X	Electrical Production & Maintenance	120
XI	Civil Engineering	146
XII	Personnel Branch	152
XIII	Medical Department	173
XIV	Security Branch	176
XV	Right to Information	181
ANNEXURES		
A	Provisional Cost and Furnishing Cost	
B	Manufacturing Account	
C	Balance Sheet	
D	Gazetted Organisation Chart	
E	Milestones and Achievements	
F	Shell Production since 1955	
G	Outturn of Coaches since 1957	
F	Statement of Stores Transactions	

GENERAL**1.1 Production Highlights**

ICF, the premier coach manufacturer of India, continued its record-breaking journey of achievements during the year 2012-2013, registering the highest ever production of 1620 coaches. With this, ICF has surpassed the previous year's production for the tenth time in a row.

The special builds manufactured in 2012-13 include Stainless steel 1600 HP DEMU, AC EMU rakes for MUTP phase-II, SPART and LHB EOG coaches in addition to the Kolkata Metro rakes and DEMU rakes for Sri Lanka.

The type-wise details of production of shells and coaches during 2012-13 are furnished hereunder:

Sl. No.	Build	SHELLS		COACHES	
		Outturn	Total	Outturn	Total
	Motor Coaches				
1	AC EMU B	97	167	100	183
2	AC EMU B (MUTP-II)	0		4	
3	KOL METRO DMC	6		10	
4	KOL METRO NDMC MC	8		10	
5	KOL METRO NDMC INV	8		10	
6	DMU DPC HHP	30		28	
7	DMU DPC HHP (J&K)	4		5	
8	DMU DPC HHP (HALDIA)	4		4	
9	DMU DPC 1600 HP	0		2	
10	SPART DPC1	5		5	
11	SPART DPC2	5		5	
	Trailers				
12	AC EMU A	14	296	14	308
13	AC EMU C	94		94	
14	AC EMU D	52		52	
15	AC EMU D HC	20		20	
16	AC EMU C (MUTP-II)	3		4	
17	AC EMU D (MUTP-II)	2		2	
18	AC EMU D HC (MUTP-II)	0		2	
19	KOL METRO TC	8		10	
20	DMU TC HHP GEN	48		40	
21	DMU TC HHP VEN	24		20	
22	DMU TC-III HHP (J&K)	8		8	
23	DMU TC-II HHP (J&K)	4		5	
24	DMU TC HHP GEN (HALDIA)	8		16	
25	DMU TC HHP VEN (HALDIA)	4		8	
26	DMU TC 1600 HP GEN	2		6	
27	DMU TC 1600 HP VEN	0		2	
28	SPART TC	5		5	

Sl. No.	Build	SHELLS		COACHES	
		Outturn	Total	Outturn	Total
	LHB Coaches				
29	S WGACCW	0	3	3	23
30	LWACCW	3		0	
31	LWSCZAC	0		14	
32	LWFCZAC	0		3	
33	LWLRRM	0		3	
	Air Conditioned Coaches				
34	SG FACCW	18	218	22	237
35	SG FACCW CBC	5		3	
36	SG ACCW	140		145	
37	SG ACCN	35		35	
38	SG FAC	0		12	
39	SG SCZAC	15		15	
40	SG SCZAC JS	5		5	
	Conventional Coaches				
41	SG GSCN	174	899	135	839
42	SG GSCZ	45		65	
43	SG GS	546		514	
44	SG SLRD	117		110	
45	SG SR JS	2		0	
46	SG CB	15		15	
	Export Coaches				
47	SRI LANKA DEMU DPC	3	19	5	30
48	SRI LANKA DEMU DTC	3		5	
49	SRI LANKA DEMU TC B	3		5	
50	SRI LANKA DEMU TC E	10		15	
	Grand Total	1602		1620	

1.2 VISITS & FUNCTIONS

➤ ICF achieves Best Ever Production

On 02.04.2012 Shri Abhay K. Khanna, General Manager, ICF distributed sweets to all the Officers and Employees, for their contribution to achieve the best ever production of 1511 coaches during the production year ended on 31.03.2012, surpassing the target.



➤ Handicraft Exhibition

As part of the 57th Rly. Week Celebrations, ICF Women's Organisation has organised a Handicraft Exhibition at TTC Auditorium from 09.04.2012 to 11.04.2012. Shri Abhay K. Khanna, General Manager, ICF inaugurated the Handicraft Exhibition.



➤ Blood Donation Camp

On 18-04-2012 as part of the Birthday celebrations of Dr.B.R.Ambedkar, a Blood donation camp was organised at TTC Auditorium. Shri Abhay K. Khanna, General Manager, ICF inaugurated the camp.



➤ **Railway Week Celebrations**

On 18.04.2012, 57th Railway Week Celebrations were held at ICF Stadium. Shri Abhay K. Khanna, General Manager, ICF was the Chief Guest and distributed the Shields, Trophies and Cups to the Supervisors of the most efficient sections, offices and production shops, medals, merit certificates and cash awards to the officers and staff of ICF who had put in meritorious service during the year (2011-12).



➤ **ICF Goes Green**

On 18.04.2012, on the occasion of 57th Railway Week Celebrations Shri Abhay K. Khanna, General Manager, ICF released a booklet titled "ICF Goes Green". He lauded the efforts of ICF administration to minimize resource wastage and use renewable energy source to meet its growing energy requirements and turning ICF to a "Green Workshop" in line with its "Environment Policy".



➤ **Anniversary Celebrations of RRM**

On 19.04.2012 the Regional Rail Museum (RRM) celebrated its 10th Anniversary. Shri Deepak Krishan, General Manager, S.Rly. was the Chief Guest and Shri Abhay K. Khanna, General Manager, ICF, presided over the function.



To mark the occasion a newly developed Children Play Park and a Bogie Park was inaugurated. Besides special Souvenir Mugs and a multi colour Brochure were released. This was followed by a cultural programme.

➤ **Bhoomi Puja**

On 21.04.2012 Shri Abhay K. Khanna, General Manager, ICF did Bhoomi Puja for the expansion of Furnishing Division.



➤ **Executive Health Check-up**

On 22.04.2012 and 29.04.2012, an Executive Health Check-up for the officers of ICF was conducted at the ICF Hospital. This health check-up covered almost all investigations and around 107 Officers availed this opportunity.



➤ **ELECTRICAL SAFETY WEEK**

Electrical Safety Week was observed in ICF from 03.05.2012 to 09.05.2012. In this connection a seminar was organized at D&D Auditorium. Shri Abhay K. Khanna, General Manager, ICF, HOD's, Officers and staff participated in the seminar.





GM/RWF visits ICF

On 12.05.2012 Shri Rajeev Bhargav, GM/RWF visited ICF and held discussion with Shri Abhay K. Khanna, General Manager, ICF and HOD's.



Cash award function of Rajbhasa Vibhag

On 15-05-2012 the Rajbhasa Vibhag of ICF organised the Cash Award distribution function. CEE & MRA of ICF distributed the cash awards to the staff for rendering meritorious service for the promotion of Rajbhasa.



Editors & Senior Journalists visited ICF

On 17.05.2012, a team comprising of Editors and Senior Journalists from Nepal and Bangladesh visited ICF. They also visited the Shell and Furnishing divisions of ICF. They were on a familiarization trip to India at the invitation of Government of India to know about the industrial excellence in India.



AM/Rly. Stores visits ICF

On 01.06.2012 & 02.06.2012 Shri A.K.Singh, Additional Member/Rly. Stores, Rly. Board visited ICF and held discussion with HOD's. Later he visited Shell & Furnishing Divisions of ICF.



➤ **World Environment Day**

World Environment Day was celebrated at ICF on 05.06.2012 and tree saplings were planted at D&D building lawns by the General Manager. To mark the occasion, a pledge was administered by Shri Abhay K. Khanna, General Manager/ICF at the Shell Administration building lawns. All Officers and staff took the pledge.



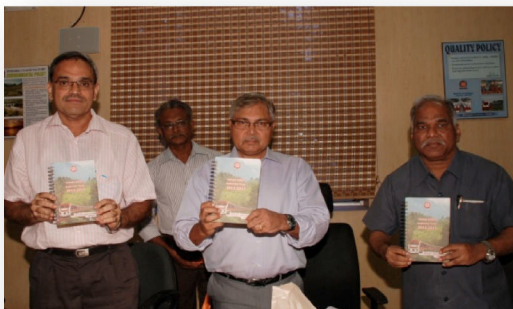
➤ **DEMU Coordination meeting**

On 08.6.2012 DEMU Coordination meeting was organized at D&D building. Shri Abhay K. Khanna, General Manager/ICF, HOD's & other High Officials participated in the meeting.



➤ **OLIC meeting**

The 107th Official Language Implementation Committee meeting was organised by Rajbhasha Vibhag on 20.06.2012. Shri Abhay K. Khanna, General Manager/ICF, HOD's and members of OLIC participated in the meeting.



➤ Inauguration of Holiday Home

As part of welfare measures Shri Abhay K.Khanna, General Manager, ICF inaugurated the ICF Holiday Home at Courtallam on 28.06.2012.



➤ Basket Ball tournament

The 23rd Inter-Divisional Railway Protection Force Basket Ball Tournament – 2012 was held at ICF on 05.07.2012 & 06.07.2012. Shri Abhay K. Khanna, General Manager/ICF distributed the trophies to the winners of the tournament.



➤ GOLDEN PEACOCK ECO-INNOVATION AWARD

ICF won the prestigious Golden Peacock Eco-Innovation Award – 2012. Shri Abhay K. Khanna, General Manager/ICF received the award from Hon'ble Mrs. Sheila Dikshit, Chief Minister of Govt. of NCT of Delhi during the 14th World Congress on Environment Management held on 07.07.2012 at New Delhi. The award is instituted by Institute of Directors (IOD), an apex body of Company Directors/CEOs, for corporate excellence under specified categories. The Eco-Innovation award is given to an innovative product, which is environment friendly and shows a quantum jump in the use of technology to achieve maximum customer satisfaction. ICF received this award for the AC/DC Electrical Multiple Units (EMUs) manufactured for Mumbai Rail Vikas Corporation (MRVC). These rakes consume 35% less electrical energy compared to conventional EMU rakes, as they use 3 phase technology to pump electrical energy back to the Grid during braking operation.

On 10.07.2012 Shri Abhay K. Khanna, GM/ICF held a Press Meet in this connection and elaborated various achievements as well as the “Go Green” initiatives taken by ICF in this regard to the large congregation of Media persons present on the occasion.



➤ **ADVISOR VIGILANCE VISITS ICF**

On 19.07.2012 Shri A.K.Maitra, Advisor (Vigilance) Railway Board, visited ICF and held discussions with Shri Abhay K. Khanna, General Manager/ICF and HOD's. He also visited Shell & Furnishing Divisions of ICF.



➤ **DG/RPF visits ICF**

On 13.08.2012 Shri P.K.Mehta, IPS, Director General/RPF, New Delhi visited ICF.



➤ Independence Day Celebrations at ICF

On 15.08.2012 the 66th Independence Day celebrations were held at the Shell Administrative Building lawns. Shri Abhay K. Khanna, General Manager, ICF unfurled the National Flag and accepted the Guard of Honour given by the RPF contingents of ICF.



➤ Rajbhasa Utsav Exhibition

In connection with Rajbhasa Utsav an Exhibition was recognized on 14.09.2012 at TTC Auditorium at ICF. General Manager, ICF inaugurated the Exhibition. Various exhibits from all departments were exhibited in this exhibition.



➤ **New Ayurvedic Clinic inaugurated**

A new Ayurvedic Dispensary was opened at ICF Hospital premises on 17.09.2012. General Manager, ICF inaugurated the Dispensary in the presence of Chief Medical Director, ICF, Staff Council Members and others.



➤ **RPF Raising Day Celebrations**

The 28th Railway Protection Force Raising Day celebrations were held at ICF on 21.09.2012. In this connection a Ceremonial Parade was organised at the RPF ground. General Manager, ICF was the Chief Guest on the occasion and took the salute from the RPF contingents of ICF.





General Manager RCF visits ICF

Shri. B.N.Rajasekar General Manager, Rail Coach Factory, Kapurthala visited ICF on 22.09.2012. He held discussion with General Manager and HOD's of ICF. He also visited Shell, Furnishing and RRM.



OLIC meeting

The Official Language Implementation Committee meeting was organised by Rajbhasha Vibhag on 26.09.2012. General Manager/ICF, HOD's and members of OLIC participated in the meeting.



➤ Seminar on Emerging Coach Technology

Seminar on “Emerging Coach Technology” was organized at ICF, AWTI for 3 days from 05.10.2012 to 07.10.2012. Shri. Abhay K. Khanna, General Manager, ICF was the Chief Guest on this occasion. Shri. V. Ramachandran, DG/RDSO, Lucknow, Shri. Rakesh Saxena, MD/MRVC and Shri. Niraj Kumar, DG/RSC Vadodra were present on this occasion. In this connection an exhibition was also organized. Leading Entrepreneurs of India and from Foreign Rlys. also participated in this Seminar and also exhibited their products



➤ “Sampoorna Dak Jivan Beema Sangathan” Award for ICF

The Postal Department conferred the “Sampoorna Dak Jivan Beema Sangathan” Award to ICF, for the excellent support extended to Postal Life Insurance. Shri J.T.Venkateswarlu, Director of Postal Services (Headquarters) handed over the Shield of “Sampoorna Dak Jivan Beema Sangathan” to the General Manager, ICF in the presence of Smt. Sumitha Ayodhya, Director of Postal Services, Chennai City Region and other higher officials of ICF.



➤ Visit of Financial Commissioner / Railways

Smt. Vijaya Kanth, Financial Commissioner / Railways and Shri.P.V. Vaidialingam, ED (Accounts), Rly. Board Visited ICF on 23.10.12. They held discussions with the General Manager and HOD's of ICF.



➤ Vigilance Awareness Week at ICF

Vigilance Awareness Week was observed during 29.10.2012 to 03.11.2012 at ICF. As part of the Vigilance Awareness Week celebrations a Vigilance Bulletin was released by the Chief Guest, Justice P.Jyothimani, Judge (Retd.) High Court of Madras, in the presence of Shri. V.K.Regbukumar, SP,ACB/CBI, Chennai. Shri. Abhay K. Khanna, General Manager/ICF received the first copy of the "Vigilance Bulletin".



➤ **Dengue Awareness and Prevention programme**

Health Awareness and Promotive Club (HAPC) an independent wing of IRTSA conducted an health programme on “Dengue Awareness & Prevention” at TTC Auditorium/ICF on 02.11.2012. Shri. Abhay K. Khanna, General Manager, ICF was the Chief Guest and Dr. N.Iyyanar, M.D., Deputy Director, Health Services, Govt. of Tamilnadu was the special invitee on this occasion.



➤ **48th All India Rly. Ball Badminton Championship**

The 48th All India Rly. Ball Badminton Championship was held at ICF from 06.11.2012 to 08.11.2012. The Championship was inaugurated by CME/ICF. General Manager/ICF was the Chief Guest on the Closing Day Ceremony of the event.





Philatelic Exhibition at RRM

As part of the Children's Day celebrations a Philatelic Exhibition was organised at the Regional Rail Museum (RRM) on 07.11.2012. Shri Abhay K. Khanna, General Manager/ICF inaugurated the Exhibition in the presence of Smt. Sumitha Ayodhya, Director of Postal Services, Chennai City Region and other Higher Officials of ICF.



Qwami Ekta Week at ICF

The Qwami Ekta Week was observed at ICF from 19.11.2012 to 25.11.2012 on the Birth Anniversary of Smt. Indira Gandhi (Former Prime Minister). To mark the occasion, a pledge was administered by General Manager/ICF at the Shell Administration building lawns. All Officers and staff took the pledge.



A team of French Trade Commission delegates visited ICF on 03.12.2012. They held discussion with the General Manager and HOD's of ICF and later they also visited Shell and Furnishing Divisions of ICF.



An Automatic Dosa Vending machine was installed in the Workers Canteens on 03.12.2012 at both the Shell and Furnishing Divisions of ICF by the General Manager/ ICF.



➤ **OLIC meeting held at ICF**

The Official Language Implementation Committee Meeting was held on 11.12.2012. GM/ICF, HOD's and Members of OLIC participated in the meeting.



➤ **LHB EOG coaches flagged off**

The 1st Batch of LHB EOG coaches were flagged off on 15.12.2012 by the General Manager/ICF at Shop – 36 of the Furnishing Division.



➤ **PENSION ADALAT CONDUCTED AT ICF:**

A Pension Adalat was conducted by the Labour Welfare Section at the TTC Auditorium/ICF on 15.12.2012.



➤ Seminar on Modern Welding Technology held

A Seminar on Modern Welding Techniques for railway coaches was conducted on 17.12.2012. General Manager/ICF inaugurated the Seminar held at the AWTI Auditorium, ICF.



➤ Annual Day Celebrations of KARUNA school

The Annual Day Celebrations of "KARUNA" school were held at the AWTI auditorium at ICF on 18.12.2012. General Manager/ICF was the Chief Guest on this occasion.



➤ Foundation Stone for construction of Quarters laid

A foundation stone was laid for the construction of Type-II Quarters in the North Colony by the General Manager/ICF on 24.12.2012.





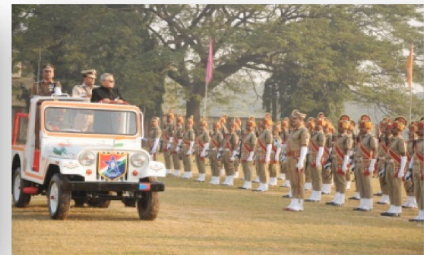
EMU MSG Meeting

The 20th EMU MSG meeting was held on 18th and 19th Jan.2013 at D&D Building/ICF. Shri Abhay K. Khanna, General Manager, ICF inaugurated the meeting. Officers from ICF and delegates from other Railways were also participated in the meeting.



64th Republic Day Celebrations

The 64th Republic Day was celebrated at ICF Stadium on 26.01.2013. Shri. Abhay K. Khanna, General Manager/ICF unfurled the National Flag and accepted the guard of honour given by ICF Railway Protection Force contingents, NCC cadets, Scouts & Guides, the apprentices of ICF Technical Training Center and children of ICF schools.



Martyr's Day at ICF

Martyr's Day was observed at ICF on 30.01.2013. To mark this occasion two minutes silence was observed in memory of the leaders who sacrificed their lives for freedom of the Nation.



➤ **LHB-EOG-Flagging off**

The first LHB-EOG shell was flagged off on 01.02.2013 by the General Manager/ICF. The Senior Officials and employees of ICF were also present in this occasion.



➤ **OLIC meeting**

The 110th Official Language Implementation Committee meeting organized by Rajbhasha Vibhag was held on 06.02.2013. General Manager/ICF, HOD's and members of OLIC were present in the meeting.



➤ **AM/ME Rly. Board visits ICF:**

Shri Vijaya Mohan, Add. Member/Mech.Engg., Rly. Board visited ICF on 08.02.2013. He held discussions with Senior Officials of ICF and latter he also visited Shell and Furnishing divisions of ICF.



➤ **Inauguration of Rack:**

A New Rack with Shelving & Reach Truck was inaugurated on 12.02.2013 at Stores Depot/ Furnishing Division by the General Manager/ ICF.



➤ **Scouts & guides:**

Southern Railway State Bharat Scouts and Guides organised a District Rally and Standard Judging Competition on 16.02.2013 & 17.02.2013 at ICF District Headquarters. Manager/ICF was the Chief Guest on this occasion.





Pulse Polio Immunization

Pulse Polio Immunization Programme was organized at ICF Hospital on 24.02.13. On the occasion children's were administered polio drops.



WOMEN'S DAY CELEBRATIONS:

International Women's Day was celebrated on 08.03.2013 at ICF. Smt. Sandhya Khanna, President/ICFWO was the Chief Guest on this occasion and distributed prizes to the winners of various competitions. As part of this occasion an Women's Health Programme was also organized.



AM/FINANCE VISITED ICF:

Shri Arjun Rakshit, Additional Member (Finance)/Railway Board visited ICF on 15.03.2013. He held discussions with the General Manager and HOD's of ICF and later he visited Shell and Furnishing Divisions of ICF.



➤ **FLAGGING OFF:**

The First MUTP-Phase-II-Shell has been flagged off on 18.03.2013 by the General Manger/ICF from Shell Division to Furnishing Division.



➤ **SAP-ACE-AWARD:**

ICF has been awarded the prestigious “BEST RUN HR-PAYROLE SAP-ACE 2013” award by SAP India on 08.03.2013 under the public service category in a function held at Oberoi Hotel, New Delhi.



➤ **MOVING DISPLAY SYSTEM:**

A Moving Display System was inaugurated at the Shell Factory on 18.03.2013 by the General Manager/ICF.



➤ **MD/MRVC VISITED ICF:**

Shri Rakesh Saxena, MD/MRVC visited ICF on 20.03.2013. He visited Shell and Furnishing Divisions of ICF.



➤ **ICF SPORTS COMPLEX:**

A Golf Driving Range and Putting Green was inaugurated at the ICF Sports Complex on 20.03.2013 by the General Manager/ICF.



➤ **HYDRAULIC BAILING PRESS:**

A Hydraulic Bailing Press for Bricketting FBT (Ferrous Boaring & Turnings) was inaugurated by the General Manager/ICF on 22.03.2013 at the Store/Shell Depot.



➤ RAIL MANTRI RAJBHASA SHIELD:

ICF was awarded the first prize in Rajbhasa by the Railway Board for the achievement in promoting Hindi in all levels of ICF. Shri.J.S.P Singh, CEE & MRA/ICF received the Rail Mantri Rajbhasa Shield from Shri Vinay Mittal/CRB on 26.03.2013 in the Rly. Board OLIC meeting held in the Rail Bhavan Conference hall at New Delhi.



➤ CERTIFICATES FOR ICF:

The Indian institute of welding has granted the certificate of Industrial Corporate Membership to ICF and the certificate of IIW-India Approved Training Institute to the Advanced Welding Training Institute/ICF for conducting welding training courses under the curriculum of and certification by the Indian Institute of Welding.



1.3 Functions of Law Branch:

The Law Branch in ICF is functioning under the direct control of G.M, however the Administrative control rests with C.P.O.

The function of the Law Branch is to conduct litigations on behalf of the Administration in addition to tendering legal opinion in all matters pertaining to various Branches of the Administration involving principles of law. The court cases handled by Law Branch pertain to Service Matters, Suits/Appeals filed by or against the Administration in respect of various contracts of Stores Department, Engineering Works Contracts, Electrical Department cases, Risk Purchase cases and Sales Tax cases of Stores Department, Excise Duty cases of Mechanical Department and Accounts department cases before various courts such as Central Administrative Tribunals, High Courts, Labour Cases before Industrial Tribunals, Labour Courts, Consumer Redressal Forum, Debts Recovery Tribunal, WCA cases, Family Courts, Central Excise & Sales Tax Appellate Tribunal and Supreme Court.

The Law Branch tenders legal opinion in respect of Establishment, Contracts, Tenders and Stores matters and also vetting of Guarantee Bonds, Indemnity Bonds, Power of Attorney, Partnership Deeds, Memorandum & Articles of Association, Title Deeds in respect of House Building Advances of staff etc

This Branch is headed by a Sr. Law Officer, assisted by a Chief Law Assistant and an Office Superintendent. Sr. Law Officer is also associated in the discussions with the other Governmental Authorities such as, Regional Labour Commissioner, Labour Enforcement Officer, etc. for solving disputes relating to the liability and rights of the ICF Administration.

During the period from April 2012 to March 2013, this Branch dealt with 185 Opinions and 1064 vetting of documents such as Guarantee Bonds, Indemnity Bonds, Power of Attorneys, Agreements, Tender Schedules etc. Besides, the Law Branch handled a total No. of 323 cases starts from Tribunals to Supreme Court.

I - CASES PERTAINING TO PERSONNEL BRANCH

	Supreme Court	High Court	CAT	CCC	Labour Court/ WCA	Family Court	DRT/ Consumer/ Ors	Garnishee Cases	Total
Opening Balance	3	27	33	33	1	12	1	112	222
Registration	3	9	19	3	3	4	2	7	50
Disposal	3	8	10	12	1	1	1	32	68
Closing	3	28	42	24	3	15	2	87	204

II - CASES PERTAINING TO OTHER DEPARTMENTS

	Supreme Court	High Court	CCC	CAT	Other Courts	Total
Opening Balance	1	26	4	1	4	36
Registration		5	5	1	4	15
Disposal		3	1	-	-	4
Closing	1	28	8	2	8	47

III - OPINION & VETTING OF ALL DEPARTMENTS

	Opinion	Vetting	Total
Registration	185	1064	1249
Disposal	185	1064	1249

Our success rate during the year is about 70% since 28 cases of High Court, CAT and Labour Court have been decided in favour of Rly. Administration out of 40 cases totally disposed off which excludes 32 Garnishee Cases.

1.4 VIGILANCE ORGANIZATION

The Vigilance Organization is under the control of Chief Vigilance Officer who is discharging his duties on a part-time basis in addition to his regular duties as Chief Project Manager. He is assisted by a full time Senior Vigilance Officer, two Vigilance Inspectors, a stenographer, an Office Superintendent and two Vigilance Watchers.

The Vigilance Organization has been effectively discharging the dual functions of Prevention and Investigation. Emphasis is made on the preventive aspects especially in areas where corruption is likely to prevail or flourish. Apart from preventive checks, investigations of complaints are also conducted and action taken based on the outcome of the investigation. Vigilance has been making sustained efforts to promote integrity among employees and eliminate corruption.

a) PERFORMANCE

During 2012-2013, 91 preventive / surprise checks were conducted with a view to highlighting the irregularities and to setting right the lacunae in the existing system / procedure and system improvements were advocated wherever needed.

During 2012-2013, 50 complaints were received and 37 complaints were investigated.

Generally, verification of complaints and preventive checks in sensitive areas are being continued. Employees with doubtful integrity are kept under surveillance.

b) EARNINGS

Due to vigilance activities, earnings to the tune of Rs.12.62 lakhs was achieved.

c) ACHIEVEMENTS

i) A preventive check was done on the recovery of RITES inspection charges for the lots inspected and passed by M/s RITES but subsequently rejected at ICF. The above rejections were confirmed during joint inspection along with RITES. During the check, it was noticed that RITES inspection charges were not recovered for some of the lots. Due to Vigilance intervention an amount of Rs.45,428/- was recovered from M/s RITES.

ii) A preventive check was conducted on supply of Furnace Oil supplied by M/s.Indian Oil Corporation. During the check it was noticed water was mixed in the Furnace oil. This was reported to IOC Vigilance and they have advised that the tanker truck and the crew has been blacklisted for a period of two years.

iii) On further investigation, it was noticed that excess payment was made to both IOC and BPCL for the supply of Furnace Oil. This was advised to Accounts and an amount of Rs.12,21,968/- was recovered from the pending bills of the above firms.

iv) Periodic checks on the quality of incoming materials especially of materials that are pre-inspected, revealed many irregularities and same have been investigated and the report have been forwarded to respective inspecting agencies like RITES for taking suitable action against officials involved in the inspection.

v) Railway Board (Vigilance) developed a web-based software application "Integrated Railway Vigilance Information System (IRVINS)" in order to track the performance of the Vigilance in Zonal Railways/Production Units. Accordingly, ICF has implemented the IRVINS software fully and all the preventive checks conducted and the complaints received are registered in IRVINS. Further, the Vigilance clearances of Officers/staff are given through the IRVINS software.

d) VIGILANCE AWARENESS WEEK

Vigilance Awareness Week, 2012 was observed during the period 29th October to 3rd November, 2012. During the week, essay, slogan and quiz competitions were organized for the employees. Also a workshop on public procurement was organized for the benefit of the employees of stores and planning offices. GM/ICF presided over the main function organized on 2.11.2012. Hon'ble Justice Shri P. Jothimani, Judge (Retd.), High Court, Madras and Shri V.K. Reghukumar, Superintendent of Police, ACB/CBI/Chennai were guest speakers during the above function.

1.5. IT CENTRE

1.5.1. ERP:

Though ICF had Gone-Live with ERP in Feb' 2012., an enormous amount of work relating to the switch-over took place during the period under review. Several efforts were taken to stabilize the modules pertaining to Production Planning, Materials management, Plant maintenance, Quality management and Product costing – in terms of training staff, fine-tuning the processes / reports by actively involving the concerned users and the consultant, so as to make the software as close as possible to requirements.

Switch-over to SAP Payroll was done in Jan'2013. Enormous amount of efforts taken during the year to analyze and minimize the differences with legacy payroll has helped in achieving a smooth transition. *M/s SAP India has awarded ICF along with CRIS the coveted Best Run Award in HR & Payroll under the public services category in India,2013.*



In addition to carrying out work relating to the project for Implementation of the ERP at ICF, IT Centre has carried out the following activities during the period under review.

1.5.2. Improvement in Server Room

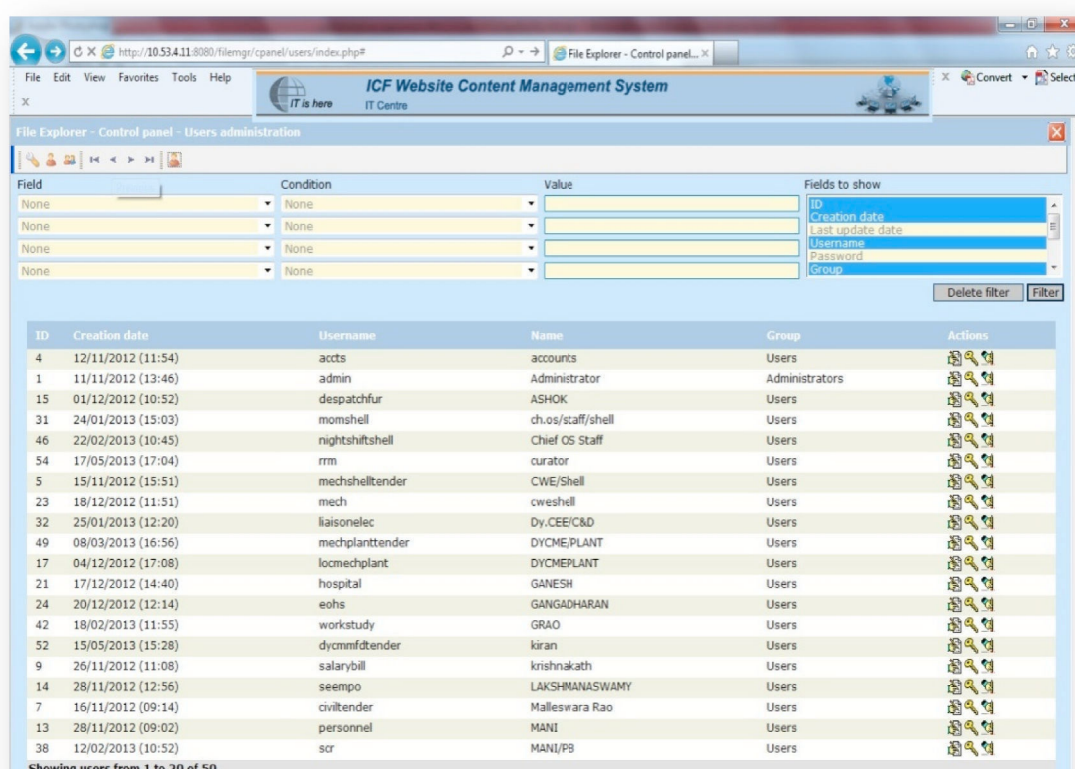
IT Centre has implemented a temperature control mechanism in the Server room so that the temperature in the server room is maintained within permissible limits. In case, the server room temperature exceeds the threshold level, a hooter gets activated to alert.

1.5.3. Additional PCs and Printers for carrying out ERP work on Shop Floor

One hundred and eight PCs, printers and some UPS were procured and installed in various locations in the shop floor / time offices so that ERP work could be carried out by the end-users. Fifty more are likely to be delivered in the near future.

1.5.4. Content Management System – ICF Website Maintenance

De-centralization of web hosting of contents to user departments has been achieved through a Web-based Content Management System developed by IT Centre for both Railnet and Internet. The system includes role-based authorizations. Staff from various departments were trained to use the system independently.



The screenshot displays the 'Users administration' section of the 'ICF Website Content Management System'. It features a table with columns for ID, Creation date, Username, Name, Group, and Actions. The table lists 20 users, with the first user being 'accts' (ID 4) and the last being 'scr' (ID 38). The interface also includes a search bar, a 'Filter' button, and a 'Delete filter' button.

ID	Creation date	Username	Name	Group	Actions
4	12/11/2012 (11:54)	accts	accounts	Users	[Icons]
1	11/11/2012 (13:46)	admin	Administrator	Administrators	[Icons]
15	01/12/2012 (10:52)	despatchfur	ASHOK	Users	[Icons]
31	24/01/2013 (15:03)	momshell	ch.os/staff/shell	Users	[Icons]
46	22/02/2013 (10:45)	nightshiftshell	Chief OS Staff	Users	[Icons]
54	17/05/2013 (17:04)	rrm	curator	Users	[Icons]
5	15/11/2012 (15:51)	mechshelltender	CWE/Shell	Users	[Icons]
23	18/12/2012 (11:51)	mech	cweshell	Users	[Icons]
32	25/01/2013 (12:20)	liaisonlec	Dy.CEE/C&D	Users	[Icons]
49	08/03/2013 (16:56)	mechplanttender	DYCMPLANT	Users	[Icons]
17	04/12/2012 (17:08)	locmechplant	DYCMPLANT	Users	[Icons]
21	17/12/2012 (14:40)	hospital	GANESH	Users	[Icons]
24	20/12/2012 (12:14)	eohs	GANGADHARAN	Users	[Icons]
42	18/02/2013 (11:55)	workstudy	GRAO	Users	[Icons]
52	15/05/2013 (15:28)	dycmmfdtender	kiran	Users	[Icons]
9	26/11/2012 (11:08)	salarybill	krishnakath	Users	[Icons]
14	28/11/2012 (12:56)	seempo	LAKSHMANASWAMY	Users	[Icons]
7	16/11/2012 (09:14)	civiltender	Malleswara Rao	Users	[Icons]
13	28/11/2012 (09:02)	personnel	MANI	Users	[Icons]
38	12/02/2013 (10:52)	scr	MANI/PB	Users	[Icons]

Showing users from 1 to 20 of 50.

Content Management through Internet

The screenshot displays the 'Integral Coach Factory' Administrator Console. The top navigation bar includes links for 'Welcome to WCHS Admin Console', 'chandra's Admin Home', 'Change password', 'Launch site', and 'Logout'. The left sidebar contains an 'ADMIN MENU' with options such as 'Manage Site Configuration', 'Manage Divisions', 'Manage Departments', 'Manage Website Header Links', 'Manage Users', 'Manage User Rights', 'User Request (0)', 'Manage Website Content', 'Manage Scrolling Text', 'Create Banners', 'Map Banners', 'Remove/Delete Banners', 'Manage Tender Notice', 'Manage Tender Document', 'Manage Corrigendum', 'Manage Store Tender', 'Manage Awarded Tenders', 'Manage Bill Status', 'Scrap Auction', 'Manage Outturn Position', 'Manage Employee Information of PB', 'Manage News / Announcements', and 'Manage Press Release'.

The main content area features a 'DashBoard' with the text 'Welcome to Administrator Console' and 'Manages your content with less amount of efforts!'. It includes a 'User Login Details' table:

User Login Details :		Application User Manual [OpenBoard]
User Name :	chandra	
Last Login Date & Time :	Friday 17th-May-2013 12:36	
Last Login IP Address :	122.252.227.246	

Below the login details are three boxes: 'MANAGE PROFILE' (with a link to update profile), 'CHANGE PASSWORD' (with a link to change password), and 'LOGIN HISTORY' (with a link to view login history).

1.5.5. ICF Website

The entire Railnet website has been given a new look and feel and implemented with effect from 15.08.2012

The screenshot shows the 'Integral Coach Factory' website. The header includes the ICF logo, the text 'A Production unit under Ministry of Railways Chennai - 600 038', and the name in Hindi 'सवारी डिब्बा कारखाना चेन्नै - 600038'. It also features the 'rly CERT' logo and an image of a train.

The 'MAIN MENU' on the left lists: 'About ICF', 'GM Secretariat', 'Departments', 'Important Links', 'ICF Tenders', 'Central Appl.Portal', 'Right to Infn. Act', and 'Contacts'.

The central banner area includes a 'Production' button and a 'Design & Development' button. Below this is a large image for the '8TH RAILWAY WEEK CELEBRATION'.

On the right, there is a section for 'Shri Abhay K. Khanna General Manager/ICF', stating he assumed the role on 11.11.11 (Friday). Below this is a 'What's New' section with 'KIOSK' and 'Public Issue of Tax Free Bonds by IRFC Announcements'.

At the bottom, there are sections for 'REGIONAL RAIL MUSEUM Chennai', 'ICF - WINS Golden Peacock Eco - Innovation Award 2012', and 'Golden Jubilee Celebrations of ICF 1955 to 2005'.

IT Centre has designed, developed and implemented a web-based application for the ICF officers to view their own Annual Performance Appraisal Report through Railnet.

Please Login.

[Home](#) [Contacts](#)

ANNUAL PERFORMANCE APPRAISAL REPORT

Integral Coach Factory, Chennai - 600 038



Login Page

User ID :

Password :

Notice Board

Welcome to Annual Appraisal Performance Report Web page

Kindly use only "Internet Explorer Browser (IE)" *****
Thank you

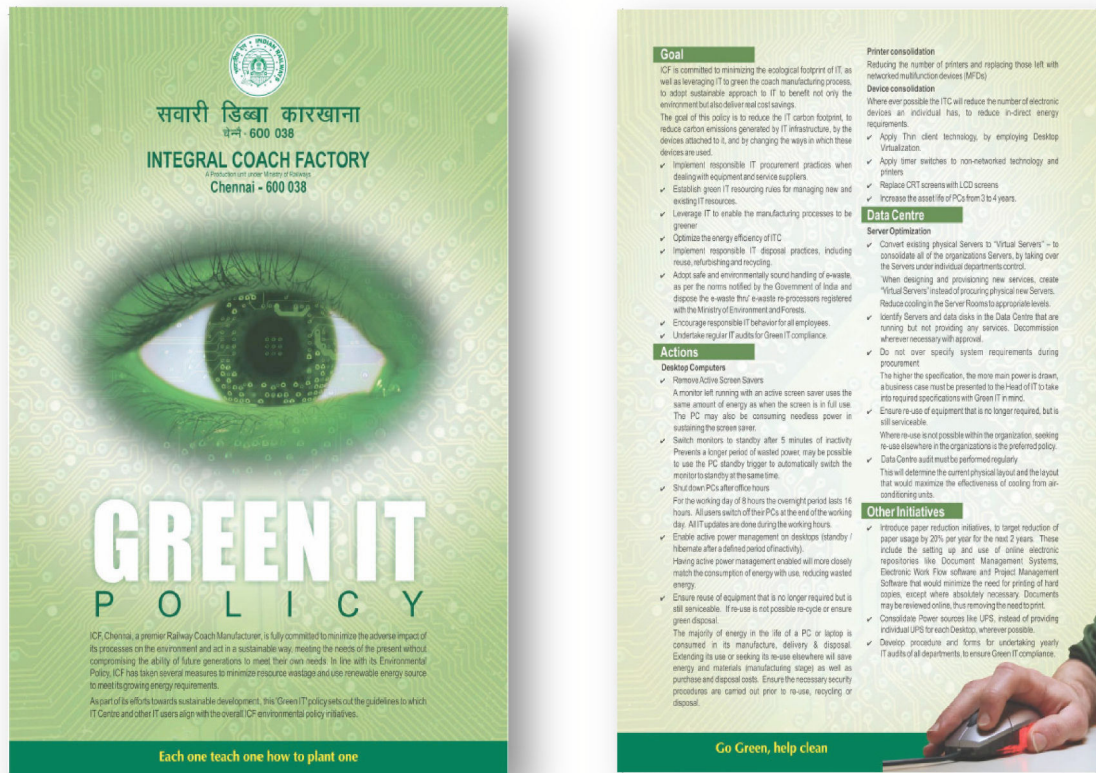
Officers to Note:
Representation, if any, may please be sent to "The General Manager, ICF, Chennai-38" under sealed

Officers' to Note: Representation, if any, may please be sent to "The General Manager, ICF, Chennai - 600038" under sealed cover within 15 days from the date of receipt of your copy of APAR.

The web pages for the Regional Rail Museum at ICF has been revamped with a new look and feel.



As part of the ICF Go Green initiatives, IT centre has implemented a Green IT Policy by giving wide publicity through colorful handouts and a display on website.



The Home page for display of information through information kiosks placed at various locations at ICF has be re-designed.



IT Centre has designed and developed web pages to display information related to the Integrated Management System (IMS)



1.5.6. Regular work at IT Centre

Besides ERP work and other items listed above, regular work done at IT Centre, through the legacy system, such as incentive processing, Daily Cash Book, Monthly Account Current, Priced ledger, Purchase Suspense, Maintenance of Internet / Railnet websites, technical vetting of computer proposals etc., have all been completed within set time-frames during the period under review.

1.5.7. Ongoing Work

Development of software for Purchase Sections of Stores Department for replacing the existing software

Efforts are on to automate the various functions of the Purchase sections of the Stores department – from registering of indent to release of purchase order, amendments etc. The work has reached advance stages of completion with training of over 100 staff from various purchase sections in Shell and Furnishing. With a little more effort, the work would be ready for implementation.

Interactive Voice response system for PF balance, PF loan application status, Employee leave status, Supplier Bill status and Material Receipt status

An interactive voice response system for the above applications has been made ready. A major chunk of the work has been completed. Testing and fine-tuning of the software is on and the software is getting ready for implementation.

1.6 PROGRESS OF HINDI

1.6.1. Organization

Rajbhasha Vibhag is instrumental in implementation of O.L. Policy of the Union in ICF. It is looking after the Progressive use of Hindi within the limits of OL Act & Rules. It is engaged in related activities like Translation, Training of staff in Hindi and Implementation of Annual Programme. It is functioning under the administrative control of Mukhya Rajbhasha Adhikari. Mukhya Rajbhasha Adhikari is assisted by Senior Rajbhasha Adhikari along with two Sr.Translators, Six Junior Translators, One Office Supdt., and a Stenographer.

1.6.2. Translation

- a)** Rajbhasha Vibhag is undertaking all types of Official translation work i.e letters, forms & documents coming under section 3 (3) of OL Act along with the translation of legal and technical documents.
- b)** There are 229 forms in ICF and all these forms are translated & printed in bilingual form.
- c)** GM's monthly Periodical Confidential Demi Official (PCDO) letter and other HODs MCDO letters were sent to Railway Board in English and Hindi Bilingually
- d)** Invitation cards and other publications of ICF were issued in Tamil-Hindi-English trilingual form during the Railway Week Celebration, Rajbhasha Utsav and other such occasions.

1.6.3. Training

During the year 2012-13, two sessions of Hindi classes **3** each in Shell & Furnishing Division i.e. total **6** classes were conducted by Ministry of Home Affairs for employees. 359 employees were trained during the year. Employees were suitably rewarded on securing creditable marks in the Hindi Prabodh, Praveen and Pragya examination. During the year under review one employee was trained in Hindi typing and 38 employees have been trained in Hindi Key board training on Computers.

1.6.4. Implementation

a) Incentive Scheme

Various Incentive Schemes introduced by Railway Board viz. Collective Cash award, Individual Cash award etc, were given effect by this administration.

b) Noting and Drafting in Hindi

The employees trained in Hindi language and Hindi Workshop are motivated to write noting and drafting in Hindi. During the year under review, Zonal Hindi competitions viz. Hindi Essay, Elocution and Noting & Drafting competitions were organised at ICF. The employees secured First, Second and Third were sent to participate in the All Railway Hindi Essay, Elocution and Noting & Drafting competitions held at DLW/Varanasi. one employee of CPO office has been awarded the consolation prize in the Noting & Drafting Competition.

c) Official Language Implementation Committee

The Official Language Implementation Committee (OLIC) is functioning at ICF under the Chairmanship of General Manager. The meeting was conducted regularly in every quarter and the committee reviewed the progress achieved as per the directives issued by the Railway Board on the progressive use of Hindi. Agenda and minutes of the OLIC meetings were prepared in Bilingual form. During the year underreview 4 meetings have been organised.

d) Rajbhasha Utsav Celebrations

In accordance with the directions issued by Rajbhasha Vibhag/Ministry of Home Affairs and Railway Board, Rajbhasha Utsav celebrations was organised. The celebrations was started with Rajbhasha Pradarshini on 14.09.2012 which was inaugurated by GM/ICF by lighting the 'Kuttuvilakku'. 15 offices of ICF were participated in this exhibition. During the fortnight, various Hindi competitions viz., Hindi Elocution, Essay writing, Noting & Drafting, Hindi typing on Computer, Light Music etc., were organised for the employees and Hindi Noting & Drafting and Hindi quiz competition were organised exclusively for Officers. Hindi Story telling and Hindi Poem recitation were organised for the wards of employees studying in ICF Schools. Hindi letter painting competition was organised for TTC Apprentices. A seprate Hindi Workshop was organised to impart training in Noting and Drafting a Hindi a workshop was organised and Hindi Key board training was also imparted to the employees. On the Valedictory day function the winners of the competitions were suitably awarded, Famous Hindi story "NAMAK KA DAROGA" of the noted Hindi novelist Premchand's was screened and Hindi poet meet was also organised. Employees scored first marks in Hindi Prabodh, Praveen & Pragya examinations were awarded during the function. The celebrations was ended with colourful cultural programmes presented by Song and Drama division, Ministry of Information and Broadcasting.

e) Help Literature

During the year under review, "Hindi Pocket book" and "Rajbhasha Diary" were published as Help literature.

f) Hindi Library

Three Hindi libraries are functioning at ICF one each at Shell division, Furnishing division and at ICF Railway Hospital. Library functioning at Shell division named as **"Thiruvalluvar"** Library has **5355** books, Furnishing division library named as **"Premchand"** Library has **4036** books and ICF Hospital library named as **"Tulasidas"** Library has **2749** books. All the three libraries are attached with reading room facility. Daily newspapers, fortnightly, quarterly and monthly magazines were also subscribed for these reading rooms.

- g)** Name Boards and Designation Boards of Officers and all the signboards in this administration are displayed in trilingual form. All rubber stamps available are in bilingual form.
- h)** Official Language Policy has been added as one of the subject in the Supervisory Module programme being organised by TTC/ICF. This helps the staff to answer the questions on OL Policy in the departmental examinations.
- i)** Tender notices and Tender advertisements were published in bilingual form in the Newspapers and were also loaded in the Railnet to be viewed by the tenderers.
- j)** Hindi poems were uploaded every fortnight in the ICF Railnet and Officers were informed about this through SMS so that they could read the poems and give their remarks.
- k)** "Option of Hindi" for writing departmental examinations were given to the staff.
- l)** Employees pay slips were printed in Bilingual form.
- m)** During the year under review MRA and Sr.RA have made inspections of 20 various offices. The inspected offices were given instructions where lapses were observed.
- n)** ICF has brought out a quarterly House magazine **"RAIL RANJANI"** to encourage our staff to keep up their knowledge of Hindi.
- o)** ICF was awarded with Rail Mantri Rajbhasha Shield the first prize by the Railway Board for the achievement in promoting Hindi in all levels of ICF. Shri. J.S.P. Singh, CEE & MRA/ICF received the Shield from Shri Vinay Mittal/CRB on 26.03.2013 in the Rly. Board OLIC meeting held in the Rail Bhavan Conference hall at New Delhi.

PRODUCTION

2.1 Production Highlights

ICF, the premier coach manufacturer of India, continued its record-breaking journey of achievements during the year 2012-2013, registering the highest ever production of 1620 coaches. With this, ICF has surpassed the previous year's production for the tenth time in a row.

The special builds manufactured in 2012-13 include Stainless steel 1600 HP DEMU, AC EMU rakes for MUTP phase-II, SPART and LHB EOG coaches in addition to the Kolkata Metro rakes and DEMU rakes for Sri Lanka.

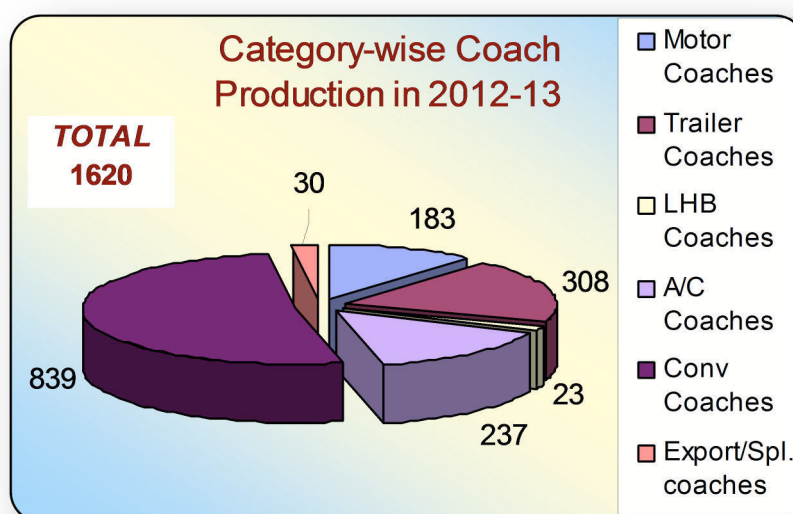
2.2 Production of Shells

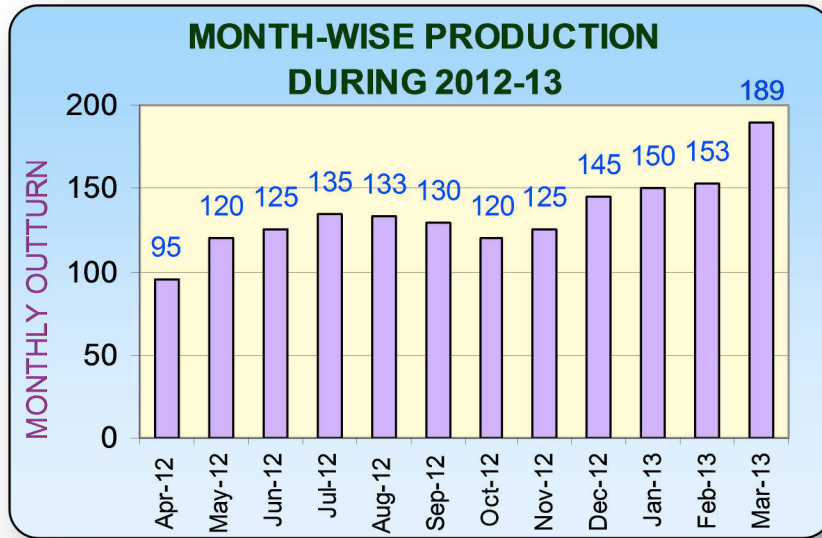
A total of 1602 shells (1776.99 Equated Shell Units) consisting of 41 types were manufactured in the year 2012-13. These include 167 motor coach shells, 296 trailer coach shells, 3 LHB coach shells, 218 AC coach shells, 899 conventional coach shells and 19 DEMU shells for Sri Lanka.

2.3 Production of Coaches

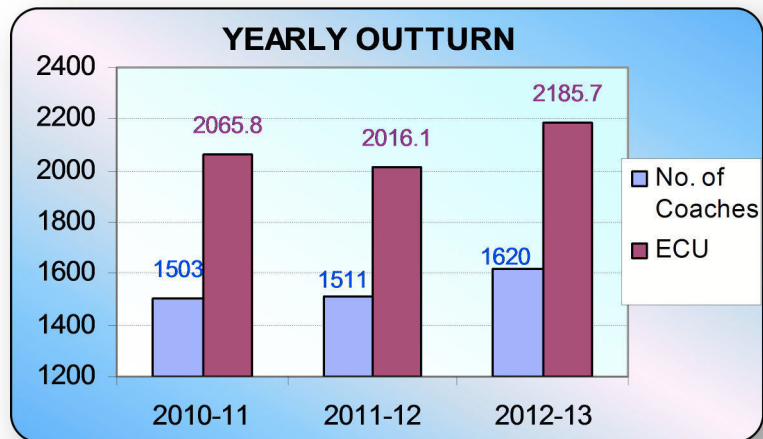
During the year, a record outturn of 1620 coaches (2185.72 Equated GS Units) consisting of 48 types was achieved, surpassing the previous best outturn of 1511 coaches achieved in 2011-12. These include 183 motor coaches, 308 trailer coaches, 23 LHB coaches, 237 AC coaches, 839 conventional coaches, and 30 export coaches.

The category-wise production of coaches and month-wise outturn during 2012-13 is indicated below:





Comparison of coach outturn during the last 3 years is shown below



2.4 Innovations – Production of New Builds

2.4.1 Stainless Steel AC-AC 1600 HP DEMU

The 1600 HP DEMU is the first of its kind in India. It is the first 10-car Diesel Electric Multiple Unit with two Driving Power Cars and eight trailer coaches. It has 3-phase AC-AC transmission system with IGBT (Insulated Gate Bipolar Transistor) switching technology and can run at a speed of 105 kmph. It can carry up to 2900 passengers with 750 seated and 2150 standing passengers.



The 1600 HP DEMU is used for shuttle services in suburban and rural areas. The 1600 HP DEMU shells are made of stainless steel material. The main features of the 1600 HP DEMU rake to provide aesthetic look provided with stainless steel inner panels with concealed screws, cushioned seats with stainless steel frame, polycarbonate handholds with nylon straps, stainless steel anti-slip flooring, a GPS-based Passenger Information System (Digital display with Audio) and a remote monitoring system through GPS/GPRS.

2.4.2. SPART with Improved Transmission

High Speed Self-Propelled Accident Relief Train (HS SPART) has a fully equipped medical van flanked by a supervisor van and a tool van. The medical van consists **air-conditioned** operation theatre and a 12-bed post operative ward of a doctor's room, along with autoclave cubicle,. The tool van carries all the tools like Hydraulic rescue devices



and its accessories, hydraulic power pack, tools, signal & telecommunication equipments, tower lights, etc. The supervisory van consists of a kitchen room and the rest room for the staff. The kitchen room has all the modern facilities (like aqua guard, Refrigerator, dishwasher, water cooler, cupboard to store food items, burners with gas). Food can be cooked for the staff working for the relief and rescue operations.

This is the first high-speed version of the SPART series of vehicles (powered by German Voith hydraulic transmission) with a capacity to reach operating speeds up to 130 kmph.

2.4.3. AC EMU Motor coach with Steel Nosecone

For the first time, AC EMU Motor coaches have been fitted with steel nosecone as in the MRVC EMU rakes in order to enhance the aesthetics. In addition, it has resulted in standardization and simplification of work.



2.4.4. Shells for Mumbai Urban Transport Project (MUTP) Ph-II AC EMU Rakes

ICF's Shell Division turned out the first MUTP/ AC EMU 'C' trailer shell during the month of February 2013. It was flagged off by GM/ICF on 18.3.2013 in a simple function in Shell Division. During the year 2012-13, five MUTP/C shells have been turned out. Exterior integration of shells has been done by improved process viz TIG welding. The side wall, end wall and roof are of stainless steel.



Shells for LHB EOG Coaches

ICF's first LHB EOG ACCW Shell was flagged off on 01.2.2013. ICF Shell Division has turned out three LHB ACCW EOG shells during 2012-13. The end walls procured for LHB Hybrid coaches were modified in-house to suit LHB ACCW EOG and utilized.



2.5 Other Achievements

- LWSCZAC EOG LHB 6 coaches were turned out for the first time in ICF.
- Record dispatch of 32 AC coaches achieved in the month of December 2013.
- Five coaches of LHB-EOG Chair cars were fully furnished for the first time at ICF.



2.5.1. Completion of Sri Lanka DEMU Project

ICF completed the 20 rakes (120 coaches) export project of Sri Lanka DEMU coaches on 14.08.2012. The last five rakes (i.e. Rake Nos-16-20) were painted with a new colour scheme.

2.5.2. Manufacture of Model FIAT Bogie Frame at ICF

A detailed study was conducted for manufacturing the bogie frame with existing facilities in ICF. Cast and forged Items were fabricated for which detailed drawings were not available. Items which require special purpose tools were made by extensively utilizing available existing tools.

At RCF, bending of side frame flanges is done with a special bending tool. Manipulator and progressive stoppers are used for avoiding bouncing back of flanges. At ICF, side frame top and bottom flanges were bent at Shop-10 without any of facilities as were available at RCF. The bending operations were carried out utilizing available radius tool and crane handling facilities. Flanges were bent to the nearest possible profile after progressively bending and taking care of bouncing back of the flanges.



ICF side frame top and bottom flanges

Side frame, bottom flange, webs, top flange and ribs were assembled at Shop-11 using a number of clamps and without any fixture. After assembly, full welding of side frame was done by CO₂ welding, whereas in RCF, this was carried out by IGM robot welding and welding manipulator.

HEAD BRACKET
[PURCHASE ITEM]

SPRING POT
[PURCHASE ITEM]

CONTROL ARM BRACKET
[PURCHASE ITEM]

YAW DAMPPER BRACKET
[PURCHASE ITEM]

ICF Side Frame Assembly & Yaw Damper Assembly without Fixture

Spring pot made of seamless tube was fabricated by rolling sheet. It was assembled with side frame after the spring pot profile had been suitably rectified. Bogie frame was assembled manually without any fixture by placing side frames on the stands and leveled using water tube level. Inside dimension of the bogie frame was arrested using two tie rods.

Both brake beams were assembled by aligning each other using spirit level and straight edge. Yaw damper was assembled with side frame using angle meter to set the required angle. Control arm brackets were assembled with side frame and the alignment of control arm brackets was checked. Control arm brackets are 50 mm thick, for which material was not available in ICF. Hence 30mm and 20mm thick plates were plug welded together to fabricate control arm brackets. After assembly, full welding of bogie frame was done by CO2 welding, wherein RCF, this was carried out by welding manipulator.

2.5.3. Manufacture of Prototype FIAT Bogie Bolster at ICF



A team comprising an Assistant Officer, seven Senior Supervisors and a Junior Engineer visited RCF in the month of March 2012 to study the manufacturing process of fiat bogie and its related components. Subsequently it was decided to manufacture a prototype of fiat bogie bolster in ICF with available facilities. The raw material was made into two halves and a template was made for the hot bending operation. Subsequently two numbers of domes were hot bent using that template. Then the spring domes were assembled and welded. They were machined to maintain uniform height.

Thereafter the bogie bolster was assembled by taking maximum care without any fixture for first stage assembly, second stage assembly and center pivot assembly stage whereas in RCF, fixtures are used for the above assemblies. The welding was carried out without any manipulator unlike RCF where welding is carried out using manipulators. Finally the fiat bogie bolster was successfully completed and painted with epoxy.

2.5.4. Conversion of 8-B Sri Lanka TC Body Assembly Fixture for LHB EOG Shell Production

8-B Body assembly fixture had been used for manufacturing Sri Lanka DEMU shells. After completion of Sri Lanka TC shell manufacturing, conversion of 8-B Body assembly fixture was taken up for manufacturing LHB EOG shells.

In the old LHB Body assembly fixture, all the sidewall, end wall and roof were to be integrated by using Tie rods. This would involve temporary welding of Tie rods leading to damages to side wall and end wall. To minimise the unwanted welding and also to improve the productivity and safety of shell assembly in the LHB Body assembly fixture, a new set of width control stoppers, window clamps, sidewall and end wall clamps were designed, manufactured and incorporated in the 8-B body assembly fixture. These additional features will improve productivity and safety.

BODY ASSEMBLY FIXTURE FOR LHB EOG



Sidewall Clamps



Window Clamps



Width Stopper



LHB Body Jig

2.5.5. Manufacture of Digital Camber Checking Gauge



Existing Camber Checking Gauge



Digital Camber Checking Gauge

The existing system of camber measurement in B-Shed is of very rudimentary type. For camber measuring purpose, a straight gauge is used with an accuracy of ± 1 mm. With this gauge the readings were not legible and depend upon individual ability to read correctly. Hence a new camber checking gauge with a digital readout has been developed using Digital Vernier Caliper by Tool Room and successfully tried in B-Shed. This has the following advantages:

- a) The camber readings can be taken to a least count of ± 0.01 mm .
- b) The error caused due to parallax is eliminated.
- c) Since the digital vernier has zero setting feature, the camber values can be directly measured by making the bolster point as zero datum.

2.5.6. New Design of Centre Pivot Pin for Kolkata Metro coaches



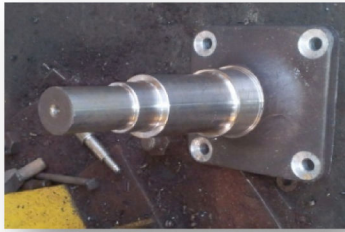
Rough Forged



Pre-Machined



Flange Machined



Drilled



Fully Machined



Assembled

Conventional Centre Pivot Pins were used for Kolkata Metro Coaches. Due to complaints (about cracks) received from user railways, the drawing were revised by Mechanical Design. The pins are of complex shape and difficult to machine as it involves multiple axis machining.

Extra efforts were made to formulate the right sequence of operations and the final product was successfully made.

2.5.7. Usage of Packing Materials as Stackers

Presently bought out items like end stanchions are being supplied with packing as per the packing conditions of purchase order. On consumption of the end stanchions, package materials accumulated over entire shell area and then disposed of as scrap.

Using this packing material, one prototype stacker was developed and further ten stackers were manufactured as shown below.



Packing is removed by unscrewing



Removed packings



Removed packings made as stacker

2.5.8. Modification of Roof Jig to Assemble both AC Roof & Non-AC Roof

In AC roof assembly section of Shell division, trough and trough frames were assembled in trestle stage. As trough and trough frame are now procured as set, it was decided to assemble the trough in the jig stage itself. The trough frame had to be assembled below the cant rail and as such the items could not be positioned due to the infringement of roof jig structure. The roof jig structure could not be removed/alterd as it would affect the functioning of the jig.

Tool Room has studied the feasibility of altering the jig in such a way that the jig can be used for assembling AC roof & other conventional roof without any problems. As result of continuous efforts, a 'FLEXI' concept has been evolved and VI line jig has been modified to assemble both AC roof and non AC roof in the jig without any further modification.

2.5.9 Conversion of Sri Lanka DEMU TC Under Frame Assembly Fixture for LHB U/F Production

After completion of Sri Lanka DEMU project, 8th line Under frame Fixture has been converted to suit LHB under frame. Since LHB under frame is an entirely different design, all the existing SLTC sole bar stoppers, clamps and locators were replaced with LHB type sole bar stoppers, clamps and locators. The above modifications were carried out within a record time of two weeks.

2.5.10. Conversion of IV Line Body Assembly Fixture for MUTP AC EMU Shells

The design of shells for MUTP AC EMUs is different from the conventional and EMU shells, hence the existing major assembly fixtures will not be suitable for manufacturing MUTP shells. The procurement and erection of new body assembly fixture will take longer lead time and it is a costly affair. Hence IV line body assembly fixture was taken up for converting it to suit MUTP shells. All the existing clamps and stoppers were removed and new stoppers and clamps were designed by keeping only the structure of existing fixture. New width stoppers, window clamps, sidewall clamp arrangement and camber blocks were designed and manufactured on war footing and completed in a record time. All the existing camber beds were supported and strengthened by providing additional structures. New shims of different thicknesses were introduced in camber blocks which can be easily assembled to set camber height accurately

2.5.11. Conversion of Kolkata Metro Major Assembly Fixtures to Suit Conventional Shells

In order to make use of unused Kolkata Metro major assembly fixtures, one set of Kolkata Metro Roof, Underframe and body assembly fixtures of 3rd Bay of B-Shed were converted to suit conventional builds. V-A and VII-A Underframe jigs were converted from EMU to conventional builds. IV Bay Undeiframe jig was converted from Kolkata Metro to conventional builds. All these conversions were carried out on expeditiously to meet the increased demand of conventional shells.

2.5.12. Manufacture of LHB EOG End Part Jig

Due to Railway Board's decision to stop manufacture of LHB hybrid coaches, a large number of LHB Hybrid end parts were lying unused. To make use of these end parts by converting them as LHB-EOG end part, a new fixture has been designed, manufactured and supplied to Shop-18. By using this fixture, all the unused LHB Hybrid end parts can be converted as LHB-EOG end part resulting in huge savings.

2.5.13. Modified Inter Lock Mechanism for Panto and Earthing switch – AC EMU Motor coach

In modular transformer mounted AC EMU Motor coaches, the inter lock mechanism for Panto and Earthing switch was very complicated. The design of the interlock arrangement was modified and the mechanism became very simple. It was referred to design and the drawings are under revision. It will be implemented in the future AC EMU motor coaches from 2013-14 onwards.



2.5.14. Modified Return Air Duct Arrangement – LHB EOG Coaches

In LHB EOG coaches, return air duct is required to be made with Stainless Steel flexible hose covered with fire retardant canvas material. This ducting arrangement was made in-house using 1mm thick Aluminum sheet. This duct ensured prescribed

air return flow from compartment to roof mounted air condition unit. This ducting is sturdy enough so that original intermediate supports are eliminated. The modified design was referred to Design and it is under design study.



2.5.15. Reduction in the number of screws – Conventional Coaches

After detail study of the number of screws used for fixing compreg floor board in conventional coaches, a proposal for reducing the number of screws has been sent to Design. The proposal was accepted and the drawings were revised to this effect. It is being implemented in all the conventional coaches since November 2012.

2.5.16. Problem Solving – Conversion of AC EMU Seats

First class seats were not available at Furnishing depot due to Trade failure. 15th and 16th rakes of AC EMU could be dispatched in time by converting the second class seats to first class seats by the shop floor staff.



2.5.17. Efforts made by Shop 33 in LHB Coach Manufacture

- Detail items of around 85 types for LHB/EOG coaches were not available on shop floor due to trade failure. These items were manufactured by Shop-33 to ensure the dispatch of LHB coaches in time.
- A tool was developed by the shop 33 to manufacture sliding door with profile moulding for LHB/EOG coaches. This part is being manufactured at shop 33 for all the LHB/EOG coaches.
- The radiator room exhaust arrangement in LHB/EOG power car is very complicated in design which requires geometry of squareness and dimensions and no vendor was ready to supply this item. Earnests efforts were made by shop 33 to manufacture this item with the available in-house raw material. The unit was installed in the LHB/EOG Power car and it has performed its function satisfactorily. This item will be manufactured in shop 33 for all the future LHB/EOG Power Cars.



2.6. Infrastructure Improvement

2.6.1. Manufacture of Roof & Under frame at IV Bay

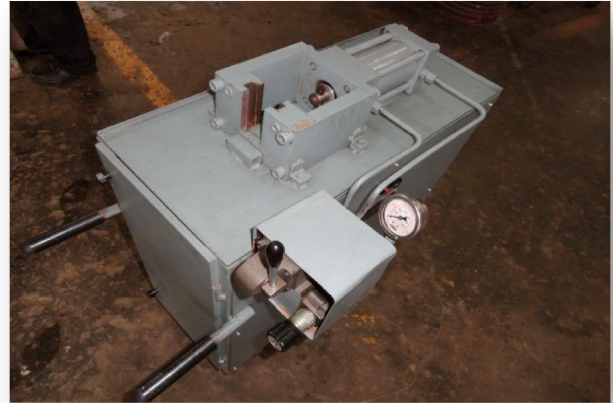


During the month of January 2013, in B-Shed IV Bay, Under frame assembly fixture, Under frame trestle, Roof assembly fixture, Roof assembly trestle were made operational and the following conventional shell main assemblies were turned out using the above infrastructure facilities:

GS Under frame assembly	- 7 nos
GS Roof assembly	- 5 nos

2.6.2. Single Ferrule Biting (Swaging) Machine

ICF has undertaken manufacture of LHB coaches. The Air brake pipes and plumbing pipes of these coaches are of Stainless Steel material and they are connected together by Single ferrule swaging technology. A single ferrule biting machine was needed for swaging the above single ferrule fittings. The machine was procured and commissioned in a record time of two months. The machine will provide leakage proof joint during assembly. External customer complaints on account of improper swaging air leakage will also be prevented in future.



2.6.3. Double Ferrule Swaging Machine

It is incorporated with suitable pressure gauge which will ensure application of proper swaging pressure. If the pressure exceeds due to malfunctioning, an indicator knob will cross the red band. This proposal is under study. It will be implemented from 2013-14 onwards.



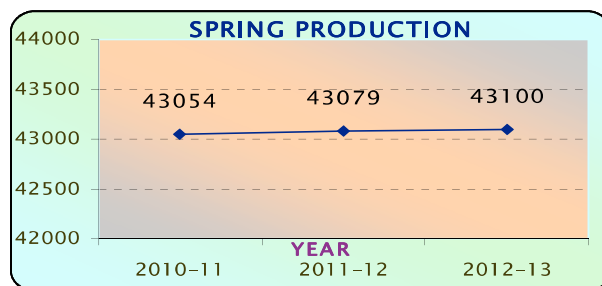
2.6.4. Coach lifting jacks at New pit Line

One set of coach lifting jacks were installed at 7th line of Shop-36 at west end. This has reduced unnecessary shunting of coaches from Shop-36 to 30. This has avoided the dependence on shunting Loco for movement.



2.6.5. Production of Helical Springs

During the year 2012-13, the spring shop achieved a record production of 43,100 springs, compared to 43,079 springs during 2011-12. Out of the total production during 2012-13, 37,013 springs were for in-house consumption and 6,087 were supplied as spares to Zonal Railways and RCF.



2.7. Assistance Rendered to Zonal Railways

Spares involving 1,03,482 man-hours at a value of `12,25,72,083/- were supplied by Shell division of ICF to Zonal railways during 2012-13.

In addition, the following assistance was extended by the Furnishing division:

S.No	Description of Item	Quantity	Assistance to Zonal Rlys
1	Limpet Sheet NFTC ceiling cut pieces	4110 Kgs.	SR
2	Formica/Decolam cut pieces	1490 Kgs.	SR
3	Vinyl coated upholstery cloth	510 Mtrs.	SR
4	Air release valve	184 Nos	ER
5	Vinyl coated upholstery	300 mtrs.	SCR
6	Sealed Window glass	20 nos.	SCR
7	Rubber Beading	40 nos.	SCR
8	French chalk powder	10 kgs.	SR
9	12 mm Compreg wood	20 nos.	SR
10	SS pipe with Ferrul Joint	01 Set	SR
11	BMBC flex hose 1" X 600	05 Nos	SR
12	BMBC flex hose 1" X 700	14 Nos	SR
13	LP Sheet 3x1220x2440	150 Nos	SR
14	NEFTC Ceiling Panel	18 Nos	SR
15	MS Ceiling Belt(Moulding)	08 Nos	SR
16	NFTC Fan cover	54 Nos	SR
17	Screws 8x19 Pan head	1400 Nos	SR
18	Magazine Blue	10 Nos	SR
19	Bottle Holder	20 Nos	SR
20	LP Panel Blue	03 Nos	SR
21	Densified Thermal Polyester PU Foam for SCN	05 Sets	SR
22	UIC Rubber Vestibule bellows	03 C/s.	SR
23	MUG with Chain	50 Nos	SR
24	Nylon bottle holder	100 Nos	SR
25	Butt Hinge 75mm	200 Nos	SR
26	Snack Table SCN	20 Sets	SR
27	Door Stopper rubber	100 Nos	SR
28	Coat Hook	100 Nos	SR
29	Chute bracket	100 Nos	SR
30	Commode chute	100 Nos	SR
31	SS Wash Basin	25 Nos	SR
32	Latch assy ofr Back rest	50 Nos	SR
33	FRP LAV.Window	20 Nos	SR
34	FRP Body side window	30 Nos	SR

PRODUCTION PLANNING AND CONTROL

3.1. Production Planning

Necessary production documents were released promptly both by Shell and Furnishing divisions to ensure smooth flow of production of new design of coaches.

3.2. Material Planning

The material planning wings of Shell and Furnishing divisions issued procurement memos and S-1302 indents for all the special coaches promptly. Material requirement reviews of the items were sent to Stores in time to avoid delay in procurement of items. Timely procurement action was taken in line with the revisions in Production Programme.

Activities of the Material Planning Organisation during 2012-13 are tabulated below:

	Shell Division	Furnishing Division
No. of Procurement Memos issued	767	5064
No. of Reviews sent to Stores	3481	7012
Technical scrutiny of Tender Files	573	3742
No. of S-1302 Indents issued	41	544

3.3. Measures that Resulted in Financial Savings

a) Shell Division

i. Utilisation of Unused 5 Mm Coils Lying in Store Area in Open Condition



Coils Lying in Store Area



Coil Loaded on Cut-to-Length Line

Around 60 tons of 5 mm raw material in the form of coils had been lying in coil stacking area without usage for one year. The 5mm raw material is vital for all sub-assemblies and major assemblies like under frame, side wall and end wall. The coils remained unused due to various reasons like improper inner and outer dimensions, to load in the mandrel of Cut-to-length machine, and coils not in tacked and bundled condition.

Great efforts were made as a result of which the unused coils have been utilized, thereby saving Rs.25 lakh.

ii. Re-Conditioning and Re-Siting Of VII Line Roof Jig to IV Bay Of B-Shed

As part of commissioning of IV Bay of B-Shed for shell assembly, a new roof fixture was planned to be procured from trade. Due to the funds constraints, the proposal for procurement of new fixture was dropped and instead, one roof fixture was re-conditioned and shifted from Bay-I to Bay-IV. The cost of one new roof fixture is approximately Rs.50 lakh and the cost of reconditioning and resiting is Rs.10 lakh, Thus the total net savings works out to Rs.40 lakh.



Re-Conditioned & Re-Sited Roof Jig

iii. Utilisation of Non-Moving Crashworthy Items to Manufacture 7 Nos. Of FACCW CBC Crashworthy Coach Under frames



Rear Stopper



Centre Sill Arrangement



Buffer Plate

SL NO.	DESCRIPTION	UL.NO.	QUANTITY (in Nos)	TOTAL COST (in Rs./-)
1.	Center Sill arrangement	08 3012 6060 01 01	14	4,18,208
2.	Rear Stopper	08 3021 6369 01 01	4	38,480
3.	Buffer Plate assembly	08 3012 6046 01 01	14	34,384
4.	End Wall (Hybrid)	05 3094 0096 03 01	10.5	26,26,607
				31,17,679

iv. Conversion of Hybrid Bogie Frame (LHB/Non-AC) into DMU/TC Hubli Workshop had supplied in part LHB Non AC Bogie frames (hybrid type). They were converted into DMU/TC Bogie frame with modifications as detailed below.

- Beam was converted to suit 180 KN Air spring from 140 KN (LHB Non AC)
Locating holes altered from 140KN to 180KN
- Lateral Damper bracket replaced to suit 180KN
- Installation lever bracket replaced to suit 180 KN



- Brake cylinder fixing bracket altered suitably
- Additional brackets like belt tension arm, alternator bracket were removed by gas cutting and grinding.



Since hybrid type is obsolete, additional cost to the tune of Rs.13,07,610/-, which would be the cost of producing 6 new Bogie frames, was saved (i.e. Rs.2,17,935 each).

b) Furnishing Division

- i. Even though seats to UL.No.3431617580, 3431617542 & 3431617530 were not available at depot due to Trade failure, 2nd rake and 3rd rake DEMU were dispatched by modifying old seats, which otherwise, would have been rendered non moving surplus. This also resulted in the rakes made available to passenger traffic in time and also the total financial savings of Rs.1,15,856/-.
- ii. 198 water tanks which were procured for LHB hybrid coaches were utilized with minor modification resulting in financial savings to the tune of Rs.38.85 lakh.
- iii. More than 300 nos. of damaged FRP window accumulated in Furnishing division over a period of time. Out of this lot, 50 numbers of windows are dismantled, corrected and fitted into the coaches which saved Rs.1,25,000/- (One lakh twenty five thousand only).



- iv. 16 Sets of Air Brake equipment which were procured three years ago for SPART coaches (SV/DPC & ARTV) were lying unmoved. Arrangements were made to overhaul the equipment including the replacement of shelf life. All the rubber components inside brake equipment which have shelf life have worn out and also the brake equipment crossed its warranty period. Hence arrangements were made to overhaul the brake equipment duly replacing all the rubber components by the OEMs. 4 coach sets of Brake equipment have already been overhauled by the firms through works contract and the same is under progress for the remaining 12 coaches. The cost of overhauling of 16 coaches works out to Rs.7,91,600/- which in turn saves around Rs. 90 lakh worth material.

3.4. Measures to Improve Productivity/Reliability

a) Productivity/Reliability of Machinery & Plant

i. Inv.No.2173-HYT Surface Wheel Lathe :

There was a problem of metallic chips entering X-axis movement telescopic covers, thus jamming & causing malfunction of telescopic covers. The same problem was noticed at Z-axis movement unit where timer belt would get damaged due to chips entry. Metallic guards have been provided with suitable modification to protect telescopic cover of X-axis movement LHS machining head & Z-axis movement timer belt unit at RHS from metallic chips entering inside. Now belt life is increased and entry of chips totally eliminated thereby machine downtime due to these problems has been reduced.

ii. Inv.No.8969-Spring End grinding machine:

This machine has been in service for more than 29 years. In the spring clamping unit, bottom jaw fixing threads in the machine bed badly worn out resulting in improper holding of job causing uneven and poor surface finish of springs. Due to continuous usage and wearing away of locking threads over the years, these threads were modified from M12 to M14 and then to M16. Threads could not be enlarged further due to inconvenience in accommodating larger size bolts for locking the lower vice jaw. Therefore, it was decided to go for alternative method to lock bottom vice jaw to the bed sturdily. Suitable locking plates were designed to arrest the movement of bottom vice jaw and this locking plate has been fixed securely to machine bed resulting effective & efficient holding of helical spring in the vice jaw.

iii. Inv.No.2519-Cooper Planing machine:

Table main drive shaft broke into pieces due to bend and prolonged usage causing drive transmission failure to work table. As the machine has been in service for more than 30 years, some other vital components also were in a worn out condition. The subject shaft is obsolete & is not readily available in the market as the size of the shaft is 2780mm Length & 70mm diameter. Hence it was decided to manufacture & rectify the shaft in-house. Broken length of 1400mm has been manufactured in house involving several operations like welding, turning, milling, slotting & drilling. Thus, the entire length of 2780mm length has been restored and the shaft was assembled in the machine. Also other worn out vital components are replaced by new one. Now this machine is working satisfactorily.

iv. Inv.No.5367-Metora band saw:

The machine experienced failure of drive mechanism due to defective worm gear & worm wheel. On stripping, it was found that worm gear & worm wheel were in damaged condition. The defective parts were not readily available in hand/market. Also there is no OEM support for this machine since this machine was commissioned during the year 1991. Due to importance of the machine for production, it was decided to restore the machine at the earliest. Existing worm gear & worm wheel set pertaining to another machine (Thread rolling machine for which utilisation percentage is less since certain coach components are outsourced) has been modified to suit bearings and other assembly components in Metora Band saw. Thus, the modified sub-assembly was fitted in the Band saw machine and it is working satisfactorily now.

v. Inv. No.TR 4S – Traverser:

In this Traverser, locking mechanism was not in good condition resulting improper locking of Traverser while loading shells on to the Traverser causing frequent derailments. Entire locking system was dismantled and found that the locking bar was in bent condition and locking plates were also not in sturdy/rigid condition. Locking bar has been rectified by heating and forging operations. All loosened locking plates were straightened/fabricated and fixed rigidly. Entire locking system has been reassembled in a proper way enabling perfect locking of Traverser while loading shells on to the Traverser.

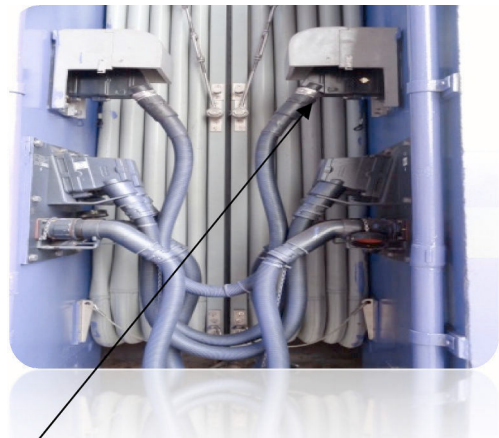
➤ Uptime status of M&P during the year 2012-13:

➤ Uptime of 141 Vital machines	:	90.02 %
➤ Uptime of all the machines	:	95.08 %
➤ Uptime of Transport vehicles	:	93.29%

b) Productivity/Reliability of Coaches

i. Kolkata Metro Rake

Additional coupler of 415 was provided in this rake to ensure the uninterrupted power supply for the operation of at least one RMPU in the event of failure of 100kVA inverter. This modification was carried out from the 8th rake onwards.



Additional 415 Volt Coupler

ii. AC EMU Motor Coaches

Design of the Air fuel arrangement was modified in the motor coaches to improve the accessibility for removal of the strainer during maintenance by user railways. This was implemented from the EMU 16th rake onwards.



Before



After

III. LHB Coaches

Brake application indicator was originally planned to be fixed to the sole bar directly which has more chance to foul with the platform. After studying the problem, the indicator was relocated by providing on 'Z' bracket which ensure safe functioning of the equipment.



Single ferrule brake assembly was installed in the LHB coaches for the first time in the history of ICF.

iv. ACCW Coaches

Side berth locking arrangement: There were frequent customer complaints from user railways that the side berth locking arrangement is creating injury to the passenger. The design of side berth locking arrangement was modified by a team of staff and supervisors of shop-30. It will ensure safer design and also the cycle time and the material cost was also reduced. The drawings were modified and it will be implemented for all the ACCW coaches from the 2013-14 onwards.



Existing



Modified

v. GS Coaches

A modified Fuse Distribution Box (FDB) has been provided in GS coach as a trial measure to avoid customer complaint on electrical wire damages due to entering of rats and insects in FDB. This was tried out on a few coaches. This will be implemented in the future GS coaches after the customer feed back from the user railways.



3.5. Increase in Worker Productivity

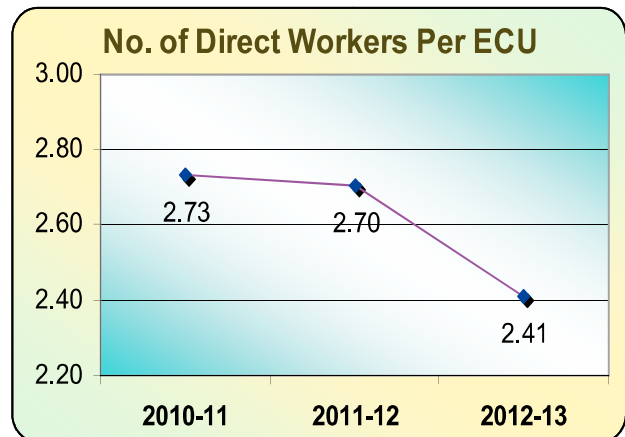
a) Load Lifted per Direct Worker

In the year 2012-13, average man-hours of load lifted / Direct Worker per month, which indicates worker productivity, increased to 315 from 306 in 2011-12.

b) Number of Direct Workers Required per Unit Production

In the year 2012-13 the number of Direct Workers per Equated Coach Unit has come down to 2.41 from 2.70 in 2011-12 with improvement in productivity and with the aid of outsourcing.

c) Special Incentive Scheme



Special Incentive Scheme approved by Railway Board, has been in force since 2006-07. Salient features of this scheme are: increase in incentive ceiling to 70% with a corresponding overall cut of 3.5% in Allowed Time at the incentive upper limit. The average incentive earning during 2012-13 was 62.77%.

3.6. Suggestions Received

Constructive suggestions are invited from the employees and the accepted suggestions implemented. 20 suggestions were received during 2012-13 and 23 were carried forward from the previous year. Out of these 43 suggestions, 17 suggestions were accepted, 14 suggestions were not accepted and 12 suggestions are under scrutiny.

QUALITY SYSTEM

4.1. Quality Management System to ISO 9001

- a) ICF has an established Quality System for design, development, manufacture and commissioning of powered, non-powered, air-conditioned and non air-conditioned railway passenger coaches including luxury coaches.
- b) ICF was first certified in October 1996 for its Quality Management System to ISO 9001:1994 version. Later this was upgraded to ISO 9001:2000 version and then to the revised standard ISO 9001:2008 during November 2011.
- c) During the year 2012-13 three internal audits were conducted, and the audit reports and non-conformities were presented in Management Review Committee meetings. The certification is valid up to 31st January 2015.

4.2. Achievements

- a) AWTI obtained “Approved Training Institute” status from Indian Institute Of Welding.
- b) Indian Institute of Welding has granted the membership as “Industrial Corporate Member” for 10 years to ICF through AWTI.
- c) Roadmap for implementation of ISO 3834 (Quality requirements for fusion welding of metallic materials) & EN 15085 (Welding of railway vehicles and components) was prepared by AWTI and approved by CME.
- d) Welders of ICF are certified as per international welding standard EN 287 (qualification test of welders for fusion welding part-1- steel) for the first time.
- e) Five AWTI faculty members qualified and received international welding diplomas. 35 welders of Southern Railway are certified with IS 7310 welding certification for the first time.
- f) Engineers and managers of corporate companies and public sector companies trained on a charge basis first time at ICF, earning revenue of Rs.1,06,186/- during 2012-13.
- g) Welders from outside companies are certified in IS 7310 certification on a charge basis for the first time at ICF.
- h) A National Welding Seminar was conducted with senior officers participated from ICF, Zonal Railways, RDSO, IRMEE and vendors of ICF.
- i) Need-based seminars conducted by AWTI faculty members at Carriage & Wagon Works, S.Rly, for officers and supervisors on stainless steel welding at their premises.

j) No. of Quality Audits on RITES Pre-Inspected Materials

No. Quality Audits	No. of Rejections	Percentage of Rejection
74	33	45 %

5. Prototype Inspections with Design wing have been conducted for new builds, in addition to regular Inspection, for effective assembly & supply in time.
6. Joint Inspection with third party Inspecting Agency (M/s RITES) were conducted and all the cases were upheld.
7. 123998 Nos. of QMF002 (Inspection Report) points issued for defects/deviations issued.
8. Number of Inspection Demand Notes (IDNs) cleared (From 01-04-2012 to 31.03.2013)

No. of IDNs received & Cleared	Accepted	Rejected	Percentage of Rejection
5133*	4772	361	7 %

*4294 IDNs were processed through ERP/SAP

Firm Inspections

No. of Inspections at local firms: 101

No. of Inspection at outstation firms: 34

a) Highlights

- 2 nos. of Digital and Laser type camber height gauge procured and put into use.
- Quality Audits were conducted frequently for Safety & Vital items and outcome of the results advised to all the concerned.
- Inspection of all the stainless steel coaches for Kolkata Metro and LHB design.
- Analyses of customer complaints are done and the shops concerned and Design are advised to take corrective and preventive measures.
- Inspection of special type of coaches i.e 1600 HP DEMU, SPART, Sri Lanka DEMU and Kolkata Metro.

b) Rolling Stock Certificates

No. of Rolling Stock Certificates: 1598

No. of Inspection Certificates of Export (Sri Lanka Rlys.) Coaches: 30

Total: 1628

c) Improvements

- Templates have been manufactured and put in use in Under-frame Inspection for checking oil cooler bracket, reactor choke unit, silicon rectifier, transformer mounting bracket and tap changer.
- 100% fitment of 'J' Brackets in Under-frame stage itself which will enable fitment of Bio-toilet as and when required.
- 100% Roof leak testing carried out and Furnishing complaints vastly reduced.

d) Integrated Management System – Internal Audit

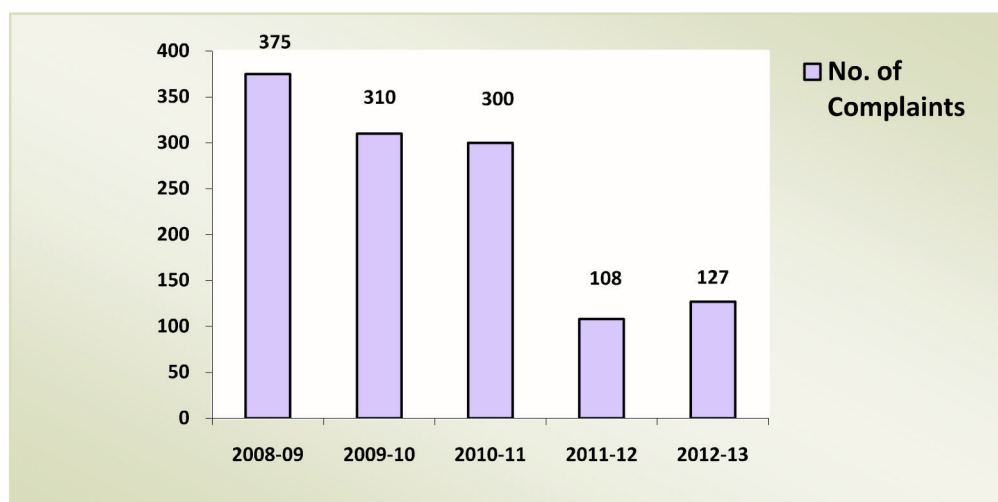
- IMS Internal Audit on 21/03/2013 and One NCR issued.

e) Training – No. of Employees Trained:

- Welding Exposure Course (AWTI/ICF) - 16
- Inspection of Under frame & Body Assembly (Shell/ICF) - 12
- LHB coach Programme (TTC/ICF) - 2
- Basic Principles of Mechatronics (TTC/ICF) - 2
- Training of Trainers (STC/SBC) - 8
- Welding Technology (STC/Jamalpur) - 2
- Training Programme on Lifting Machine (RLI/Chennai) - 2
- Material Testing (IRIME/Jamalpur) - 4
- MUTP Training (ICF) - 19
- Mechatronics Training for Trainers (IRIME/Jamalpur) - 1
- Course on Corrosion & Prevention (IRIME/Jamalpur) - 4
- Training in Gear Assembly by Bombardier Transportation (ICF) - 4

f) Customer Complaint Redressal

- Yearly Trend



➤ Total Customer Complaints Received during the year 2012-13 : 127

Year of Build	No. of Complaints
2012-13	32
2011-12	48
2010-11	39
2009-10	07
2008-09	1
TOTAL	127

➤ Assistance given to Zonal Railways: 99 customer complaints have been attended with necessary corrective and preventive actions.

g) Export Activities:

Despatch clearance for 5 Rakes (30 Coaches) of Sri Lanka Railways

h) Special Projects:

- Despatch clearance for 1600HP IGBT – 10 Coaches
- Despatch clearance for JK/DEMU – 08 Coaches
- Despatch clearance for LHB/EOG – 14 Coaches
- Despatch clearance for Kolkata Metro – 56 Coaches (7 Rakes)
- Despatch clearance for SGACCN – 27 Coaches
- Despatch clearance for SPART – 3 Coaches

4.3. **Environment-Friendly Activities**

➤ Pollution Control

- i. Noise levels at the sections of various shops of both Shell and Furnishing divisions were monitored.
- ii. Monitoring and measurement activities are being regularly conducted, and all the applicable legal and other requirements are met.
- iii. In ambient air analysis, as per TNPCB norms, seven more parameters have been included for testing in addition to the existing five parameters, and all the 12 parameters have been found to be within the limits prescribed by TNPCB.

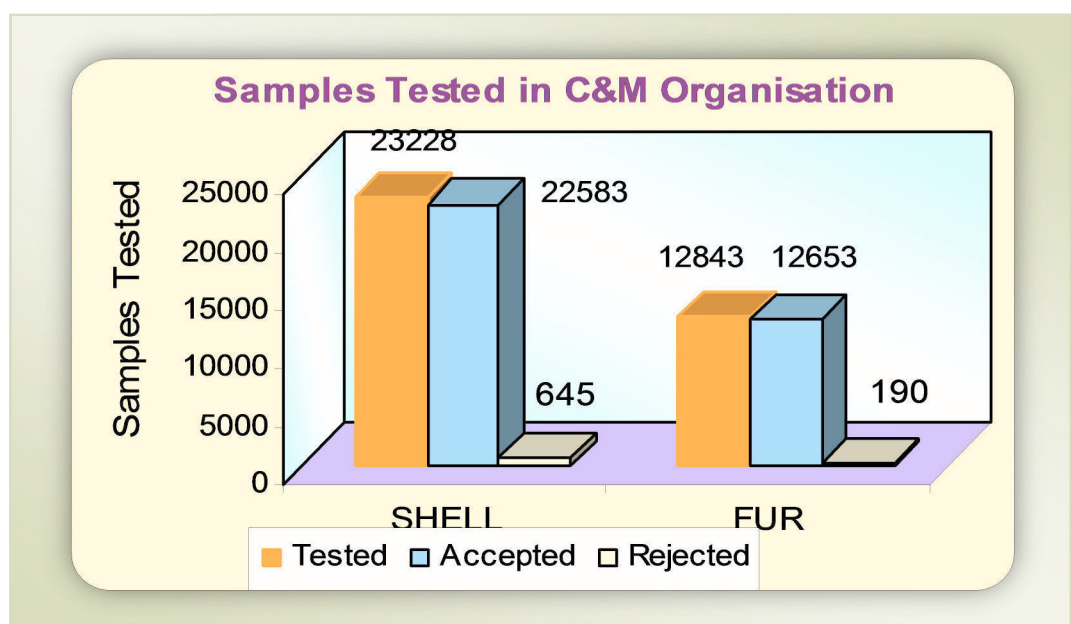
4.4. Chemical & Metallurgical Organisation

The Chemical and Metallurgical Organisation of ICF plays an active role in testing and ensuring the quality inputs and processes employed for coach manufacture. Main activities of CMT organization are:

- a) Chemical and metallurgical evaluation of various raw materials and finished components
- b) Process control and quality assurance in the field of welding, forging, spring manufacture, heat treatment, radiographic testing, ultrasonic testing, corrosion prevention and painting
- c) Periodical testing of welders
- d) Pollution control and Environmental Management System
- e) Service Engineering – Failure Investigation and development of materials
- f) Design and Development activities
- g) General service including technical evaluation of tenders

4.4.1. Samples Tested

- a) In the Shell division 23,228 samples were tested in the year 2012–2013 out of which 22,583 samples were accepted and 645 samples were rejected (2.78%).
- b) In the Furnishing division 12,843 samples were tested out of which 12,653 samples were accepted and 190 samples were rejected (1.48%).
- c) During the year Rs.8,21,540/- was advised to be recovered from various suppliers and Railways towards test charges.



4.4.2. Magnaflux Testing of Spring Steel Bars

During the year 2012-13, 27,707 nos. of spring steel bars pertaining to different diameters and lengths were tested by electromagnetic crack detector of which 27,412 nos. were accepted and 295 nos. were rejected (1.06%).

4.4.3. EMCD Testing of Finished Helical Springs

During the year 2012-13, 43,797 nos. of helical springs were tested by electromagnetic crack detector of which 43,542 nos. were accepted and 255 nos. were rejected (0.58%).

4.4.5. Radiographic Testing

During the year a total of 399.2 meters of weld length was tested radiographically, of which 11.6 mtrs. was found to be defective. (2.9%).

4.4.6. Ultrasonic Testing

During 2012-13, 6001 axles were tested ultrasonically, out of which 21 axles were rejected.

4.4.7. Normalized/Annealed Components

During the year 2012-13, 26,182 nos. of components processed were tested and certified. Further, 1809 components were tested for hardness.

4.4.8. Periodical Testing of Welders

During the year 2012-13, a total of 1,038 welders were tested, of whom 1,020 have passed and 18 welders have failed to qualify in the first attempt.

	Group-A	Group-B	Trade Test
No. of welders tested	868	124	46
No. of welders passed in the first attempt	858	116	46
No. of welders failed	10	8	Nil
% of failure	1.2	6.5	Nil

4.4.9. Service Engineering – Failure Investigation

The following components received for failure investigations have been investigated and reported, suggesting remedial measures:

- Side buffer arrangement from Bhopal, Central Railway
- Chain link
- BG bolster spring (broken) from CDO/Kacheguda
- Anchor link

4.4.10. Quality Audit

Quality audit of the following samples was done during 2012-13:

- a) Side buffer arrangement
- b) Stainless steel air reservoir
- c) BG bolster spring
- d) Centre pivot pin
- e) Chain link
- f) Anchor link

4.4.11. Testing of Development Materials

The laboratory has tested and reported the following items, which enabled the Design office to introduce them in coaches:

- a) Water-based paint system – 62 nos. painted with the system
- b) High solid coating – Testing completed and results submitted to Design & Development wing

4.4.12. Strengthening of Testing Facilities

The following testing equipment was procured and commissioned during 2012-13:

Sl. No.	Location	Equipment	Commissioned in
1	Mechanical lab	a) Brinell hardness testing machine b) Ultrasonic wall thickness gauge	September 2012 February 2013
2	Paints lab	c) Flash point apparatus d) Portable gloss meter e) Corrosion cabinet f) Digital coating thickness gauge	February 2013 April 2012 June 2012 January 2013
3	General lab	g) Melting point apparatus h) Soxhlet apparatus	September 2012 February 2013
4	Spring lab	i) EMCD machine	March 2013
5	Main lab	j) Muffle furnace with digital temperature controller k) Digital micrometer	December 2012 February 2013

4.5. Training

4.5.1. Technical Training Centre

➤ General Training Programmes Executed in 2012-13

Initial Courses		
S.No	Category	No. of Trainees
1	Technician Trainees Mechanical and Electrical (DR+CGA+PQ)	74
2	Apprentice Mech (Mech/Elec)	129
3	Act Apprentice	741
4	BOAT Apprentice (Diploma & Graduate)	08
Total		952

Refresher Courses for Other Railways		
S.No	Category	No. of Trainees
1	Supervisor Trainees	221
2	Artisan Trainees	44
Total No. of Trainees		265

Specialised Courses		
S.No	Category	No. of Trainees
1	Supervisory Development Programme (SDP)	171
2	Disaster Management Programme (DMP)	108
4	Inplant/Project Training for Engineering Colleges	1617
5	LHB Course	84
6	Safety Training	19
7	Mechatronics	17
8	Refresher Welding (Hot Air Welding)	04
9	EH & SSR	36
Total		2056

4.5.2. Summary of Coach models manufactured during the year 2012-13

YEAR	QUANTITY
2011-12	798
2012-13	820

➤ **Environmental Improvements**

Around 100 trees have been planted in and around ICF. Altogether more than 500 trees are being watered by TTC.

4.5.3. **ADVANCED WELDING TRAINING INSTITUTE (AWTI)**

a) **Introduction**

AWTI is the first of its kind in entire Indian Railways to provide the much needed technical skills and knowledge in the area of welding, which is the core activity of ICF. It has a well-equipped workshop with modern training facilities for welding. In addition to the welding training needs of ICF, it caters to the training needs of Zonal Railways of southern region and Rail Wheel Factory.

b) **Number of persons trained from 01-04-2012 to 31-03-2013**

Sl.No	Module	Duration	Total Trained		Remarks
			2011-12	2012-13	
1	Basic Course for Beginners	4 Weeks	108	196	
2	Refresher Course for Welders in GMAW	3 Weeks	99	63	
3	Course on TIG Welding	1 Week	0	109	new module
4	Refreshment course for ICF welders	1 Week	0	112	
5	Course for App JE/SSE	1 Week	0	145	new module
6	Course on Stainless steel Welding	1 Week	33	69	
7	Course on SS Welding for Supervisors	1 Week	116	32	
8	Welding course for Inspectors	1 Week	0	80	new module
9	IS 7310 Certification Course	1 Week	0	79	new module
10	Spl course for fitters	3 Days	0	100	new module
11	Need-based Training	1 Week	0	44	new module
12	Productivity Course	3 Days	0	134	new module
13	EN 287 certification	2 Days	0	21	new module
14	Course for ICF Vendors	3 Days	0	14	Paid course
15	shop floor counseling	3 days	0	475	
Total Trained			356	1673	
Capacity utilization			(18%)	(87%)	

c) Utilization Plan for 2013-14

ICF is planning for implementation of ISO 3834 & EN 15085 standards. To comply with the requirement, welders are to be certified in EN 287 Standards and awareness programme to be conducted for all supervisors. This will increase the capacity utilization further.

Module description	Duration	Capacity	Remarks
Basic Course For Beginners	4 weeks	30	
Refresher Course for Welders in GMAW.	3 weeks	30	
TIG & Pulsed MIG Welding	1 week	15	
Training for Welding Supervisors, Welding Inspectors and C&M Staff in Service	3 weeks	30	
Training for New Recruit Supervisors	1 Week	30	
Training of Training Officers and Instructors in Welding Institutions	4 weeks	20	
Training for Junior and Senior Scale Officers Of Mechanical Branch including ACMTS & CMTS	1 Week	20	
Stainless steel Welding for Welder Technicians	1 week	20	
Stainless steel Welding Course For Supervisor.	1 week	20	
Certification Course for Visual Inspection (Insp., & Supervisors)	3 days	20	New module
Refresher Course for Welders	1 week	30	
Training of Managers and Engineers of Rly. Vendors	4 days	20	
Training Program for Assembly Fitters	3 days	30	
IS 7310 Certification Course for Welders	3 days	20	Certification course
Productivity Improvement Course for JEs & SSEs	3 days	30	
EN-287 Certification for Welders	3 days	20	New module Certification course
Repair Welding Practices for POH Supervisors	3 days	30	New module
Awareness Programme on ISO-3834 & EN-15085 For Supervisors, Inspectors & CMT Staff	3 days	30	New module
Non-Destructive Tests of Weld for Practicing Engineers	3 days	20	New module
Certification Program for Vendors as per ISO :7310, EN:287, ISO:9606* (3 days)	3 days	15	New module Certification course
Indian Institute of Welding - National Welder Certification Scheme	**	20	New module Certification course
Training programme for engineering college students	7 days	-	New module Paid course

4.5.4. Earnings

Earnings on In-plant Training and Project Work (TTC)	- Rs.32,62,900/-
Sale of Coach Models (TTC)	- Rs. 1,30,000/-
Fees collected on training/certification (AWTI)	- Rs. 1,06,186/-
Total	- Rs.34,99,086/-

4.5.5. Capacity Utilization

TTC – 94.95%

AWTI – 87.00%

DESIGN & DEVELOPMENT

5.1. DEVELOPMENT OF NEW DESIGNS

5.1.1. Design of Stainless Steel MUTP Phase-II coaches:

These coaches are to be manufactured with Bombardier electrics. To enhance the quality of the interiors, sidewall panels, end wall panels, roof panels and ventilator duct arrangement have been designed with Polycarbonate-based thermoplastic material (PC-ABS blend) with concealed screws. Injection moulded sleek and ergonomic polycarbonate sheets fitted on stainless steel frames are planned for the first time in these coaches. Handholds made by injection molded polycarbonate material are also designed. The other salient features of these coaches include

- Straight sidewall design with stainless steel shell of Linke Hoffman Busch (LHB) platform with corten steel under frame.
- 25 KV AC traction.
- 3-phase AC electrics by M/s. Bombardier with Insulated Gate Bipolar Transistor (IGBT) Technology.
- SS nosecone having SS Driver's cab sliding door.
- SS slip free finish flooring.
- Polycarbonate-ABS paneling with invisible screws.
- SS tubular partition frame with Honeycomb bottom paneling.
- Aluminium body side sliding door with rugged user-friendly locks/ latches.
- DIN rail concept for Brake piping.
- Electrically operated wipers.
- Metallic PU painting.

Drawings were issued for four variants (i.e.) Motor coaches, Trailer coaches, Driving Trailer coaches and Trailer coaches with compartments for differently abled persons.



Stainless steel shell for MUTP phase-II D coach

5.1.2. Design of 20 berth First Class AC coaches

First class AC coaches with 20 berths have been designed for the first time with improved features. The salient features of these coaches include

- Polycarbonate-based thermoplastic material (PC-ABS blend) has been used for interior paneling with concealed screws.
- Modular paneling has been used, which has provision for mirror, magazine bag, bottle holders, reading light and head rest.
- Stainless steel modular toilets
- 2 Nos of AC RMPU
- Increased passenger cabin space
- 1220 x 560mm wider windows in place of existing 915 x 560mm windows
- Shower room has been provided
- 2 Nos. of 25 KW Bogie mounted Alternator

Issue of all drawings and specifications for this coach has been completed.

5.1.3. 3-Phase AC/EMU (BHEL Electrics)

Railway Board placed orders for 10 rakes (12 car rake) on M/s. BHEL for IGBT based 3-phase electrics in November 2010. Out of 10 rakes, one rake is to be provided with air - conditioning.

Tentative layouts with the following variants were sent to RDSO initially:

- a) 3-seater layout – with vestibule and without vestibule
- b) 2-seater layout – with vestibule and without vestibule
- c) Single longitudinal seats layout – with vestibule and without vestibule

2-seater and single seater variants were found to exceed axle capacity under gross load in Super dense crush load (SDCL) condition. Based on feedback from RDSO, 3-seater layout – with vestibule, has been finalized and sent to RDSO.

5.1.4. AC EMU 12 car formation for Eastern Railway and Western Railway

Design has been completed and drawings have been issued for all the variants of AC EMU 12-car formation for Eastern Railway and Western Railway.

5.1.5. LHB EOG GS and SCN coaches with FIAT Bogie

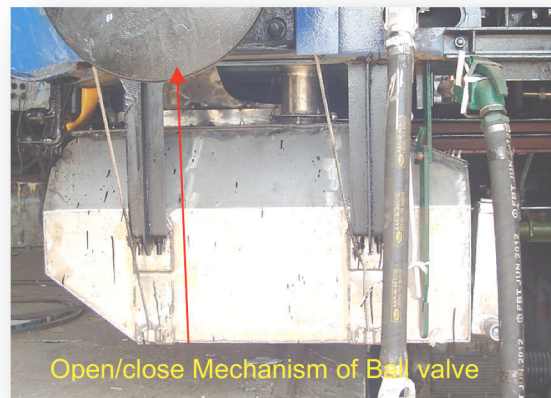
Design has been completed and drawings have been issued for both the builds.

5.2. DESIGN IMPROVEMENTS

5.2.1. Improvements in mainline Coaches

a) **Fitment of Bio-toilets in ICF coaches**

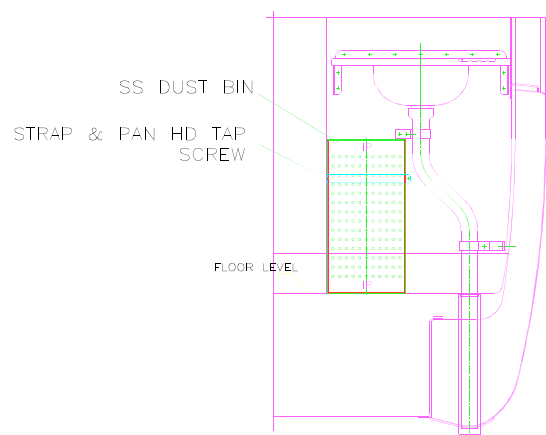
As advised by Railway Board, fitment of Bio-toilet retention tank in coaches turned out from ICF has commenced on both AC & Non AC coaches. Bio-toilets are fitted with open / close mechanism inside lavatory to ensure effective use of Bio-toilets during service by letting away objects that are chocking the toilets. Retention tanks are filled with 120 litres of Bacteria. 101 numbers of toilets have been fitted as on 31st March 2013 and procurement action is on hand for a full scale introduction on all conventional coaches.



b) **Introduction of stainless steel dustbin inside toilet**

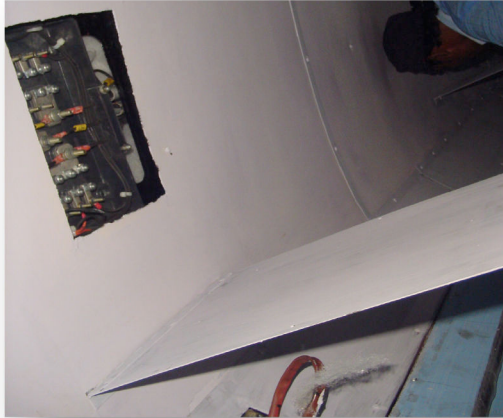
Monitoring of Bio-toilet is being done in close coordination at all levels. The main problem encountered is chocking of the system with unwanted material.

In order to collect them and to avoid throwing of garbage like plastic/glass bottles, tea cups, napkins etc into the toilet bowl, stainless steel dustbin is provided in the toilets provided with Bio-toilet system. These dustbins are kept near washbasin inside the toilet.

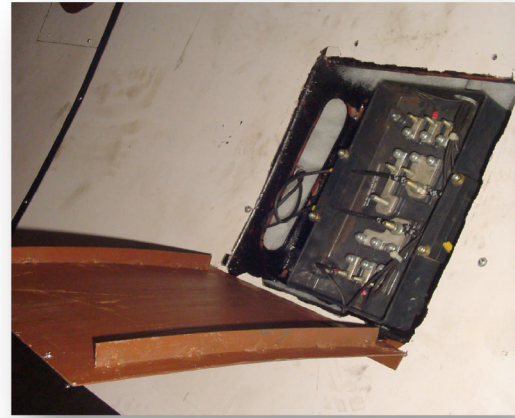


c) **FDB cover**

Fuse Distribution Boxes (FDBs) are provided on roof of mainline coaches for protection against overloading, and inspection cover is screwed over it. However, due to curvature of roof, gap is available between roof and inspection cover. Feedback has been received from various zonal Railways about foreign materials getting inside FDBs and resulting in fire. Instructions were received from RDSO also, to develop FDB doors capable of preventing entry of foreign materials into FDBs. Accordingly, modified FDB cover is developed and prototype manufactured.



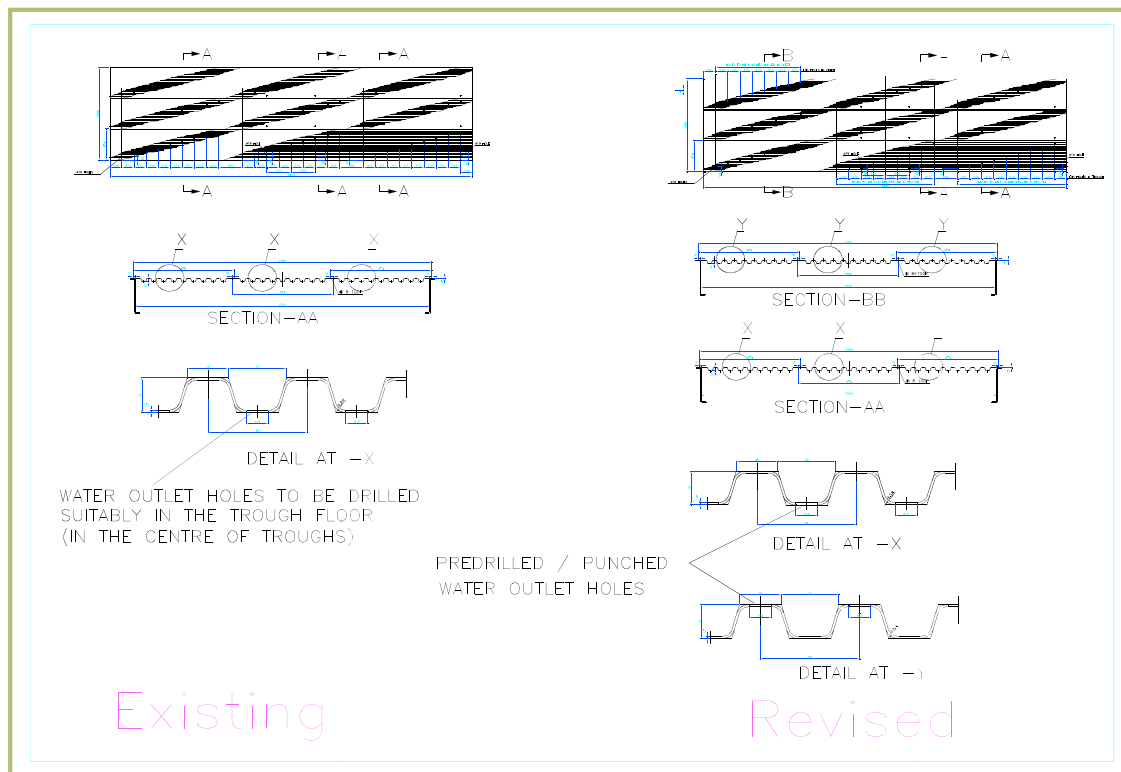
Present Design



Proposed Design

d) **Modification of trough floor**

Cold Roll Formed trough floor provided in under frame of BG conventional coaches is joined by providing a connecting web between two ends of corrugated trough floor. Minor variation in length of under frame always results in consumption of a large number of connecting webs and poor joining of trough floor. To overcome this problem, design of trough floor joint has been modified to enable overlapping of the trough floors. This will address the problem of length variation of under frame during assembly. Further, design modification to the trough floor regarding location of drain holes has been done to avoid drilling of drain holes for AC coaches.



e) **Provision of curtains in aisle of AC 3 Tier coaches**

As per Railway Board's directives vide letter No.99/M(C)/ 141/ 21 dt.24-04-09, fire retardant curtains have been introduced in aisles of AC 3-T coaches as a standard passenger amenity item.

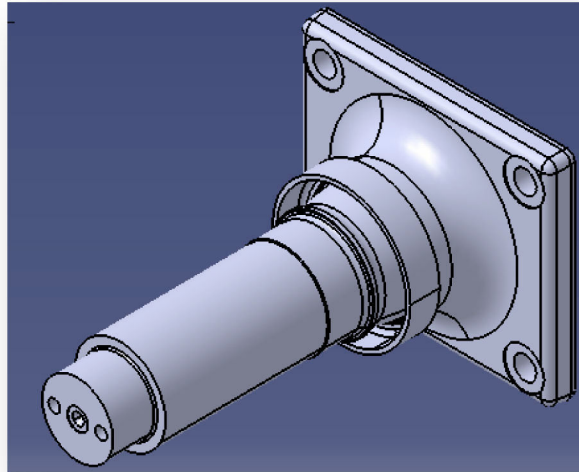


f) **Other improvements**

- Design of J brackets and fixing brackets for fixing bio-toilets has been standardized in line with RCF design.
- 1mm thick MS sheets have been introduced in the berth frames of middle and upper berths for SCN coaches in place of compreg sheets. This will lead to reduction in coach weight.
- In order to increase the service life of equalizing stay, forged type equalizing stay has been designed for AC and non AC mainline coaches on a trial basis and drawings have been prepared and issued.
- WAGO type junction boxes have been introduced in place of TOSHA type junction boxes in ACCN coaches to overcome space constraints.
- Standardized lavatory side wall has been introduced for ACCW and ACCN coaches.

5.2.2. Improvements in EMUs

- HT compartment sliding door of AC EMU motor coaches has been modified with locking arrangement with key provision with master.
- Fabricated design collars procured from trade for AC EMU/M wheel sets were facing frequent rejections due to lack of concentricity. Hence, a new welded design collar with seamless tube has been developed to overcome this difficulty.
- Complaints were received about welding failure in the fabricated design of CP pin in DEMUs and EMUs. Hence, forged design short CP pin was developed for use in these coaches. Since the forged design of CP pin is short, modification was required in the design of body bolster to accommodate the short CP pin. The drawings for modified body bolster have been prepared and issued.



Single piece CP pin for 20t bogies

- Red oxide zinc primer has been introduced in the cattle guard of MRVC/SS coaches for better corrosion resistance.
- The design of under frame of MRVC Phase-II motor coach was critically examined using FEA iterations. The design has now been optimized and a weight reduction of 800 kg approx. has been achieved per under frame.
- Central Railway had complained about shearing of lateral damper fixing screws in EMU bogies. A new design of lateral damper fixing bracket was developed with modified cross section, to overcome this problem for all EMUs and DEMU coaches.
- Based on points noted during GM's visit to Mahalaxmi Car shed, Mumbai on 29.10.2012, disc lock washers were introduced to avoid loosening of Manganese Steel liner fixing screws in service.

5.3. Improvements in DEMUs

5.3.1. Introduction of stainless steel battery box

Currently, fixed type Battery Box made of mild steel is used for DEMU coaches. Difficulties faced in this design are that they are subject to corrosion and operational limitations. As the batteries are of fixed type, handling them in and out of the battery box is tedious and time consuming.



Stainless Steel Battery Box



Open Position



Closed Position

Hence a better design battery box has been designed. This new design battery box is made of stainless steel with roll-on telescopic rail. This will facilitate loading and unloading of batteries. It will also facilitate top-up of batteries and other routine inspection. This improved design battery boxes are introduced on 1600 hp DEMUs.

5.3.2. Fuel tank with fuel level sensor

In DEMU coaches, existing fuel tank is with conventional fuel level indicator fitted on to the fuel tank. Driver is expected to get down from the cabin and note down the fuel level. Difficulties are experienced in data collection on fuel utilization.



In 1600 HP IGBT DEMU coaches, a new sensor arrangement for fuel tank has been developed and fitted. With this the actual fuel level can be monitored from driver's cabin itself. This sensor is ultrasonic and non-contact type.



Sensor

With this sensor, it is easy to record and monitor fuel filling and consumption. Statistical data on fuel consumption per trip or over a period can be easily compiled. Besides, the fuel consumption data can be monitored through GPRS also. With these advanced features, complete account of fuel can be maintained with ease.

5.3.3. Other improvements

- A new suspension arrangement has been developed for RCF type 40 lit air reservoir to be used in DEMU coaches.
- Drawings have been issued for introduction of Rockwool insulation inside the Engine room for improvement of fire resistance in DMU/DPC coaches.

g) Design Validation

Finite element analysis has been performed for the following:

- Various proposals of MRVC Driving Motor Coach to study the feasibility of implementing zero camber.
- MRVC/C/SS coach with straight side wall - To reduce the stress level in certain areas, modifications like strengthening of sole bar with additional ribs, introduction of additional doorway stiffeners etc have been suggested. These changes have been incorporated in the MRVC phase-II drawings.
- Nose suspension bracket of MRVC phase-II Motor Coaches.
- Bogie frames of AC coaches with reduction in thickness by 1mm, 1.5mm and 2mm for maintenance workshop repairs.
- Leveling valve support bracket for Kolkata Metro coaches with M20 bolts.
- Fabricated side buffer casing.
- Modified lateral shock absorber bracket for EMU bogie frame.
- Under frame SLED area of ARTV coaches.
- Deflection of under frame of IR DEMU/DPC with strengthening of under frame.

5.4. OTHER IMPROVEMENTS

- 5.4.1. In roof assembly shop, finished roof assemblies are stacked one over the other. This necessitated workers climbing over the stacked roofs under unsafe conditions to access the roof assemblies stacked on top during lifting. In order to overcome this problem, a new ladder with foldable foot plate has been designed and manufactured to ensure the safety of employees climbing over the roof stacks.

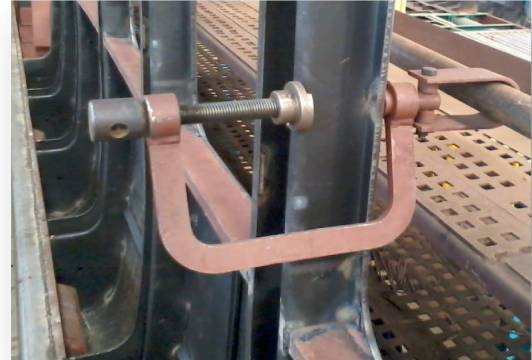


Ladder for roof stacker with foldable foot plate

- 5.4.2.** Previously, clamping of side wall in body shell jig involved using a bracket which had to be held in position by one person and the clamps were swiveled and nuts tightened by another. A new type of C- clamp has been developed, which can be handled by one person, as no loose pieces are involved and thus saves manpower.



Existing Design



Proposed Design

- 5.4.3.** In B- shed, the overhead cranes are over worked and often work gets delayed due to non availability of overhead cranes in time. In order to overcome this problem, low roof body shell fixture has been designed for erection in B- shed. The main advantage of this low roof fixture is that the under frame assemblies can be loaded on to dip lorries and pushed into the fixture rather than being loaded from the top by overhead cranes.



Low roof body shell fixture in B-shed



Collapsible body bolster locator at CP pin area in low roof body fixture



Openable end stand in low roof body fixture

5.4.4. At present, camber is being set in under frame of coaches by using camber beam and camber blocks. However, this is a cumbersome and a time consuming process. In order to overcome this problem, movable screw jacks are incorporated in the design of low roof body shell fixture. These screw jacks can be easily moved to the required location and the required amount of vertical lift can be given at the location. This will lead to considerable reduction in man hour.



Movable screw jacks in body shell fixture

- 5.4.5.** As per Railway Board's instructions, Bio-toilets are to be provided on mainline coaches being turned out of ICF. This requires welding of J- brackets onto the under frame to hold the retention tanks of bio-toilets. A new fixture has been designed to properly locate the J- brackets at the appropriate location for welding on to the under frame.



Welding fixture for J- brackets

- 5.4.6.** In the existing design, camber blocks are provided below the cross bearers on the body assembly jig. The camber readings are taken with reference to the bottom of sole bar. This is creating error in camber reading. Provision of camber blocks below sole bar will eliminate the error in camber reading. Drawings have been issued with these modifications for early implementation.
- 5.4.7.** LHB shells are mounted on dummy bogies with special arrangement for accommodating LHB shells. However, this leads to variation in coupler height and consequently, difficulty is experienced in attaching these shells to shunting locomotives. In order to overcome this problem, dummy hooks have been designed and fitted on LHB shells.



Dummy hook for movement of LHB shells

5.4.8. Previously, AC trough and frame arrangement were being welded to Roof in the trestle stage, ie, after lifting the roof from the jig. Now, these two items (AC trough and framing arrangement) are being procured as an integrated unit and hence, it was decided to weld this sub-assembly to the roof assembly in the jig stage itself to save time. Drawings for necessary modifications were prepared and issued and these modifications have been made in the roof jig to accommodate this unit.

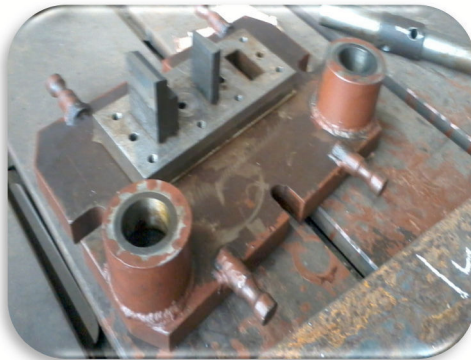


Cant rail resting on the raised bed with strap clamp

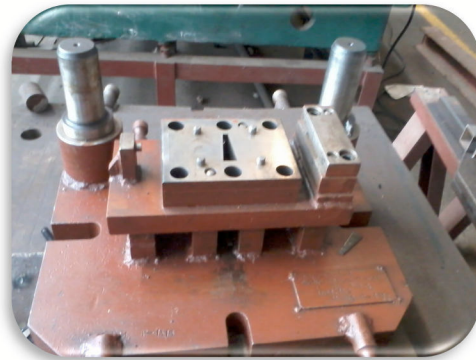


Modified Roof jig with roof, AC trough and framing arrangement resting on the raised bed

5.4.9. Combination tool involving shearing and blanking operations has been developed for angle used for fixing door stop for EMU coaches. For each stroke of the ram two numbers of angles can be pressed out, thus saving time.

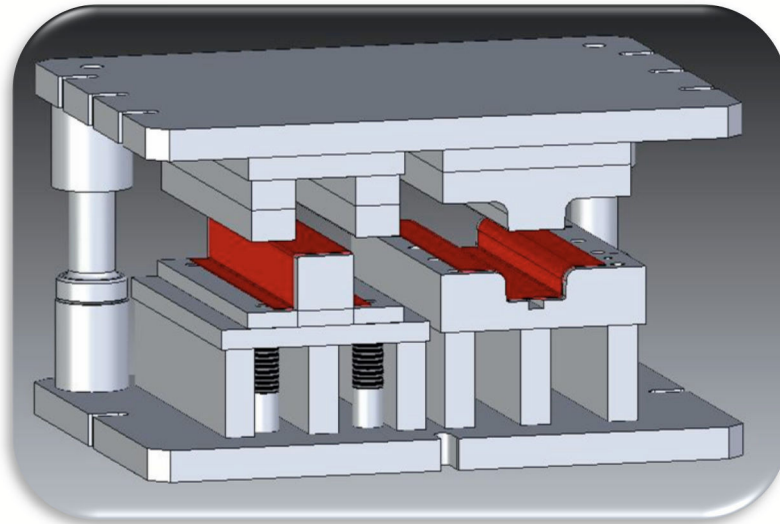


Top tool



Bottom tool

5.4.10. At present, forming operation for manufacture of stiffener for EMU end wall is carried out in press brake and involves four bending operations. A new forming tool has been developed, with which the component can be formed in two stages using the same tool. This not only saves the cycle time, but also improves the quality of the product. Drawings have been prepared and issued to shop floor.



Proposed forming tool for stiffener of EMU end wall

- 5.4.11.** Presently, separate welding fixtures are used for welding alternator brackets and belt tensioning brackets for AC coaches. Since the two items are being welded separately, difficulty was being experienced in ensuring that the two items were at the same level. A unified welding fixture has been developed for welding these two items, with reference from the axle box guide, thus improving quality of the assembly and ensuring proper leveling of the items.
- 5.4.12.** Welding of WFR and diode mounting assembly in Kolkata Metro coaches was being performed after positioning the items manually. However, this has not only led to over dependence on human skill for proper positioning but also errors in positioning. In order to overcome these problems, a new welding fixture for welding WFR and diode mounting assembly in Kolkata Metro coaches has been designed and manufactured.



Fixture for welding WFR and diode mounting assembly in Kolkata Metro coaches

5.4.13. The following Jigs, Fixtures, Gauges and other tools and material handling equipment as required for the production, have been developed and drawings issued.

- Bending Tool for EMU Bogie Bolster CP Pin Sleeve half in Horizontal Press
- Holding fixture for Back Pieces on Under Frame Head Stock for driver desk mounting of MVRC phase-II coaches and Lavatory Side Wall for LHB Shells
- For the movement of shell in the lower bay of B shop with reduced height of crane new dip lorry with reduced height drawings developed and issued.
- Drawings for frame for 2 Ton Straddle crane at Nissan Shed Fur.
- Inter Bay Transfer Trolley for transferring under frame, Roof, Body Shell at new LHB Project.
- Sketch for crane Driver Seat for use in Shell.

EXPORT

- 6.1.** ICF manufactures railway passenger coaches, coach shells, bogies and coach spares for domestic as well for foreign markets, besides meeting the Rolling Stock and spares requirements of Indian Railways as per the directives of Railway Board.

So far, 601 coaches, 359 bogies, 11 coach shells and a number of spares have been exported to different Afro-Asian countries.

The details of coaches/shells/bogies/spares exported by ICF up to March 2013 are furnished at Annexure – I.

6.2. EXPORT PERFORMANCE OF ICF DURING 2012-13

6.2.1. OVERSEAS MARKET

a) Export Orders - Sri Lankan Railways

ICF has successfully executed the export order for 20 six-car DEMU train sets to Sri Lanka Railways through M/s. RITES.

The composition of one DEMU train set is as follows.

Type of Coach	Quantity
Driving Power Car (Economy Class)	1 No.
Trailer Car (Business Class)	1 No.
Trailer Car (Economy Class)	3 Nos.
Driving Trailer Car (Business Class)	1 No.

Five Train Sets had been manufactured and shipped to Sri Lanka during 2010-11 and ten more during 2011-12. The balance five train sets (Rake Nos: 16-20) were shipped during 2012-13. During the dispatch all the seats were covered with bubble wrap sheet to avoid dirt collection. The last five rakes were painted with a new colour scheme (raspberry red) as per the customer's demand.



Shipment of the final lot of DEMUs to Sri Lanka

b) Quotations for Export – Bangladesh Railways



Conventional Coaches

Quotation for manufacture of 414 coaches of 14 different types has been submitted to M/s. RITES for Bangladesh Railways.



DEMU Coaches

Quotation for manufacture of 10 rakes of Six Car DEMU rakes has been submitted to M/s. RITES for Bangladesh Railways.

6.2.2. DOMESTIC MARKET – NON-RAILWAY

Defence Research & Development Organisation (DRDO)

- (i) Revised quotation submitted for manufacture and supply of 2 Jet Deflector Crane Cars.
- (ii) Quotation submitted for manufacture and supply of 7 Integrated Communication Coaches.
- (iii) Revised quotation submitted for manufacture and supply of 3 bogies for JDCC coaches and 2 bogies for ICC coaches.

ANNEXURE – I

DETAILS OF EXPORT (Up to 31.03.2013)

Details of products exported to various countries since inception are as follows:

SL.NO.	YEAR	TYPE	NO. OF STOCK EXPORTED			COUNTRY	COST (Rs. Lakhs)
			BOGIES	SHELLS	COACHES		
1	1967-68	MG BOGIES	2			THAILAND	0.47
2	1969-70	MG BOGIES	45			THAILAND	9.18
3	1967-68	MG BOGIES	66			BURMA	16.50
4	1975-76	MG BOGIES	2			BURMA	1.22
5	1969-70	CG BOGIES (1067MM)	100			TAIWAN	21.00
6	1971-72	CG COACHES (1067MM)			113	TAIWAN	398.96
7	1974-75	CG BOGIES (1067MM)	32			TAIWAN	22.77
8	1978-79	CG BOGIES (1067MM)	64			TAIWAN	63.23
9	1978-79	CG BOGIES (1067MM)	48			TAIWAN	53.76
10	1973-74	CG COACHES (1067MM)			6	ZAMBIA	14.81
11	1975-76	CG COACHES (1067MM)			30	PHILIPPINES	224.88
12	1978-79	CG COACHES (1067MM)			30	PHILIPPINES	289.60
13	1976-77	MG COACHES			17	TANZANIA	196.64
14	1978-79	MG COACHES			20	UGANDA	263.21
15	1979-80	MG COACHES			50	VIETNAM	548.15
16	1982-83	CG COACHES (1067MM)			32	NIGERIA	293.86
17	1984-85	MG COACHES			9	BANGLADESH	120.60
18	1986-88	MG COACHES			61	BANGLADESH	880.51
19	1984-85	CG COACHES (1067MM)			15	MOZAMBIQUE	148.80
20	1994-95	MG COACHES			15	VIETNAM	783.20
21	1997-98	MG COACHES			27	TANZANIA	2314.30
22	2004-05	MG SHELLS		11		MALAYSIA	348.97
23	2006-07	CG COACHES (1067MM)			24	ANGOLA	1766.00
24	2007-08	CG COACHES (1067MM)			32	ANGOLA	3821.00
25	2010-11	BG COACHES			30	SRI LANKA	2743.19
26	2011-12	BG COACHES			60	SRI LANKA	6583.65
27	2012-13	BG COACHES			30	SRI LANKA	3291.83
		TOTAL	359	11	601		25220.29
		SPARES					461.50
		GRAND TOTAL					25681.79

INDUSTRIAL SAFETY

(i) Occupational Health & Safety Management System

During 2012-13, Quality Management System (QMS) to ISO 9001:2008, Environmental Management System (EMS) to ISO 14001:2004 and Occupational Health & Safety Management System (OHSAS) to BS 18001:2007 have been merged to form Integrated Management System (IMS).

Contract for certification to IMS in ICF is under process.

(ii) STEPS TAKEN TOWARDS INDUSTRIAL SAFETY

i) **Safety Review Meetings** are conducted every week on Tuesdays in the presence of all managers concerned with Officers and Senior Supervisors. In that forum **Unsafe Acts & Conditions**, Safety related issues, follow up of Safety issues including accidents are being discussed and a presentation is made with suitable corrective and preventive actions.

ii) **Monthly Safety Review Meetings** are conducted every month (second Friday) in the presence of CME, Principal HOD's, HOD's, Manager's, Chief safety officers and safety officers. In that forum important safety points, Accidents, Safety inspection points are discussed in detail and reviewed every month.

iii) **Headquarters Safety Committee meeting** (comprising equal participation from employees and management) was conducted once in three months and the various points discussed in the meeting are being recorded in the minutes of the meeting and the records are maintained. The progress/action taken on the points are being reviewed in every meeting.

iv) Apart from reportable accidents, Near-miss incidents are also captured and corrective and preventive action is advised to concerned shops for non-recurrence of the incident.

SAFETY TRAINING

- **Firefighting Training** along with fire drills was arranged and imparted to 330 employees of Shell Division, 73 employees of Shell Administrative building and 270 employees of Furnishing division.
- **First Aid Training** was arranged and imparted to 349 employees (in 8 Batches) of Shell Division and 252 employees (in 9 Batches) of Furnishing Division.
- Training classes on **"Accident prevention programme"** was conducted as part of Supervisory Development Programme.
- Training classes on **"Disaster Management Programme"** for 6 batches each in Shell and Furnishing Divisions.
- Training classes on **"Environment Hazards safety statutory requirements"** for 6 batches each in Shell and Furnishing Divisions.

- **“Induction Safety Awareness”** Programme was conducted for 396 Act Apprentices before they have gone to shop floor for practical training.
- **“Accident Prevention”** Programme was conducted for accident met employees (during 2012) at TTC.
- **“Safety in Maintenance”** programme was conducted for 15 Millwright employees of fourth batch at TTC.
- **“Accidents in Hydraulic Machines and Safety in working with Hydraulic Press”** Programme was conducted for the operators and the supervisors concerned.
- **“Accidents in B-shed and precautions in working with EOT Crane Maintenance work”** Programme was conducted for crane maintenance workers and supervisors of the contract team.
- Routine counseling is being done for wearing of PPE by Safety Officers and is being projected in the Monthly Safety Review Meetings. About 2598 employees were counselled.

Type of Emergency	Mock Drill conducted on (Shell)	Mock Drill conducted on (Fur)
Explosion of Gas cylinder/Gas Line	16/05/2012	28/11/2012
Acid Spillage	21/06/2012	27/04/2012
Fall of Objects/Material from EOT Crane	10/07/2012	
Breakage of lens (laser)	31/08/2012	
Grinding Wheel breakage	12/09/2012	
Fall from Height	31/10/2012	27/05/2012
Electric Shock	30/11/2012	25/10/2012
Snake Bite	03/12/2012	18/12/2012
Fire Drill	20/02/2013	09/03/2013
Fall of Objects/Material from Lifting machines		28/09/2012
Oxy-Acetylene gas plant		12/07/2012
Fire at New Paint Shop		28/08/2012

MOCK DRILLS - Mock drills were conducted during 2012-13 on the following types of emergency:

Installation of Fall Protection system

Fall protection system has been successfully installed in 7th line of shop-36 (AC coach finishing shed) and 8th line of shop-30 of Furnishing division for safety of workmen working over the roof of AC coaches (e.g RMPU mounting and RMPU -FRP cover fixing).



PERSONNEL PROTECTIVE EQUIPMENT

- Continuous follow up and interaction with Stores department to ensure availability of all PPE on shop floor.
- Spatter-proof dress for welders was tried out in Shop-20 & 21.
- PPE Survey was made with experts in the market for procurement of new PPE.
- As an alternative to polycarbonate goggles issued presently, goggles made up of CR-39 material was tried out in Shop-21 & 22 in Shell Division.
- 10 nos. of safety goggles with prescription lens were distributed to Shop-21,22&14 as a trial measure.
- Improved leather hand gloves for welders -- trial was extensively carried out in all welding areas and procurement was made for 5000 numbers for further trial.
- To ensure safe handling of EOT cranes in B shed, communication device (Tailor-made walkie-talkie) was under trial.

The following Personal Protective Equipment is issued to the employees:

PPE Issued	To protect
Helmet, leather cap	Head
Goggles, face shield	Eyes
Ear plug, ear muff	Ears
Dust mask, nose mask, organic nose mask	Nose
Welders' hand shield, face shield	Face
Leather apron, canvas apron	Body
Leather hand gloves, rubber gloves, acid-resistant gloves, leather hand sleeve	Hand
Safety shoes, hot zone shoes, electrical shoes, ladies safety shoes, leg guard	Legs

The following activities were carried out to create awareness amongst the employees:

- Five numbers of Banners were displayed at prominent places.
- 250 numbers of 'Safety Day badges' were distributed to employees.
- Safety Day pledge was administered in Shell and Furnishing divisions where officers, supervisors, employees and contract employees took the pledge.
- "Safety Award" was distributed along with a certificate to 53 employees (who led by example by observing safety rules) by CWE/Shell and CWE/Fur, the Occupiers of Shell and Furnishing factories respectively.
- "Safety Quiz competition" was conducted in which 160 employees participated and prizes were awarded to 30 employees.

Accident Statistics – 2012-13

Description	Shell Division	Furnishing Division
No. of Accidents	52	19
Man-days Lost	1458	726

PROJECTS

The status of the various Projects is given below:-

S. No	Project	San. Detail	San. Cost Rs Crores	Financial Progress	Physical Progress	PDC
1.	Modernization and expansion of ICF to manufacture technologically upgraded coaches with Increased production capacity from 1500 coaches to 1700 coaches per year.	Item 75 of 2010-11	252.04	Brief Note enclosed.		
2.	Augmentation of spring manufacturing facilities	Item 10 of 2004-05	86.25	RE sanctioned by Railway Board during Dec 2012.		
3.	Augmentation of capacity for manufacture of 1500 coach per annum.	Item 21 of 2006-07	77.80	84.10%	100.00%	Completed during 12-13
4.	Augmentation of capacity for manufacture 1250 shells	Item 14 of 2005-06	11.86	89.80%	100%	Completed during 11-12
5.	Augmentation/upgradation of facilities for MRVC electrical multiple unit	Item 7 of 2002-03	56.07	73.40	95.00%	Dec'13

A brief of the above projects is given as under:-

7.1. Modernization and expansion of ICF to manufacture technologically upgraded coaches with increased production capacity from 1500 coaches to 1700 coaches per year.

Railway Board's sanction had been communicated vide letter No. 2010/M(W)/964/28 dated 30.03.2011 for the detailed estimate amounting to Rs 249.58 crore for modernisation and expansion of ICF to manufacture technologically upgraded coaches with increased production capacity of 1500-1700 coaches per year. In view of inclusion of one coil spring scragging & load deflection testing machine for FIAT bogie spring at a cost of Rs 2.65 crore under material modification, revised detailed estimate at a cost of Rs 252.04 crore was sanctioned by Railway Board on 18.11.2011.

Board's approval for entering the composite work (Civil, Electrical and Mechanical) excluding the portion of work related to manufacture of FIAT Bogies to COFMOW on turn key basis was received vide their letter No. 2010/M(W)/964/28 dated 01.04.2011.

Board, vide their letter No. 2010/M(W)/964/28/FIAT Bogies dated 01.04.2011, advised that portion of work related to manufacture of FIAT bogies is also to be executed on turn key basis and the feasibility of awarding this work to RITES to be explored by ICF, since similar work of setting up of FIAT bogie manufacture facilities at Budge-Budge workshop (Eatsern Railway) under RCF, Kapurthala is also being executed by RITES. This was in view of the likely benefits to Railways on account of economics by clubbing the requirements of Budge-Budge project and ICF. There is also a demand for FIAT bogies from Zonal Railways and RCF as ultimately more rolling stock shall be produced with these bogies in future and manufacturing capacity for the same is a constraint.

A meeting was held at ICF on 20.04.2011 which was attended by COFMOW and RITES. It was decided that the scope of work by RITES will be procurement of M&P, foundation work and commissioning of machines on turn key basis for FIAT Bogie section. The remaining work including Civil Engineering, Electrical & M&P for the total facilities (Shell & Bogie) will be processed by COFMOW in the composite tender.

As directed by Railway Board vide their letter No: 2010/M(W)/964/FIAT bogies dated 01.04.11, ICF entered into two contracts with RITES for turnkey service for procurement of M&P. First contract for the procurement of 18 machines at a total contract value of Rs 61.61 crore was signed on 17.08.2012. Second contract for 3 machines at a total contract value of Rs 7.9 crore was also signed on 22.02.2012.

COFMOW planned to execute the shell manufacturing facilities in three tenders. The first works contract for the shell manufacturing bay was finalised and contract was signified on 23.05.2012 at a cost of Rs 80.94 crore. The second contract was also signified on 28.06.2012 at a cost of Rs 53.98 crore. The COFMOW works commenced on 27.07.2012 by M/s HYT_GEL(JV). The third tender was floated on 24.07.2012 and opened on 29.11.2012 for garnet blasting plant and allied work. Retendering of the above Stores tender is due on 27.06.2013.

Review of the 1700 coach project was conducted by GM at COFMOW along with RITES on 25.03.2012. Project review meeting with RITES was conducted at ICF on 23.03.12, 11.04.12, 19.06.2012, 16.08.2012 18.10.2012 ,04.12.2012 and 04.02.2013. Footprint of machines finalised for FIAT bogie bay with RITES on 17.08.2012. Project review meeting with COFMOW was conducted at ICF on 06.03.12, 23.03.12, 04.07.12, 23.08.12 and 27.11.2012, 30.01.2013. Project review meeting with COFMOW & RITES was conducted jointly at ICF on 05.03.13.

Current Status

Values in Rs crores

San. Cost	BG for 2012-13	Expenditure During 12-13	Cumulative Expenditure up to 12-13
252.04	45.00	39.50	39.87

7.2. Augmentation of spring manufacturing facilities.

All the civil engineering and electrical works were completed. One Load testing machine was received and commissioned.

Global tender for Single indent comprising 11 items was floated and opened during Nov '09 by COFMOW. However, the tender was discharged during Jan'2011 due to none of the offers received were considered suitable. COFMOW have returned the Indents for revalidation and revision of cost of M&P due to cost escalation.

The project was reviewed and revised estimate was submitted to Board during Dec '11. Sanction of RE-I at a cost of Rs 86.25 crore was communicated to ICF on 10.12.2012.

Indent covering 11 M&P costing Rs 78.39 crore was submitted to COFMOW on 12.02.2013.

7.3. Augmentation of capacity for manufacture of 1500 coach per annum.

➤ All the M&P except the following sanctioned in the project have been received and commissioned. COFMOW requested to drop the procurement action of the following M&P to enable early completion of the project.

1. EOT Crane 5 Tons - 1 no. Yet to be ordered.
2. X-Ray Machine - 1 no. PDS-June'12

➤ All the Civil & Electrical works were completed.

➤ Final Expenditure Statements (FES) for the all the works are under compilation and it is decided to draw the completion report before end of July'2013.

Current status :

Values in Rs crores

San. Cost	BG for 2012-13	Expenditure During 12-13	Cumulative Expenditure up to 12-13	Financial Progress	Physical progress
77.92	0.95	1.58	65.50	84.10	100.00%

7.4. Augmentation of capacity for manufacture 1250 shells.

All the Civil & Electrical works were completed. All the M&P sanctioned in the project were received and commissioned. FES pertaining to all Mechanical works submitted to Finance. FES pertaining to Electrical & Civil is under compilation. Completion report is expected to be completed by July'2013.

Values in Rs crores

San. Cost	BG for 2012-13	Expenditure During 12-13	Cumulative Expenditure up to 12-13	Financial Progress	Physical progress
11.86	0.03	0.07	10.65	89.80%	100%

7.5. Augmentation/upgradation of facilities for MRVC Electric Multiple Units

All electrical, civil works are completed. All M&P were received and commissioned. One Welding manipulator ordered on M/s IGM/Austria is under transit and expected by April 2013. FES for the completed works under submission.

Current Status :

Values in Rs crores

San. Cost	BG for 2012-13	Expenditure During 12-13	Cumulative Expenditure up to 12-13	Financial Progress	Physical progress
56.07	1.9	3.9	41.16	73.40%	95%

Complete switch over to LHB coach manufacture

- Railway Board vide letter no. 2009/M(PU)/1/27 dt 12.03.2012 directed ICF to advise about action plan and roadmap to complete switch over of LHB coaches at ICF.
- Thorough study is required to switching over to LHB coach manufacturing stage by stage without affecting the existing production belt and make use of the existing facilities.
- Consultancy contract was awarded to M/s RITES on 11.09.2012.
- Draft report submitted by RITES on 04.12.2012. The draft report is under scrutiny by ICF.

M&P Works

- During 2012-13, 187 number of machines [10 items] costing about Rs 23.68 crore were received through COFMOW/RITES procurement. Out of which 114 machines were commissioned and 73 machines are under commissioning.
- During 12-13, 155 nos of M&P [21 items] costing about Rs 1.96 crore were procured through COS/ICF and commissioned.
- Completion reports for 44 M&P have been drawn and sanctioned.

STORES

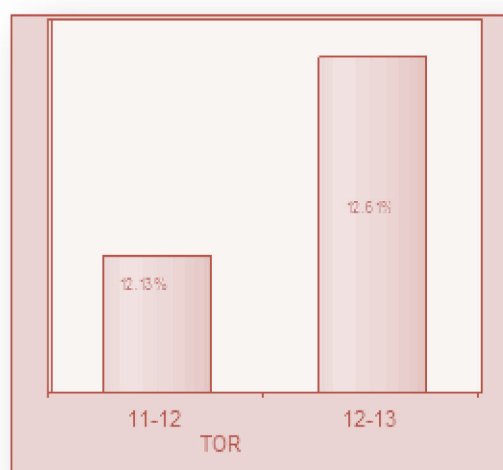
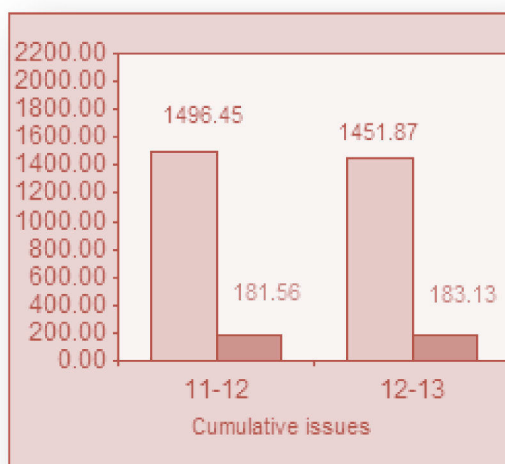
8.1. GENERAL

The year 2012-13 has been a land mark in the history of ICF achieving all time high production of 1620 coaches. The target was achieved due to outsourcing of large no. of items to trade and that stores department took upon the responsibility of arranging materials timely by taking special efforts and close co-ordination with the vendors.

Materials Management in a Production Unit throws much tougher challenges to any Materials Manager due to the need to ensure 100% availability of all required items for production & at the same time meeting challenges under given budgetary provisions and also maintaining optimum Turn Over Ratio in the order of 12%. Stores department of ICF has successfully met the challenges of ICF production over the years. ICF has envisaged wide range of coach types leading to drastic variations in Production Programme. The stiff challenges were efficiently dealt with by proper review of requirement by maintaining the flow of material for production on one side and to avoid accumulation of inventory not required for production. This was achieved by holding regular interaction with suppliers and consuming departments towards effective supply chain management.

It was a matter of great satisfaction that ICF surpassed the previous best of 1511 coaches in 2011-2012 by producing all time high production of 1620 coaches in 2012-13. This was possible with a systematic co-ordinated efforts at all levels by ensuring 100% availability of material well within time.

- 8.2.** The Gross Issue Value under Stores Suspense was Rs.1451.87 Crores (2012-13) as against 1496.45 Crores in 2011-2012. The Stores Suspense closing balance of Rs.183.13 Crores as on 31st March 2013 was marginally higher than the last year balance of Rs.181.56 Crores as on 31st March 2012. The Inventory Turn Over ratio as on 31st March 2013 was 12.61% as compared to 12.13% on 31st March 2012..

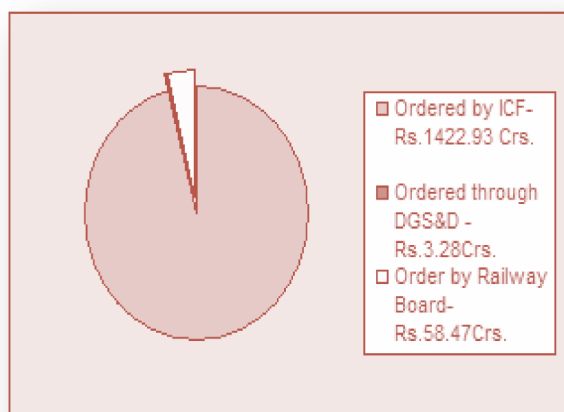


8.3. VALUE OF RAILWAY EQUIPMENT AND STORES ORDERED.

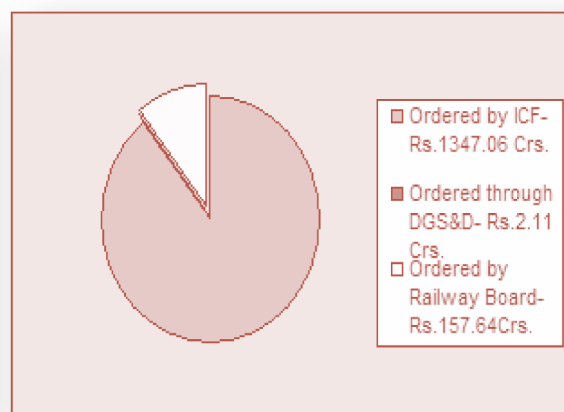
8.3.1. The value of Railway Equipment and Stores ordered during 2012-13 as compared to 2011-12 through various agencies is as follows:

Sl.No.	Particulars	2011-12	2012-13
1.	Value of Equipments and Stores Ordered through Department of Supply	3.28	2.11
2.	Value of Equipments and Stores ordered through Railway Board	58.47	157.64
3.	Value of Equipments and Stores Ordered direct by ICF		
	a) Through Import	5.10	1.11
	b) Imported Stores purchased in India	0.00	0.00
	c) Indigenous Stores	1422.93	1347.06
4.	Total Value of Stores and Equipments Ordered	1484.68	1507.82

(Value in Crores of Rupees)



Total value of Railway Equipments & Stores ordered during 2011-12 was Rs.1484.68 crores



Total value of Railway Equipments & Stores ordered during 2012-13 was Rs.1507.82 crores

8.3.2. VALUE OF STORES PURCHASED:

The details of category wise purchases made during the year 2012-13 are indicated in ANNEXURE-A.

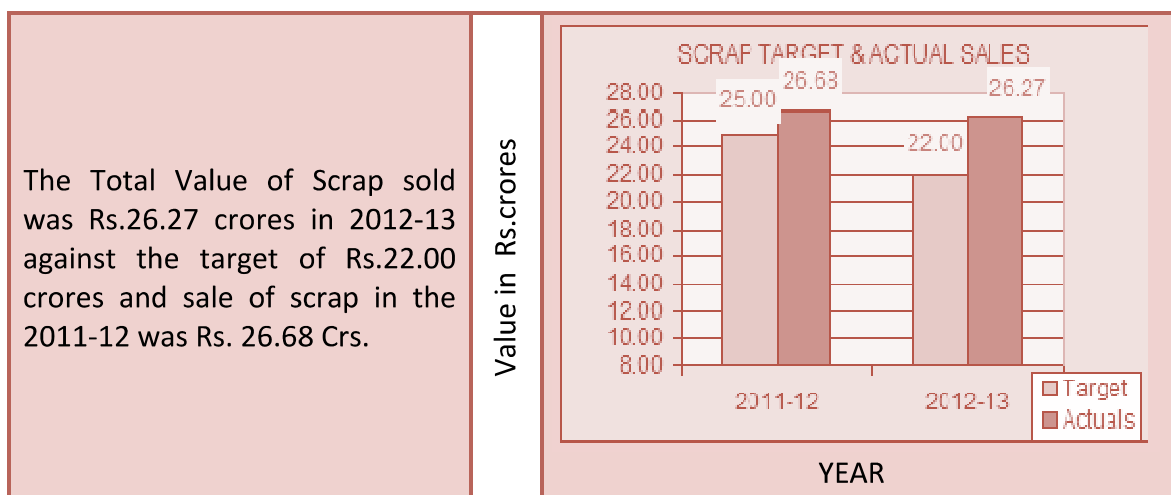
8.3.3. PURCHASES FROM COTTAGE AND SMALL SCALE INDUSTRIES:

The value of stores purchased (receipts) from Cottage and Small Scale Industries during the year 2012-13 was Rs.357.88 crores as against Rs. 268.44 crores during 2011-12.

8.3.4. USE OF KHADI:

The requirement of KHADI items in ICF in the year 2012-13 is Rs.7,12,020/-, as against Rs.6,51,289 during 2011-12.

8.4. SCRAP SALES:



8.5. MATERIAL SUPPLY POSITION:

8.5.1. CORTEN & MILD STEEL-SHEETS & PLATES:

These items are centrally procured by Railway Board, for which indents have been submitted. Supply position of Corten & Mild Steel Sheets & Plates during the year 2012-13 was satisfactory and smooth supply of these raw materials was ensured for the production requirements through ICF purchases also, if required.

8.5.2. WHEELS AND AXLE:

Wheels and Axles for BG conventional coaches are supplied by RWF/Bangalore and SAIL/Durgapur. Motor Coach and Trailer Coaches Axles for EMU coaches are supplied by RWF regularly. The supply position of WTA items are generally satisfactory by continuous follow up with suppliers and Railway Board.

8.6. DISPOSAL OF NON-MOVING AND SURPLUS ITEMS:

The frequent changes in production programme and changes in design reflected badly on increasing the value of these items during this year. The value of Non-Moving items over 24 months as on 31-03-2013 was Rs..13.57 crs.. This was due to LHB coach items which were not drawn as per the projections made due to stoppage of production of these types of coaches as per advise of Railway Board. The value of items not moved for more than 12 months but less than 24 months as on 31.3.2013 was Rs. 33.99 crores.

8.7. STORES BALANCE:

8.7.1. OPENING BALANCE AT THE BEGINNING OF THE YEAR 2012-13:

S.No.	Details	Crores
1.	Physical Stores Balance without Adjustment of Cap.P.7160	253.49
2.	Adjustment to Cap.P.7160 (i.e. P-7170 to P-7190)	(-) 5.91
3.	Outstanding Suspense Cap.P.7110, 7120, 7130, 7140	(-) 66.02
4.	Total Stores Balance from Cap.P-7110 to P-7190	181.56

(Value in Crores of Rupees)

8.7.2. TRANSACTION OF PHYSICAL STORES CAP. P-7160 DURING THE YEAR 2012-13 & CLOSING BALANCE AT THE END OF THE YEAR 2012-13.

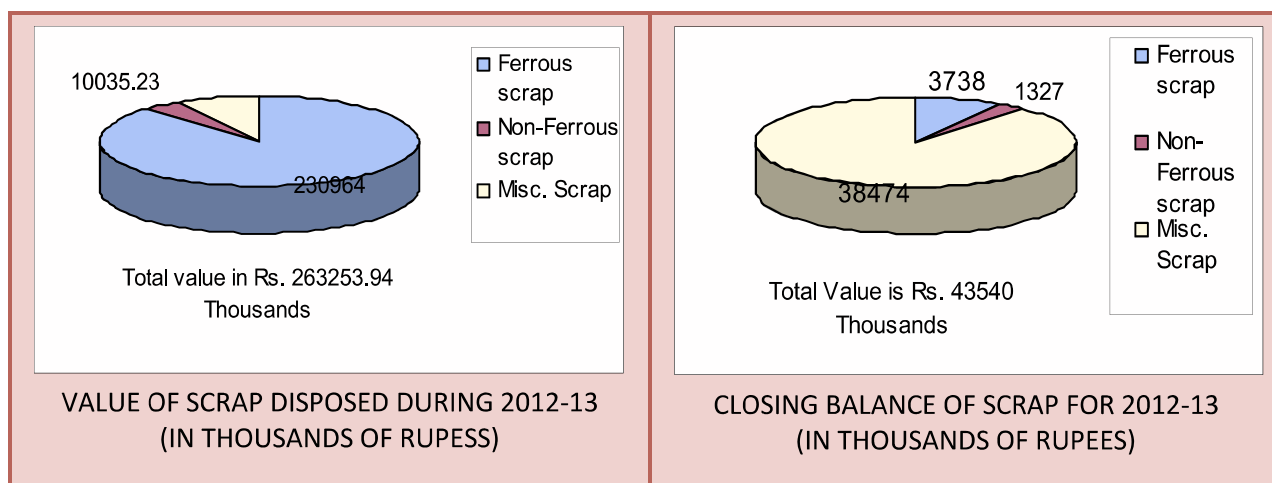
S.No.	Details	Crores
1.	Receipts	1516.22
2.	Issues	1480.66
3.	Physical Stores Balance w/o adjustment Cap.P-7160	289.06
4.	Adjustment to Cap.P-7160 (i.e. P-7170 to P-7190)	(-) 1.80
5.	Outstanding Suspense Cap.P.7110, 7120, 7130, 7140	(-) 104.13
6.	Total Stores Balance from Cap.P-7110 to P-7190	183.13

(Value in Crores of Rupees)

8.8. SCRAP (ARISING AND DISPOSAL) for 2012-13

(Value in Thousands of Rupees)

SNo	CATEGORY	OB as on 1.4.12		Receipts during the year 12-13		Disposal/ Issues during the year 12-13		CB as on 31.3.13	
		Qty MTs	Value	Qty MTs	Value	Qty MTs	Value	Qty MTs	Value
1.	Ferrous Scrap including Rails.	745	10426	8939	224266	9265	230964	419	3738
2.	Non-Ferrous Scrap.	60	2172	119	9190	136	10035	43	1327
3.	Misc.Scrap.	1884	41906	1690	18840	1515	22255	2059	38475
4.	Total	2689	54504	10748	252296	10916	263254	2521	43540



8.9. STORES DEPOT EFFICIENCY IN RESPECT OF STOCK VERIFICATION

Year	% of items verified with no discrepancy	% of items verified with discrepancy			
		Items upto the limit Rs.50/-	Items of Rs. 50/- to Rs.100/-	Items of Rs.100/- to Rs. 1000/-	Items above the limit of Rs.1000/-
2011-12	99.16	0.00	0.00	0.00	0.51
2012-13	98.67	1.01	0.00	0.04	0.27

8.10. STATEMENT SHOWING THE UNIT COST OF ISSUES

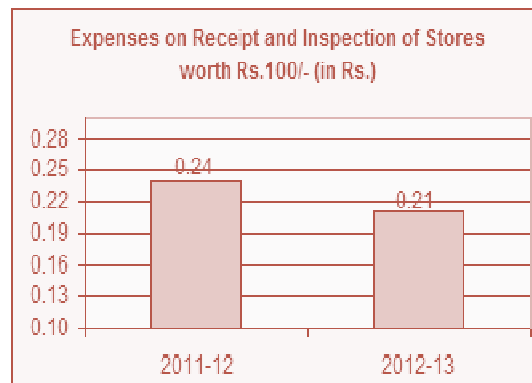
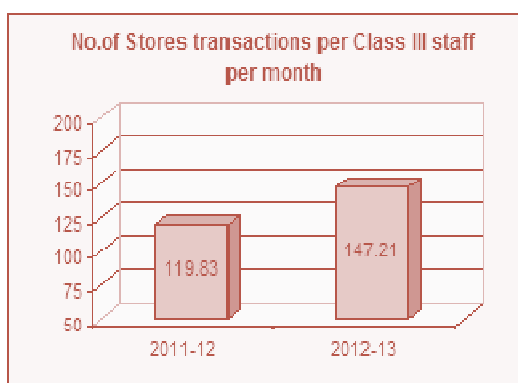
The unit cost of issues has come down marginally.

Year	Value of stores issued during the year (Rs.in crores)	Pay & Allowance of Depot Staff (Rs.in crores)	Cost of making issue of stores worth Rs. 100/-
2011-12	1448.92	9.39	Rs.0.67
2012-13	1480.66	10.22	Rs.0.69

Cost of issues of Stores worth Rs.100.00 (in Rupees)

8.11. STORES TRANSACTIONS

Year	Total no. of transaction during the year.			Average transaction per month	No.of CL-III staff	Average no.of transaction per CL-III staff per month.
	No. of Receipts	Nos. of Issues	Total Nos.			
2011-12	18746	158119	176865	14738	123	119.88
2012-13	20848	185785	182013	16193	110	147.21



8.12. RECEIPT AND INSPECTION OF STORES

Year	Expenditure on officers & staff on receipt & inspection works (Rs. in crores)	No. of staff for clerical & supervisory work.	Aprox. value of stores received (Rs. in crores)	Cost of receipt & inspection for every Rs.100/- worth of stores. (in Rs.)	Receipt note granted per receipt clerk per month . (in Nos.)
2011-12	3.13	74	1489.62	0.24	230.00
2012-13	1.62	71	1516.22	0.21	231.00

8.13. SUPPLY POSITION OF UNIFORMS

Year	Qty demanded for year 2012	Qty issued for year 2012	Compliance
Boiler Suits	21483 Nos	21483 Nos	100%
Big Towels	28560 Nos	28560 Nos	100%

ANNEXURE – A**STATEMENT OF VALUE OF STORES PURCHASED DURING THE PERIOD
FROM 1.4.2012 TO 31.3.2013.****(Amount in Thousands of Rs).**

Sl. no.	Class of Stores	Total for 2011-12	Directly Imported for 2012-13	Imported stores purchased in India for 2012-13	Indigenous Cottage, Public Sec. Inds& others for 2012-13	For the year 2012-13
1.	Bridge Works its parts, Fittings and special fastenings.	0	0	0	0	0
2.	Engineering plant & components including pneumatic machinery & Tools.	0	0	0	0	0
3.	Workshop Machinery, Plant & equipment including Pneumatic Machinery and Tools.	223221	0	0	77119	77119
4.	Permanent way material and Track Tools.	184	0	0	0	0
5.	Rolling Stock parts and fittings only (excluding Elec. equipment & Materials)	11370279	111814	0	11072357	11184171
6.	Building materials, Water main, Sewage system and track & Yard enclosing materials, signal & interlocking materials.	680	0	0	373	373
7.	Small tools, Hardware tools, hardware, copper, tin, zinc ware, leather, canvas, metal, painting stores, timber, rubber, electrodes fuel oil, furniture etc.	1842775	0	0	2047473	2047473
8.	Electric fittings, wireless equipments, electric traction equipments, telegraph & telephone equipments.	1230576	0	0	1301784	1301784
9.	Rolling stock, locomotives of all types, wagon, coaches including electric multiple units complete & others.	0	0	0	0	0
10	All other stores.	320597	0	0	467331	467331
	TOTAL	14988312	111814	0	14966437	15078251

ACCOUNTS & FINANCE

9.1 STATEMENT SHOWING CAPITAL AT CHARGE AS AT THE END OF 31.03.2013 (Figs. in lakhs of Rupees).		
	CAPITAL	CAPITAL FUND
<u>I. FIXED ASSETS</u>		
<u>a) Projects:</u>		
i) Township	146.93	0
ii) Workshop & Office	877.53	0
	1024.46	0
<u>b) Additions :</u>		
i) Township	2581.69	3.66
ii) Workshop & Office	33584.59	591.38
Total Additions :	36166.28	595.04
TOTAL FIXED ASSETS [1(a) +1 (b)]	37190.74	595.04
<u>II. FLOATING ASSETS :</u>		
<u>a) Stores Suspense :</u>		
i) Stores in Stock	28906.21	
ii) Stock Adjustment Account	-215.17	
iii) Stores in Transit	35.63	
iv) Other Stores Suspense Heads	-10413.42	
	18313.25	
<u>b) Manufacture Suspense :</u>		
i) Work in Progress	13078.26	
ii) Labour Suspense	-4191.45	
	8886.81	
<u>c) Miscellaneous Advance Capital:</u>	434.73	
TOTAL FLOATING ASSETS (II(a)+(b)+ (c))	27634.79	
GRAND TOTAL	64825.53	595.04

9.2 STATEMENT SHOWING THE BREAK UP OF FIXED ASSESTS AND ADDITIONAL EXPENDITURE INCURRED ON WORKS FOR THE YEAR ENDING 2012-13						
[Rupees in Lakhs]						
Sl.No.	Name of the Work/Scheme	Capital		Capital Fund		Grand Total
		Township	Workshop	Township	Workshop	
		[From Inception up to 93-94 and from 01-02]		From 94-95 to 00-01		
I.	<u>Fixed Assets:</u>					
1	LAND	18.39	11.93	0	0	30.32
2	ROAD	5.63	11.00	0	0	16.63
3	BUILDING	76.65	252.39	0	0	329.04
4	WATER WORKS	12.32	4.36	0	0	16.68
5	MACHINERY	0	292.34	0	0	292.34
6	ELECTRICAL INSTALLATION	6.99	91.79	0	0	98.78
7	GENERAL CHARGES	15.89	90.48	0	0	106.37
8	OTHER CHARGES	11.06	123.24	0	0	134.30
	Total- Fixed Assets	146.93	877.53	0	0	1024.46
9.3 - EXPENDITURE BOOKED ON PROJECT ACCOUNT DISTRIBUTED OVER TOWNSHIP & WORKSHOP UP TO THE END OF 2012-13						
B R E A K - U P		Capital	Capital Fund			Grand Total
T O W N S H I P		2728.62	3.66			2732.28
W O R K S H O P		34462.1	591.38			35053.50
T O T A L		37190.74	595.04			37785.78
9.4 FINANCIAL EFFECT OF THE INTRODUCTION OF INCENTIVE SCHEME IN ICF						
Division	Average Total Number of employees on Incentive Scheme	Total Amount of Incentive Bonus paid during April 2012 to March 2013	Average Incentive Bonus per month per employee			Percentage of Total Time saved to Total Time Taken
			Direct workers	Essential Indirect Workers	Supervisors	
SHELL	4306	198654662	4372	2724	4273	61.36%
FURNISHING	3266	193730235	5475	3101	4677	74.42%
TOTAL	7572	392384897	4887	2851	4472	67.57%

9.5 DEPRECIATION RESERVE FUND BALANCE

The Opening Balance of the Depreciation Reserve Fund on 01.04.2012 was Rs. (-)15588.20 Lakhs. The Fund received on accretion of Rs.1800.00 Lakhs during the year 2012-2013. A sum of Rs.3693.70 Lakhs was withdrawn from the fund towards the procurement of Machinery and Plant on Replacement Account. The interest for the year 2012-2013 amount to Rs.(-)661.40 Lakhs. The balance at the end of the preceding years and current year are shown below.

Year	Amount	Year	Amount	Year	Amount
1956-57	15.57	1980-81	1501.60	2004-05	-6260.43
1957-58	33.15	1981-82	1610.22	2005-06	-6541.80
1958-59	63.98	1982-83	1682.57	2006-07	-7696.69
1959-60	91.81	1983-84	1663.83	2007-08	-8768.32
1960-61	115.62	1984-85	1743.51	2008-09	-10406.56
1961-62	187.27	1985-86	1745.91	2009-10	-12236.60
1962-63	224.47	1986-87	1802.90	2010-11	-14298.40
1963-64	317.33	1987-88	1821.43	2011-12	-15588.20
1964-65	356.68	1988-89	743.29	2012-13	-18143.40
1965-66	407.79	1989-90	-1835.71		
1966-67	406.75	1990-91	-3415.50		
1967-68	520.39	1991-92	-3928.13		
1968-69	583.46	1992-93	-4807.42		
1969-70	649.18	1993-94	-5175.43		
1970-71	713.09	1994-95	-5165.04		
1971-72	782.80	1995-96	-5453.73		
1972-73	839.56	1996-97	-5426.45		
1973-74	895.75	1997-98	-5564.07		
1974-75	977.55	1998-99	-5677.31		
1975-76	1043.43	1999-00	-5872.00		
1976-77	1129.31	2000-01	-6270.31		
1977-78	1232.27	2001-02	-6199.64		
1978-79	1324.19	2002-03	-6066.26		
1979-80	1404.70	2003-04	-6103.01		

9.6 Estimated Cost of Shells - 2012-13			
Sl.No.	Type	No. of Shells turned out	Estimated Cost per Shell (in '000 rupees)
1	AC EMU B	97	5800
2	DEMU DPC HHP	30	6700
3	DEMU DPC HHP J&K	4	6700
4	DEMU DPC HHP HALDIA	4	5800
5	METRO K DMC	6	4700
6	MERTO NDMC MC	8	4700
7	METRO NDMC INV	8	4700
8	SPART DPC 1	5	7000
9	SPART DPC 2	5	7000
10	DEMU TC HHP (GEN)	48	5000
11	DEMU TC HHP (VEN)	24	5000
12	DEMU TC II HHP J&K	4	6900
13	DEMU TC III HHP J&K	8	6900
14	DEMU TC HHP (GEN) IGBT	2	4900
15	DEMU TC HHP (GEN) HALDIA	8	5700
16	DEMU TC HHP (VEN) HALDIA	4	5700
17	AC EMU A	14	5200
18	AC EMU C	94	5200
19	AC EMU D	52	5300
20	AC EMU D/HC	20	5100
21	METRO K T/C	8	4500
22	SPART TC	5	6000
23	ACCW LHB	3	8000
24	FACCW	18	5200
25	FACCW CBC	5	5700
26	ACCW	140	5300
27	ACCN	35	5600
28	SCZ AC	15	5200
29	SCZ AC JS	5	5500
30	SLRD	117	4500
31	SCN	174	4800
32	GS	546	4600
33	CB	15	4900
34	SCZ	45	4300
35	SR JS	2	5200
	Total	1578	

9.7 Estimated Cost of FURNISHING - 2012-13			
Sl.No.	Type	No. of Coaches turned out	Estimated Cost per Coach (in thousands of Rs.)
1	AC EMU B	100	28000
2	DEMU DPC HHP	28	30000
3	DEMU DPC HHP J&K	5	29700
4	DEMU DPC HHP HALDIA	4	29600
5	DEMU DPC HHP IGBT	2	46000
6	KOL.M. DMC	10	41000
7	KOL.M.NDMC INV	10	41000
8	KOL.M.NDMC B MC	10	41000
9	SPART DPC 1	5	27500
10	SPART DPC 2	5	27500
11	DEMU TC HHP (GEN)	40	3500
12	DEMU TC HHP (VEN)	20	3500
13	DEMU TC 2 HHP J&K	5	5800
14	DEMU TC 3 HHP J&K	8	5800
15	DEMU TC HHP (GEN)	16	1700
16	DEMU TC HHP (VEN)	8	1700
17	DEMU TC HHP (GEN) IGBT	6	3700
18	DEMU TC HHP (VEN) IGBT	2	3700
19	KOL.M.TC	10	5400
20	SPART TC	5	7700
21	AC EMU A	14	3800
22	AC EMU C	94	3800
23	AC EMU D	52	3900
24	AC EMU D/HC	20	3700
25	ACCW HYB	3	11200
26	FCZAC LHB	3	13000
27	SCZ AC LHB	14	12000
28	WLRRM LHB	3	16500
29	FACCW	22	10400
30	FACCW CBC	3	12000
31	ACCW	145	11400
32	ACCN	35	13000
33	FAC	12	11200
34	SCZ AC	15	10200
35	SCZ AC JS	5	11000
36	SLRD	110	3200
37	SCN	135	4000
38	GS	514	3300
39	CB	15	4800
40	SCZ	65	3500
	Total	1578	

9.8 Break-up of Provisional Transfer Price of Shells - 2012-13								
(Figs in thousands of Rs.)								
Sl. NO.	TYPE	No. of Shells turned out	Direct Labour & Incentive	Direct Stores	Overheads	Total Mfg. Cost	Proforma Charges	Total Cost including Proforma Charges
1	AC EMU B	97	580	3480	1740	5800	29	5829
2	DEMU DPC HHP	30	670	4020	2010	6700	34	6734
3	DEMU DPC HHP J&K	4	670	4020	2010	6700	34	6734
4	DEMU DPC HHP HALDIA	4	580	3480	1740	5800	29	5829
5	METRO K DMC	6	470	2820	1410	4700	24	4724
6	MERTO NDMC MC	8	470	2820	1410	4700	24	4724
7	METRO NDMC INV	8	470	2820	1410	4700	24	4724
8	SPART DPC 1	5	700	4200	2100	7000	35	7035
9	SPART DPC 2	5	700	4200	2100	7000	35	7035
10	DEMU TC HHP (GEN)	48	500	3250	1250	5000	25	5025
11	DEMU TC HHP (VEN)	24	500	3250	1250	5000	25	5025
12	DEMU TC II HHP J&K	4	690	4485	1725	6900	35	6935
13	DEMU TC III HHP J&K	8	690	4485	1725	6900	35	6935
14	DEMU TC HHP (GEN) IGBT	2	490	3185	1225	4900	25	4925
15	DEMU TC HHP (GEN) HALDIA	8	570	3705	1425	5700	29	5729
16	DEMU TC HHP (VEN) HALDIA	4	570	3705	1425	5700	29	5729
17	AC EMU A	14	520	3380	1300	5200	26	5226
18	AC EMU C	94	520	3380	1300	5200	26	5226
19	AC EMU D	52	530	3445	1325	5300	27	5327
20	AC EMU D/HC	20	510	3315	1275	5100	26	5126
21	METRO K T/C	8	450	2925	1125	4500	23	4523
22	SPART TC	5	600	3900	1500	6000	30	6030
23	ACCW LHB	3	1200	4400	2400	8000	40	8040
24	FACCW	18	780	2860	1560	5200	26	5226
25	FACCW CBC CRW	5	855	3135	1710	5700	29	5729
26	ACCW	140	795	2915	1590	5300	27	5327
27	ACCN	35	840	3080	1680	5600	28	5628
28	SCZ AC	15	780	2860	1560	5200	26	5226
29	SCZ AC JS	5	825	3025	1650	5500	28	5528
30	SLRD	117	675	2475	1350	4500	23	4523
31	SCN	174	720	2640	1440	4800	24	4824
32	GS	546	690	2530	1380	4600	23	4623
33	CB	15	735	2695	1470	4900	25	4925
34	SCZ	45	645	2365	1290	4300	22	4322
35	SR JS	2	780	2860	1560	5200	26	5226
	TOTAL	1578						

9.9 Break-up of Provisional Transfer Price of Furnishing of Coaches - 2012-13								
(Figs in thousands of Rs.)								
S.NO.	TYPE	No. of Coaches turned out	Direct Labour & Incentive	Direct Stores	Overheads	Total Mfg. Cost	Proforma Charges	Total Cost including Proforma Charges
1	AC EMU B	100	1400	23800	2800	28000	315	28315
2	DEMU DPC HHP	28	1500	25500	3000	30000	325	30325
3	DEMU DPC HHP J&K	5	1485	25245	2970	29700	324	30024
4	DEMU DPC HHP HALDIA	4	1480	25160	2960	29600	323	29923
5	DEMU DPC HHP IGBT	2	2300	39100	4600	46000	405	46405
6	KOL.M. DMC	10	2050	34850	4100	41000	380	41380
7	KOL.M.NDMC INV	10	2050	34850	4100	41000	380	41380
8	KOL.M.NDMC B MC	10	2050	34850	4100	41000	380	41380
9	SPART DPC 1	5	1375	23375	2750	27500	313	27813
10	SPART DPC 2	5	1375	23375	2750	27500	313	27813
11	DEMU TC HHP (GEN)	40	350	2450	700	3500	193	3693
12	DEMU TC HHP (VEN)	20	350	2450	700	3500	193	3693
13	DEMU TC 2 HHP J&K	5	580	4060	1160	5800	204	6004
14	DEMU TC 3 HHP J&K	8	580	4060	1160	5800	204	6004
15	DEMU TC HHP (GEN) HALDIA	16	170	1190	340	1700	184	1884
16	DEMU TC HHP (VEN) HALDIA	8	170	1190	340	1700	184	1884
17	DEMU TC HHP (GEN) IGBT	6	370	2590	740	3700	194	3894
18	DEMU TC HHP (VEN) IGBT	2	370	2590	740	3700	194	3894
19	KOL.M.TC	10	540	3780	1080	5400	202	5602
20	SPART TC	5	770	5390	1540	7700	214	7914
21	AC EMU A	14	380	2660	760	3800	194	3994
22	AC EMU C	94	380	2660	760	3800	194	3994
23	AC EMU D	52	390	2730	780	3900	195	4095
24	AC EMU D/HC	20	370	2590	740	3700	194	3894
25	ACCW HYB	3	1680	6160	3360	11200	231	11431
26	FCZAC LHB	3	1950	7150	3900	13000	240	13240
27	SCZ AC LHB	14	1800	6600	3600	12000	235	12235
28	WLRRM LHB	3	2475	9075	4950	16500	258	16758
29	FACCW	22	1560	5720	3120	10400	227	10627
30	FACCW CBC	3	1800	6600	3600	12000	235	12235
31	ACCW	145	1710	6270	3420	11400	232	11632
32	ACCN	35	1950	7150	3900	13000	240	13240
33	FAC	12	1680	6160	3360	11200	231	11431
34	SCZ AC	15	1530	5610	3060	10200	226	10426
35	SCZ AC JS	5	1650	6050	3300	11000	230	11230
36	SLRD	110	480	1600	1120	3200	191	3391
37	SCN	135	600	2000	1400	4000	195	4195
38	GS	514	495	1650	1155	3300	192	3492
39	CB	15	720	2400	1680	4800	199	4999
40	SCZ	65	525	1750	1225	3500	193	3693
	Total	1578						

9.10 STATEMENT OF OUT-TURN DURING THE YEAR 2012-13 - SHELLS					
(figures in thousands of Rs.)					
Sl.No.	Type	No. of Shells turned out (Board RSP)	Estimated Cost per Shell as per Final Grant	Total Estimated Cost (Col.iii * iv)	Approximate Cost of Manufacture
(i)	(ii)	(iii)	(iv)	(v)	(vi)
1	AC EMU B	97	5800	562600	741080
2	DEMU DPC HHP	30	6700	201000	244470
3	DEMU DPC HHP J&K	4	6700	26800	34360
4	DEMU DPC HHP HALDIA	4	5800	23200	25056
5	METRO K DMC	6	4700	28200	50736
6	METRO NDMC MC	8	4700	37600	62000
7	METRO NDMC INV	8	4700	37600	62040
8	SPART DPC 1	5	7000	35000	37800
9	SPART DPC 2	5	7000	35000	37800
10	DEMU TC HHP (GEN)	48	5000	240000	293088
11	DEMU TC HHP (VEN)	24	5000	120000	140928
12	DEMU TC II HHP J&K	4	6900	27600	24608
13	DEMU TC III HHP J&K	8	6900	55200	53520
14	DEMU TC HHP (GEN) IGBT	2	4900	9800	17216
15	DEMU TC HHP (GEN) HALDIA	8	5700	45600	46968
16	DEMU TC HHP (VEN) HALDIA	4	5700	22800	23484
17	AC EMU A	14	5200	72800	74984
18	AC EMU C	94	5200	488800	600754
19	AC EMU D	52	5300	275600	337844
20	AC EMU D/HC	20	5100	102000	105060
21	METRO K T/C	8	4500	36000	60856
22	SPART TC	5	6000	30000	30900
23	ACCW LHB	3	8000	24000	24960
24	FACCW	18	5200	93600	101682
25	FACCW CBC CRW	5	5700	28500	29640
26	ACCW	140	5300	742000	812840
27	ACCN	35	5600	196000	203840
28	SCZ AC	15	5200	78000	83430
29	SCZ AC JS	5	5500	27500	28600
30	SLRD	117	4500	526500	706095
31	SCN	174	4800	835200	876264
32	GS	546	4600	2511600	2779140
33	CB	15	4900	73500	74700
34	SCZ	45	4300	193500	213840
35	SR JS	2	5200	10400	10504
	Total	1578		7853500	9051087

9.11 STATEMENT OF OUT-TURN DURING THE YEAR 2012 - 13 - COACHES (FURNISHING COST – figures in thousands of Rs.)					
Sl.No.	Type	No.of Coaches turned out (Board RSP)	Estimated Cost per Coach as per Final Grant	Total Estimated Cost (Col.iii * iv)	Approximate Cost of Manufacture
(i)	(ii)	(iii)	(iv)	(v)	(vi)
1	AC EMU B	100	28000	2800000	3084700
2	DEMU DPC HHP	28	30000	840000	940884
3	DEMU DPC HHP J&K	5	29700	148500	160050
4	DEMU DPC HHP HALDIA	4	29600	118400	127872
5	DEMU DPC HHP IGBT	2	46000	92000	99360
6	KOL.M. DMC	10	41000	410000	541920
7	KOL.M.NDMC INV	10	41000	410000	498010
8	KOL.M.NDMC B MC	10	41000	410000	468710
9	SPART DPC 1	5	27500	137500	148500
10	SPART DPC 2	5	27500	137500	148500
11	DEMU TC HHP (GEN)	40	3500	140000	147000
12	DEMU TC HHP (VEN)	20	3500	70000	71580
13	DEMU TC 2 HHP J&K	5	5800	29000	33735
14	DEMU TC 3 HHP J&K	8	5800	46400	47792
15	DEMU TC HHP (GEN) HALDIA	16	1700	27200	28016
16	DEMU TC HHP (VEN) HALDIA	8	1700	13600	14008
17	DEMU TC HHP (GEN) IGBT	6	3700	22200	22866
18	DEMU TC HHP (VEN) IGBT	2	3700	7400	7622
19	KOL.M.TC	10	5400	54000	254100
20	SPART TC	5	7700	38500	39655
21	AC EMU A	14	3800	53200	54796
22	AC EMU C	94	3800	357200	331632
23	AC EMU D	52	3900	202800	147732
24	AC EMU D/HC	20	3700	74000	76220
25	ACCW HYB	3	11200	33600	34944
26	FCZAC LHB	3	13000	39000	40560
27	SCZ AC LHB	14	12000	168000	174720
28	WLRRM LHB	3	16500	49500	51480
29	FACCW	22	10400	228800	5234944
30	FACCW CBC CRW	3	12000	36000	112320
31	ACCW	145	11400	1653000	249272400
32	ACCN	35	13000	455000	16562000
33	FAC	12	11200	134400	1677312
34	SCZ AC	15	10200	153000	2386800
35	SCZ AC JS	5	11000	55000	286000
36	SLRD	110	3200	352000	39107200
37	SCN	135	4000	540000	73629000
38	GS	514	3300	1696200	880565268
39	CB	15	4800	72000	1090800
40	SCZ	65	3500	227500	14935375
	Total	1578		12532400	1292656383

9.12 Average Cost per Shell inclusive of Dividend, Share of Cost of Railway Board, DRA etc. for the year 2012-13 (figures in thousands of Rs.)					
Sl.No.	Type	Manufacturing Cost (Approx.)	Dividend	Share of Cost of Rly.Board	Total
1	AC EMU B	7640	0	38	7678
2	DEMU DPC HHP	8149	0	41	8190
3	DEMU DPC HHP J&K	8590	0	43	8633
4	DEMU DPC HHP HALDIA	6264	0	31	6295
5	METRO K DMC	8456	0	42	8498
6	MERTO NDMC MC	7750	0	39	7789
7	METRO NDMC INV	7755	0	39	7794
8	SPART DPC 1	7560	0	38	7598
9	SPART DPC 2	7560	0	38	7598
10	DEMU TC HHP (GEN)	6106	0	31	6137
11	DEMU TC HHP (VEN)	5872	0	29	5901
12	DEMU TC II HHP J&K	6152	0	31	6183
13	DEMU TC III HHP J&K	6690	0	33	6723
14	DEMU TC HHP (GEN) IGBT	8608	0	43	8651
15	DEMU TC HHP (GEN) HALDIA	5871	0	29	5900
16	DEMU TC HHP (VEN) HALDIA	5871	0	29	5900
17	AC EMU A	5356	0	27	5383
18	AC EMU C	6391	0	32	6423
19	AC EMU D	6497	0	32	6529
20	AC EMU D/HC	5253	0	26	5279
21	METRO K T/C	7607	0	38	7645
22	SPART TC	6180	0	31	6211
23	ACCW LHB	8320	0	42	8362
24	FACCW	5649	0	28	5677
25	FACCW CBC CRW	5928	0	30	5958
26	ACCW	5806	0	29	5835
27	ACCN	5824	0	29	5853
28	SCZ AC	5562	0	28	5590
29	SCZ AC JS	5720	0	29	5749
30	SLRD	6035	0	30	6065
31	SCN	5036	0	25	5061
32	GS	5090	0	25	5115
33	CB	4980	0	25	5005
34	SCZ	4752	0	24	4776
35	SR JS	5252	0	26	5278

9.13 Average Cost per Coach (Furnishing Cost) inclusive of Dividend, Share of Cost of Railway Board, DRA etc. for the year 2012-13 (figures in thousands of Rs.)					
Sl.No.	Type	Manufacturing Cost (Approx.)	Dividend & Govt. Cont. to NPS	Share of Cost of Rly.Board	Total
1	AC EMU B	30847	175	154	31176
2	DEMU DPC HHP	33603	175	168	33946
3	DEMU DPC HHP J&K	32010	175	160	32345
4	DEMU DPC HHP	31968	175	160	32303
5	DEMU DPC HHP IGBT	49680	175	248	50103
6	KOL.M. DMC	54192	175	271	54637
7	KOL.M.NDMC INV	49801	175	249	50225
8	KOL.M.NDMC B MC	46871	175	234	47280
9	SPART DPC 1	29700	175	149	30024
10	SPART DPC 2	29700	175	149	30024
11	DEMU TC HHP (GEN)	3675	175	18	3868
12	DEMU TC HHP (VEN)	3579	175	18	3772
13	DEMU TC 2 HHP J&K	6747	175	34	6956
14	DEMU TC 3 HHP J&K	5974	175	30	6179
15	DEMU TC HHP (GEN)	1751	175	9	1935
16	DEMU TC HHP (VEN)	1751	175	9	1935
17	DEMU TC HHP (GEN)	3811	175	19	4005
18	DEMU TC HHP (VEN)	3811	175	19	4005
19	KOL.M.TC	25410	175	127	25712
20	SPART TC	7931	175	40	8146
21	AC EMU A	3914	175	20	4109
22	AC EMU C	3528	175	18	3721
23	AC EMU D	2841	175	14	3030
24	AC EMU D/HC	3811	175	19	4005
25	ACCW HYB	11648	175	58	11881
26	FCZAC LHB	13520	175	68	13763
27	SCZ AC LHB	12480	175	62	12717
28	WLRRM LHB	17160	175	86	17421
29	FACCW	8956	175	45	9176
30	FACCW CBC CRW	12480	175	62	12717
31	ACCW	12103	175	61	12339
32	ACCN	13520	175	68	13763
33	FAC	11648	175	58	11881
34	SCZ AC	10648	175	53	10876
35	SCZ AC JS	11440	175	57	11672
36	SLRD	2881	175	14	3070
37	SCN	4072	175	20	4267
38	GS	3398	175	17	3590
39	CB	4848	175	24	5047
40	SCZ	3273	175	16	3464

9.14 Actual Cost of Shells manufactured from 1955-56 to 2011-12 (figures in thousands of Rs.)					
Year	No. of Shells turned out	Actual Cost	Year	No. of Shells turned out	Actual Cost
1955-56	12	2400	1985-86	812	535935
1956-57	88	15555	1986-87	788	602992
1957-58	222	26973	1987-88	820	735477
1958-59	381	35196	1988-89	875	790416
1959-60	447	36935	1989-90	948	985667
1960-61	583	48725	1990-91	962	1082425
1961-62	598	42902	1991-92	1017	1287219
1962-63	600	46674	1992-93	1037	1629961
1963-64	605	52467	1993-94	1012	1916538
1964-65	632	53498	1994-95	789	1636760
1965-66	640	60142	1995-96	764	1724066
1966-67	634	64252	1996-97	962	2158980
1967-68	642	66556	1997-98	943	2176660
1968-69	640	70831	1998-99	1055	2599453
1969-70	649	77011	1999-2000	1019	3017780
1970-71	660	88388	2000-01	1006	2821330
1971-72	557	80783	2001-02	1054	3087136
1972-73	665	115999	2002-03	954	2773403
1973-74	750	146430	2003-04	1060	3169983
1974-75	554	133346	2004-05	1085	3448945
1975-76	518	156660	2005-06	1147	4060362
1976-77	572	163145	2006-07	1205	4350615
1977-78	644	185585	2007-08	1230	4955837
1978-79	700	195870	2008-09	998	4667181
1979-80	662	206379	2009-10	1351	7229714
1980-81	714	265504	2010-11	1461	7713931
1981-82	680	286721	2011-12	1432	7654813
1982-83	766	363762			
1983-84	786	408546			
1984-85	809	458247			

9.15 Actual Cost of Coaches manufactured from 1955-56 to 2011-12 (figures in thousands of Rs.)					
Year	No. of Coaches turned out	Actual Cost	Year	No. of Coaches turned out	Actual Cost
1957-58	74	5620	1985-86	806	440697
1958-59	171	10980	1986-87	795	505210
1959-60	249	12681	1987-88	793	450279
1960-61	194	11287	1988-89	897	841050
1961-62	240	19701	1989-90	925	898273
1962-63	372	26851	1990-91	956	748152
1963-64	352	22957	1991-92	1009	1016479
1964-65	666	32914	1992-93	1023	1257940
1965-66	558	45145	1993-94	1038	1486858
1966-67	539	74002	1994-95	775	1594852
1967-68	700	103107	1995-96	779	2133520
1968-69	635	90668	1996-97	999	2289836
1969-70	668	88108	1997-98	967	2148651
1970-71	635	93308	1998-99	1057	2866563
1971-72	522	73436	1999-2000	1006	3054108
1972-73	705	111603	2000-01	1000	2788046
1973-74	744	141753	2001-02	1021	2647718
1974-75	549	141884	2002-03	923	3493402
1975-76	508	112913	2003-04	1062	3047187
1976-77	558	140949	2004-05	1116	3505355
1977-78	671	174507	2005-06	1156	3857350
1978-79	702	191668	2006-07	1201	4441950
1979-80	662	212564	2007-08	1222	5739129
1980-81	720	267577	2008-09	1008	7052100
1981-82	690	306917	2009-10	1290	9310824
1982-83	767	338607	2010-11	1404	9474668
1983-84	813	354282	2011-12	1432	10708342
1984-85	793	346346			

ELECTRICAL PRODUCTION & MAINTENANCE**10.1 HIGHLIGHTS IN PRODUCTION**

The coach dispatch details of various coaches are tabulated below and compared with previous year (2011-12):-

Sl.No	Type of Coach	2012-13	2011-12
1	Self propelled coaches	521	633
2	AC Coaches	237	159
3	EOG LHB Coaches	23	0
4	Conventional Coaches	839	719
Total		1620	1511

a. Provision of LED lights

- a) 138 ACCW, 24 FACCW & 19 ACCN coaches provided with LED based night fittings.
- b) 236 AC and 850 conventional coaches were provided with LED based side light and dispatched.
- c) 110 SLR coach provided with LED type tail light and dispatched.
- d) 27 ACCW coaches provided with redundant LHB hybrid LED berth reading and dispatched.

b. 71 AC coaches provided with 25 kW ERRUs & 305 Conventional coaches provided with 4.5 kW ERRUs**c. Provision of mobile chargers.**

In year 2011-12 Eighteen Nos. of mobile chargers are provided in all the bays of the compartment in Light circuit. But as per RDSO direction in last year (2012-13) mobile chargers are provided in fan circuit. The numbers of SCN coaches provided with mobile chargers are quantified below:-

Sl.No	Item provided	2012-13	2011-12
1	Mobile chargers	104	206

d. **Provision of BLDC fans**

The Conventional Coaches provided with BLDC fans in year 2011-12 and 2012-13 are tabulated below:-

Sl.No	Item provided	2012-13	2011-12
1	BLDC fans	600	324

e. **Provision of VRLA Battery**

The Coaches provided with VRLA Batteries in year 2011-12 and 2012-13 are tabulated below:-

Sl.No	Item provided	2012-13	2011-12
1	VRLA Batteries	210	210

f. **Provision of Emergency lamps.**

The Coaches provided with Emergency lamps in year 2011-12 & 2012-13 are tabulated below:-

Sl.No	Item provided	2012-13	2011-12
1	Emergency Lamps	850	735

g. **Non-moving items procured for LHB (Hybrid) coaches utilized in SG ACCW coaches in the year of 2012-13.**

Description of Item	No. of coaches	Qty.	Rate(Rs.)	Total Cost saved (in Rs.)
LED BRL	13	624	1716	10,70,784
Power Panel	23	23	90,555	20,82,765
WRA	23	23	20,568	4,73,064
TOTAL				36,23,613

- h. V-Belt grading machine was inaugurated by CEE on 27.6.12 at Traction ward of Furnishing Division. This equipment will be used for quality audit on C -122 'V' belts.



- i. **Electrical Budget for the Year 2012-13:**

2012-13	Allotment	Actual Drawal
Electrical/Fur. WMS Budget	550.00	535.37*

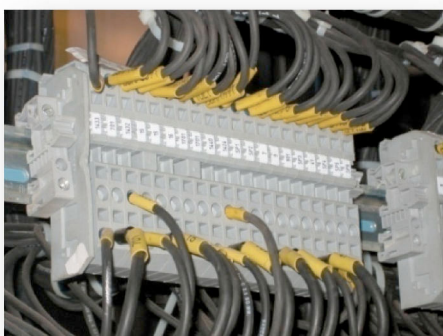
*Difference of 14.63 crores is adjusted with Mechanical over Drawal.

- j. **Batch order cost report finalization for the year 2012-13:**

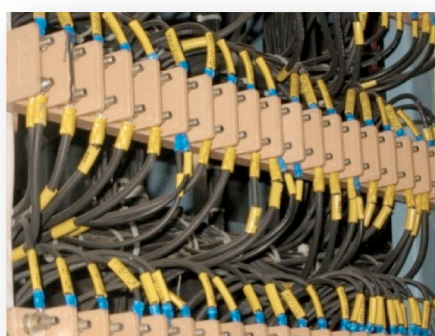
Cost Reports received	-	92
Cost report reconciled and sent to Accounts	-	92

- k. **New Ideas or systems initiated**

- a) Main Low Tension panel (MLT) having Wago type terminal blocks in place of Tosha type terminal blocks has been provided in AC EMU Motor coaches as a regular measure.



Tosha Terminals



Wago Terminals

- b) CFL fittings 2 x 11 W has been provided in DEMU trailer coaches in place of ordinary 2' FL fitting (18 W) as a regular measure.
- c) Additional 415 V coupler (Tyco make) to facilitate availability of uninterrupted 415V supply for the operation of at least one RMPU in each coach during failure of any 100 kVA inverter in a rake has been provided from 8th rake of Kolkata Metro coaches.
- d) AC EMU Motor coaches with nosecone driving motor coaches with modified drivers cab arrangement introduced from the month of July 2012 onwards.



Nose cone driving motor coach



Drivers cabin

- e) Modular frame comprising of PIS equipments and MCB panels etc. has been in all 4 motor coaches of rake No.8 despatched to WR.



- f) LED based unit fault indication lamp implemented in all ACEMU motor coaches from August 2012 onwards.
- g) Auto flasher circuit implemented in ACEMU rakes since August 2012.
- h) Pre wired driver's desk has been introduced in AC EMU motor coaches since Jan 2013.



- i) 7 rakes of AC EMUs for Southern Railway were despatched as per their layout requirements.

- j) One 9 car rake of AC EMU fitted with Modular Transformer (1550 kVA) was dispatched to Eastern Railway. Due to introduction of Modular Transformer in this rake, HT compartment has been re-organised with lesser space and decongested the passenger area.



- k) Cordoning of bogie assembly and display of danger boards during testing of traction motors has been implemented as a safety measure.



- l) No production work is being carried out during testing of coaches for which work instruction has been issued.
- m) Cable tray arrangement has been modified to decongest the cable layout and better ventilation in the underframe in Kolkata Metro coaches.
- n) Heat insulation provided in SBRs towards heat management in the underframe of Kolkata Metro coaches.
- o) Wago type terminal blocks in place of Tosha type terminal block introduced in MLT panels of AC EMU Motor coaches.
- p) Cable sealing arrangement on the HT cable head has been provided on 8 coaches as a trial measure.



Existing



With sealing arrangement

- q) Prototype 1600 HP IGBT based DEMU rake manufactured with following features :
- i. Traction motors and main alternator from M/s.Traktions Systeme, Austria.
 - ii. User friendly driver's desk with joystick controls and two HMI (Human Machine Interface) digital displays.
 - iii. GPS based passenger information system (Digital Display with audio)
 - iv. IGBT latest switching device based 3 phase technology with microprocessor based control system
 - v. DEMU remote monitoring system thro' GPS/GPRS/CDMA for real time fault diagnostics.
 - vi. Sleek design of Inter Vehicular Couplers for Control & Power cables.
 - vii. Electro-pneumatic brake system



- r) High speed Self Propelled Accident Relief Train has been manufactured with following features :
- i. VOITH/Germany make hydraulic transmission system.
 - ii. 125 KVA Diesel Generator to power the sub-systems like air-conditioning, lights and fans of medical van, to meet power requirement at accident spot.
 - iii. Supervisor van with water cooler with water filter, refrigerator
 - iv. Inter Vehicle Couplers for power from 125 KVA genset.



- s) Disposal of non-moving & Zero value items
 - i. Non moving items worth Rs. 1,00,04,825/- lakhs was disposed during this period.
 - ii. 84.49 tons of zero value waste were disposed during this year.

10.2. **DESIGN & DEVELOPMENTS OF NEW ITEMS**

- a) **New Drawings issued for SPART with Voith drive, 3-Phase IGBT DEMU**
- b) **Standardised Cross bearer arrangement:**

New Drawings issued for Block and wiring diagram and harness chart for underframe of **AC Chair Car** for “standardized cross bearer arrangement”. With this underframe cross bearer arrangement of all AC coaches (AC I, II, III, Composite) will be same and would help in inventory control.

- c) **Standardisation of Battery fuse box** : Suitable for both 2x650AH and 1100AH battery system in AC COACHES.

Features:

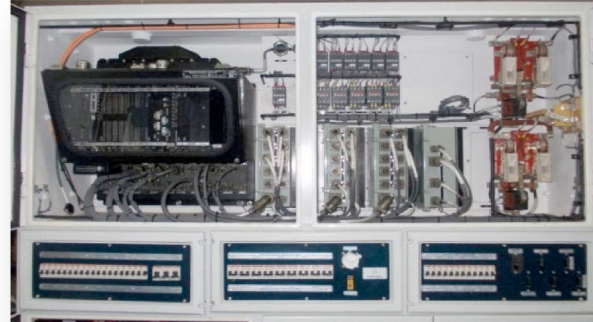
- Common fuse box for all conventional AC coaches 1100AH and 2x650 AH
 - Stainless steel box to prevent corrosion (long life)
 - FRP baffle plates for separating +ve and –ve
- d) **Arrangement of modular toilet** : New drawing issued for arrangement of electrical fitting and cable routing of AC coach modular toilet. All electrical fittings like toilet light (CFL), exhaust fan, bracket fan and limit switch for toilet engaged light and cables required are under scope of ICF supply. The installation of electrical fitting, wiring including earthing are under scope of firm. Pipes, clamps and its accessories are of SS material.
 - e) **1600 HP DEMU**: Driver’s Cab with pre-fabricated Driver’s Desk introduced in 1600 HP DEMU coaches

Salient features:

- Desk spot lights are provided for better visibility
- Walkie-talkie holder, water bottle holder and clips for caution order.



- Receptacle plug- in-wago for desk terminal board for easy connection / disconnection & maintenance.
- Knee space is added for better comfort of crew.



Control Panel

- EMU Motor coach steel nose cone : Nose cone drawing issued with MRVC features in cab area. This aerodynamic profile results in energy saving owing to reduction in drag co-efficient (air resistance).



- All AC & non AC coaches: Bogie body earthing arrangement issued as per RDSO guidelines.



- MRVC Phase II with BT Electrics: - Motor Coach, TC, DTC & NDTC : New drawings issued for Roof TL conduit arrangement, earthing scheme for TL conduit & cable tray with pre-wired harness wiring inside centre duct area for lights, fans & Passenger Information & Public Address System wiring and Schematic, wiring & harness chart drawings issued

- GS coaches: Centralized rotary switch cum fuse distribution box. Fuse distribution board terminal (cage clamp type with fuse indication) has been incorporated into rotary switch box drg of non AC coaches to remove roof FDB & Schematic diagram, Wiring diagram, Harness chart, Layout of switch installation & switch assembly drawings issued.
- DMU DPC: (IR): Drawing issued for pre-fabricated and pre-wired driver's desk for DMU/DPC coaches with metal nose cone to improve aesthetics and to reduce the belt time.

10.3. DRAWING ALTERATIONS:

- a) **SV DPC:** Junction box drawings revised for EMU/DEMU SV DPC and ARMV/AC to replace Tosha terminal by cage clamp type, which will reduce wiring time, space and reliability will be improved.
- b) **AC EMU M: General Layout drawing of AC EMU-M LT compartment altered :** Enhanced the capacity of Constant Voltage Transformer from 500VA to 1.5kVA to cater increased load of PAS amplifier and mixer.
- c) **Kolkata Metro rakes: Modifications carried out :** Compressor control MCB 110 VDC supply changed from wire no B +ve to wire no 16.

Reason: Compressor control connected with B +ve (from battery), used to give compressor ON indication in the driver display unit even without 50 kVA inverter ON command.

With the above modification compressor ON indication will come in driver display unit, only after the 415V 3 ph is made available to the compressor.

Coupler hood arrangement drawings altered to change the material from **FRP to MS** to reduce breakages during maintenance.

Modification in the battery box cover of M/s AMCO make battery to avoid its falling on line.

- d) **NON AC COACHES:**

Sleeper Coach: Roof wiring Schematic diagram REVISED to provide 110 V DC mobile charging socket instead of 110V ac as per RDSO advice for Non AC Sleeper coaches. 110 V AC mobile charging socket new drg. issued for procurement.



e) **Rotary switch panel drg. Alteration:**

- -ve fuse rating revised from 36A to 40A as per RDSO guidelines.
- Terminals for PAC limit switch removed from doorway and brought to RSW panel, hence cable length, terminals reduced and conduits eliminated. It will avoid provision of separate junction box for passenger alarm light indication hence saving of material, man-hours and money.
- Push button wiring added in drawing and hence rotary switch panel to be supplied with prewired push button wiring.
- Gasket added for making the panel dust proof.

f) **Conventional:**

- ICF/SK3-7-2-020 alt.'a' – Terminal board for 2 x 650 AH battery system.
- Terminal board altered as per new 2 x 650 AH battery system power panel drawing.
- For the FDB cover , note for “flammability test” added in drawing.
- Fuse disconnect terminal blocks added in 110V DC mobile phone charging socket. Thus provision of separate cage clamp and separate open type glass fuse has been avoided.
- Switch with indication modular assembly added in place of separate LED indication for 110V DC mobile phone charging socket.
- In Battery charging socket & fuse box, 50A fuse added as per RDSO guidelines for upgrading protection of ERRU/RRU circuit, thereby enhancing safety also.
- Arrangement of underframe wiring altered with modified stainless steel underframe cable boxes.
- Emergency feed terminal box – Box, lock and hinges material changed to SS 304 S2.



- g) **IR DMU DPC COACHES:** Underframe cable tray arrangement height made uniform by optimizing the trays design. This will improve the working convenience to icf and maintenance staff in addition to saving of material ,weight and labour. The entire assembly will be supplied in painted condition to avoid tray painting work at Furnishing.

Tray assembly height item 5 to Drg.No. DMU/DPC 7-7-1-752 altered from 290 to 210mm. To suit this, tray length for Item -4 altered from 750 to 650mm, tray height for cable box (item 6) altered from 538 to 456mm.

Cutaway introduced in the tray assembly Drg.No. DMU/DPC7-7-1-753 of underframe for taking cables from engine room to underframe. This will avoid rework at shop floor.

Cutaway introduced in the cover of rectifier trays (Drg.No. DMU/DPC 7-1-754) for taking cables to rectifier (both sides). This will avoid rework.

- h) **AC COACHES:**

Night light and PAIL changed from Incandescent bulb to LED type fitting in ACCC, AC Composite coaches. It will reduce power consumption.

- i) **JANSHATABDI AC COACH:** General schematic diagram , under-frame wiring diagram and harness chart drawings altered in view of RDSO's guidelines for modified pre cooling system. In addition to Improvement in reliability, it will also result in **REDUCTION IN WIRING, LENGTH**, hence cost.

- j) **FAC Coaches:**

- i. Berth Reading Light fixing backpiece angular dimension changed for best result.

Lower berth - 104° to 54°

Upper berth - 90 ° to 33°

- ii. Modular toilet interfacing drawing lav. light changed from 2 x 11W CFL fitting to 1 x 11W CFL fitting of same size.
- iii. Roof arrangement lav. fitting changed from 2 x 11W CFL to 1 x 11 W. Master display location changed from above the IC door to AC control panel area. In corridor area, 2 nos. of 2 x 11W CFL and switches deleted.
- iv. In CFL fitting drawing, new column added for 1 x 1W size.

k) **Self-Propelled coaches: DMU DPC 1400 HP:**

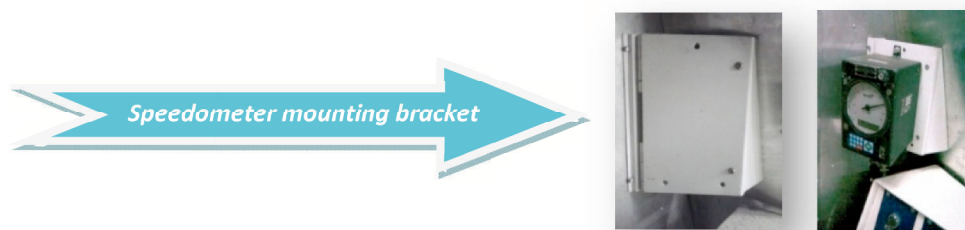
- i. BHEL alternator of reduced size & weight is used. It will reduce hauling cost and increase space in engine room.



- ii.

	Length(mm)		Weight(kg)		
	Old	New	Old	New	
New	1953	171	404	320	old

- l) **SPART COACHES:** Mounting bracket of Speedometer SPART coaches driver cab is modified for better aesthetics and maintenance.



10.4. SPEC ISSUE/REVISION/AMENDMENTS:

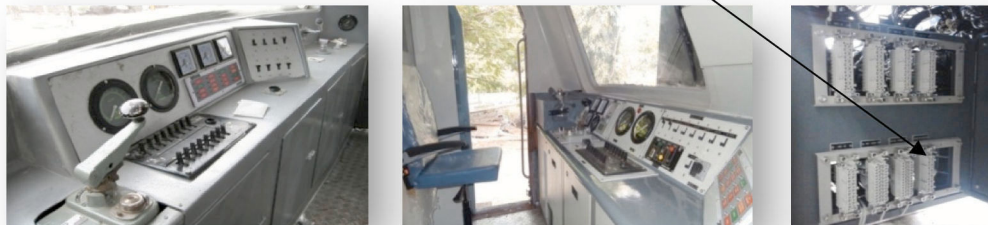
N - NEW R - REVISION AN - ANNEXURE A – ALTERATION			
Sl. No.	Spec No.	Subject in brief	N/A/AN/R
1	ICF/Elec./115 (Rev.01)	Specification for Electronic lamp ballast for 36 W FL lamps is revised for universal voltage (AC/DC) so that same ballast can be used with AC or DC supply and hence no separate procurement may be required by Railways as well as ICF for different applications.	R
2	ICF/Elec/126	New specification for 1.5 kVA CVT issued since 500 VA CVT earlier provided was adequately rated to cater to the requirement of PAS amplifier and mixer of AC EMUs	N
3	ICF/Elec./127	Specification for supply and installation of automatic sliding door complete with mechanism and door control for air conditioned AC EMU.	N

4	ICF/Elec/014	Specification for transformer oil cooler(75kw) with blower motor applicable for W.Rly. 1200 kVA EMU transformer amended by including Annexure B as per directives of RDSO Vide letter No. EL/4.3.25/DC-AC/WR dt. 1.6.2012.	AN
5	ICF/Elec/106	Kolkata Metro Revised Eligibility criteria for 7 nos of KM rakes.	R
6	ICF/Elec./933	LED based Passenger Alarm Indication Light Revision 1 issued with following improvements- (I) The gasket supplied shall be of single piece design and no cut pieces to be used and adhesives on the gasket will be applied throughout its length and not only at the ends. (II) PAIL shall have cage clamp terminals for input supply and control from alar	R
7	ICF/Elec/931	LED based Reservation Chart Light) The following changes have been made:- a. The gasket supplied shall be of EPDM single piece design. b. Cage clamp terminals for input supply and control from cubicle. c. Under Mechanical & Electrical endurance test, the unit shall be subjected to 10000 switching operations instead of 5000 switching operations	A
8	RDSO/PE./SP EC/EMU 0065 Rev.3	This PIPAS specification covers the requirement of design construction, pre-wiring, performance, tests, supply, installation and after sales service.	AN
9	ICF/Elec-934 Rev.1	For all AC coach LED based night light fitting which was being provided at partition wall of two bays is now shifted to within the bay, for easy convenience and avoiding confusion to the passengers.	R
10	ICF Spec.No. ICF/Elec-098	Specification for Heater Unit and defogging unit with blower for driving cabin of BG DEMU/EMU) for improvement of the product (Cab heater unit) used in DMU/DPC/J&K coaches. Material used for thermal insulation is changed from glass wool to high temperature and fire retardant grade nitrile rubber which eliminates health hazardous material like glass wool.	A
11	ICF/Elec./942	Specification for LED based head code for DEMUs of Indian Railways	R
12	ICF/Elec./089	Specification for roof mounted heater unit with blower unit for BG DEMU coaches for Jammu & Kashmir area in Indian Railways.	R
13	RDSO/PE/SPE C/TL/0011- 2000 Rev.1	Specification for Double capped tubular fluorescent lamps and its fitting & electronic ballast for Indian Railway coaches	AN

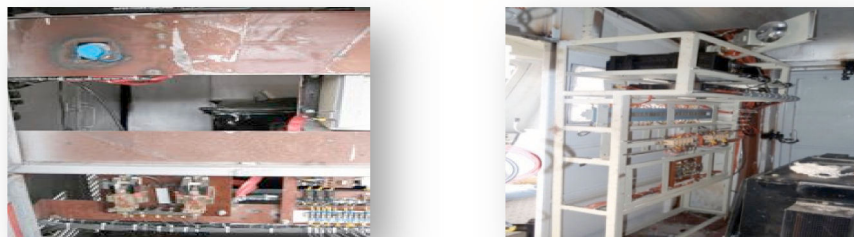
10.5. DESIGN IMPROVEMENTS

a) AC EMU coaches:

Plug-in connectors introduced with cage clamp in terminal arrangement of pre-wired driver's desk of AC EMU coaches and drawings altered duly incorporating changes as per production requirement. This will reduce production time and also make maintenance easy.



Pre-wired driver's desk

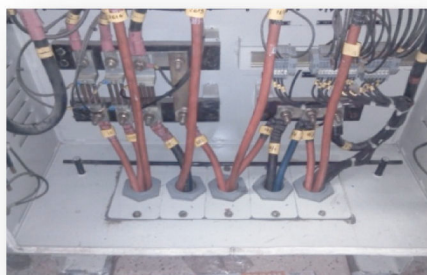


Modular aux. panel for PA system

b) SG AC coaches:

In Power panel:

- i. Top & bottom cable entry holes included in the panel in place of elongated holes to suit flexible conduits with end fittings. Previously bare cables were entering the cubicle through elongated hole without end fittings.
- ii. Panel key, hinge & panel lock material changed to Stainless steel.
- iii. EDPM sponge black gasket provided in door flange portions of cubicle box to Spec.No. UL 94-HB.



New



Old

- c) AC Coaches: (in all 2 T, 3 T, composite & I cl.coaches)

Junction box design improved with reduced weight and for easy manufacturing and wiring - Junction box shall be of single plate (single piece design and no welding required for manufacturing).

10.6. QUALITY IMPROVEMENTS:

- a) KOLKATA METRO RAKES

- Battery changeover circuit to enable feed extension in case of emergency.
- Redundancy channel for TIMS
- Parking brake indication in DMC
- Modification in HSCB circuit to enable closing of individual coach HSCB
- Replacement of tail light cum marker light from outside the coach

- b) MUTP PHASE II

- Stainless steel trays vice conduits for lights and fans
- Stainless steel cable trays vice conduits in the under frame

ADVANTAGES :

- Easy installation with preharness
- Easy maintenance
- Reduction in junction boxes

- c) THREE PHASE AC EMU :DEVELOPMENT OF INDIGENOUS 3PHASE PROPULSION WITH BHEL ELECTRICS



Status:

- Design interface discussions are on with M/S BHEL and M/s STRUKTON since March 2011
- Rly Board has advised ICF to manufacture one Air-conditioned AC EMU for Mumbai Area in 2012-2013.

Key features of Air conditioned rake are :

- Two 15 Tons of RMPU in each coach.
- 3 x 3 seating with vestibule arrangement

10.7. (a) FINANCIAL SAVINGS:

SN	Design initiative	Financial Savings Man Hour Savings
1	AC coach fans have been changed in the drawings from 400mm dia to 300mm dia	Rs.1000/- per coach
2	Pre cooling battery charger Body casing changed to stainless steel. 	Rs.5000/- per coach by avoiding replacement of existing MS painted box every 2 years by zonal railway workshops
3	Lavatory light: In place of 2 x 11W, 1 x 11W light fitting designed.	Rs.800/- per coach
4	Sleeper coach night light: LED light provided in place of incandescent night light.	Rs.6300/- per coach
5	AC fan, inverter: Removal from non AC coaches	Rs.1,50,000/- per coach.
6	Review of straight alu.conduit & bend alu.conduit	Rs.37,50,000 per year 25,000 man hours per year
7	Removal of alu.conduit painting	Rs.37,50,000 per year 25000 man hours per year
8	Man hour saved due to revised timing of modular switch installation. 	1125000/-approx every year 7500 man hours
9	Man hour saved due to removal of patty provision on light fittings	112500/- approx every year 7500 man hours
10	Fan and switch deleted in IGBT DEMU	28,000/rake
11	FL fitting deleted in SV/DPC-1 no./coach	1500/coach
12	Inverter – 25 kVA with SS enclosure As per Rly.Bd.advise, enclosure was changed from MS to SS in order to avoid corrosion and replacement of the box during every PoH.	1,94,900 By way of interacting with suppliers and bringing in competitive spirit. New rate: 4,51,100 Old rate: 6,46,000
13	Prewired driver desk in AC EMU	39 lakhs 26000 man hours

(b) Non-moving item Utilisation: (non LHB)

ITEM	WHERE USED	QUANTITY	COST SAVING IN '000
CABLE JACKET SYSTEM	CABLE PROTECTION IN ALL SELF-PROPELLED COACHES	3830 MTS	513
E-BEAM CABLES	SPART , ACEMU , METRO COACHES	9183 MTS	1758
RC FAN 140 V AC, 450MM SWEEP	AC EMU	204 NOS.	503
XLPE CABLE	SPARED TO C.RLY	5 NOS	337
	TOTAL		3111

(c) Non-moving item utilization : LHB (Hybrid)

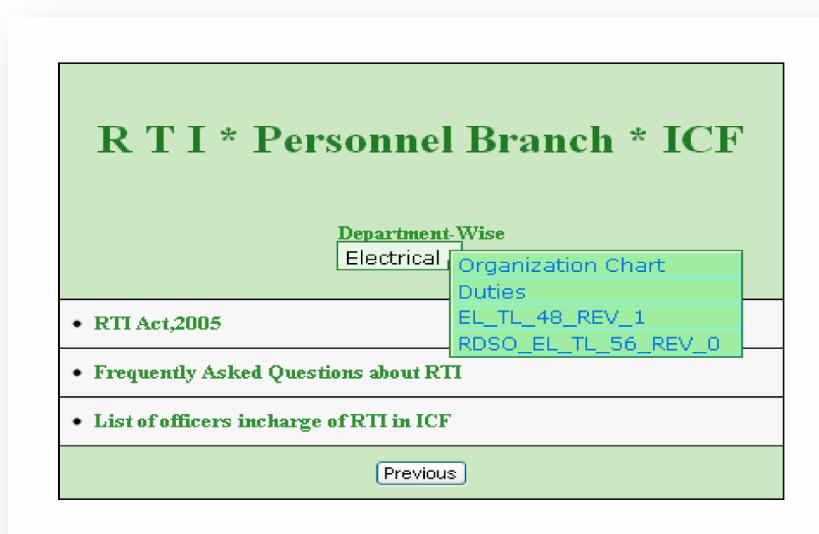
Description	No. of coaches	Qty	Rate in '000	Total cost saved in '000
LED BRL	5	240	1.7	408
Power Panel	16	16	90.5	1448
WRA	16	16	20.5	328
Total				2184

10.8. NOSE CONE PROFILE AND ENERGY SAVING IN AC EMU:

ITEM	FLAT	NOSE CONE
Drag coefficient	0.65	0.58
Reduction in energy consumption simulation results		27000 UNITS/9CAR /YEAR
For 30 train sets made by ICF		810000UNITS /YEAR
Reduction in CO2		81000KG/YEAR
Reduction in SO2		1458KG/YEAR
Reduction in suspended particle		405KG/YEAR
Reduction in soot carbon		40KG/YEAR
Reduction in nitrogen oxide		1620KG/YEAR

10.9. OTHERS:

- a) IIT Project: Meeting was held at IIT on 22/2/13 in the presence of CEE, CME, CDE/E & other ICF officers for reviewing the progress of 2 Projects.
- Computer Modelling of Air Flow for Air conditioning in AC coaches
 - "Energy Efficiency" – USE OF SOLAR ENERGY IN COACHES – Brief Project Report has been prepared by IIT and is under discussion.
 - Utilisation of latest technology for RMPU: It was discussed to introduce BLDC motor technology for RMPU to gain following:
 - New technology
 - Reduction in power consumption by 30 to 40%
 - Reduction in weight
 - Reduction in size.
- b) In ICF website, under RTI, following details uploaded:
- Organisation Chart, Duties of Officers & Code of Practice for
 - Wiring for 110V DC Self generation train lighting system.
 - Train lighting maintenance on "Prevention of fire" on 110V dc self generating coaches.



10.10. CAPACITY CUM CAPABILITY ASSESSMENT

Capacity Cum Capability Assessment was carried out for the following firms

Sl.No	Firm's Name	Item
1	Multi Line, Chennai	MLT Panel
2	Agasthya, Chennai	LED Based Light Fittings
3	Lucas TVS, Chennai	Electrically Operated Wiper
4	Kamlesh Industries, Mumbai	CFL Fittings
5	PEP Electronics, Mumbai	CFL Fittings
6	Ambigo Electro Tech, Chennai	Power Panel For AC Coaches
7	Lambda Elcot, Chennai	Additional Smoothing Reactor
8	S. International, Mumbai	I.V. Couplers For AC EMU
9	ACE Engineering & Chemicals, Indore	FRP Tray For Battery Box
10	Elgi Electrics	Electrically Operated Wiper
11	Maa Lakshmi Industries	I.V. Couplers For AC EMU
12	HAVELLS	AC/DC - MCBs
13	Vaanavil Enterprises	Terminal Boards & Panels
14	P.S. Enterprises, Noida	PVC insulated Alu. & Copper cables
15	Cab Cond (India), New Delhi	PVC insulated Alu. & Copper cables
16	Mukand Udyog, Delhi	PVC insulated Alu. & Copper cables
17	Insucon Cable & Conductor, Jaipur	PVC insulated Alu. & Copper cables
18	Ajantha Electric Industries, Noida	PVC insulated Alu. & Copper cables

10.11. PROTOTYPE CLEARANCE

Prototype Clearance has been accorded for the following Items:

SL.No	FIRM's NAME	ITEM DESCRIPTION
1	MAVEE Electronics, Hyderabad	1.Reservation chart light 2.Night light cum berth indication light 3.Passenger alarm indication light
2	Altos, Pune	1.Passenger alarm indication light 2.Reservation chart light
3	Hy- tech power, Hyderabad	1.Night light cum berth indication light 2.LED based Berth Reading Light
4	Shah & Sahib, New Delhi	1.Amalgamated Transformer Rectifier Unit
5	Agastya, Chennai	1.Reservation chart light 2.Night light cum berth indication light 3.Passenger alarm indication light 4.LED toilet occupied light
6	Lambda Elcot, Chennai	1.Amalgamated Transformer Rectifier Unit
7	Intra Electronics, Pune	1. 36 W ELEC. LAMP BALLAST
8	Allied radiators, Kolkatta	1. Transformer oil cooler
9	Flow Well Engineering, B'lore	1. Oil Pump With Motor
10	Kontakt Consortium India Pvt Ltd	1. Amalgamated MLT Panel With Wago Terminal 2. Terminal Board Assembly 3. Prototype Test of Junction Box complete as per Drg. ICF/SK/7-6-205, Col-I 4. Terminal Board Assembly – Drg. No: DMU /DPC /JK/7-6-002, Col-I
11	Ramyaa Electrogear Industries	1. Amalgamated MLT Panel With Wago Terminal 2. Endwall MCB Panel Drg. No: ICF/SK 7-5-088 col.I & II
12	Multiline	1.Amalgamated MLT Panel With Wago Terminal
13	Blue Star Exports, Chennai	1.First Class Ac Power Panel
14	Kirloskar Electric Co Ltd	1. 320KVA Alternator to ICF Spec ICF/Elec-088
15	Urban Tekno Systems P Ltd	1.Dummy Socket – E 2.Dummy Socket A,B,C & D
16	Saria Industries Corporation	1.RC Fans 225mm sweep 110V AC – MS Blade 2.RC Fans 225mm sweep 110V DC – MS Blade 3.RC Fans 400mm sweep 110V AC – MS Blade-Swivel type
17	RuttonSha International	1.Blocking Diode (Testing in Progress)
18	Hind Rectifiers	1.Blocking Diode (Testing in Progress)
19	Integrated Electric Co	1.DC Compressor Motor to RDSO Spec :70-B-M-41
20	Kamalesh Industries, Mumbai	1.FL Fitting to Drg. ICF/SK/7-6-018 col. I Alt' D'

21	K.R. Industries, Mumbai	1. FL Fitting for Kol.Metro Dr. ICF/STD/7-6-002 2. FL Fitting to Drg. No: ICF/STD/7-6-029, Alt 'a
22	Premier Combines, Chennai	1. 36W Electronic Lamp Ballast
23	International Switch gears Pvt Ltd	1. Power Panel for ARMV AC Panel

10.12. REVALIDATION TEST

Revalidation Test carried out for the following firms:

S.No.	FIRM'S NAME	ITEMS
1	Ramyaa Electrogear Pvt. Ltd, Chennai	1.Additional Smoothing Reactor, 2.Constant Voltage Transformer, 3. Battery Charger, 4. 2.0 kVA Transformer
2	Kontakt Consortium, Chennai	1.Prewired Power Panel for SG Type AC Coach
3	Designs & Prototypes, Chennai	1.Additional Smoothing Reactor
4	Blue Star Exports, Chennai	1.Amalgamated Transformer Rectifier Unit, 2. 2.0 kVA Transformer
5	Raman Sinhas Electricals, Chennai	1. RC Fans 140V AC-450MM 2. RC Fans 110V AC- 450 MM 3. RC Fans 110V AC-400 MM
6	S.P.J. Industries, Kolkatta	1.Railway Carriage Fans
7	Hind Rectifiers, Mumbai	1.Main Rectifier For AC EMUs
8	Elgi Electric Industries, Coimbatore	1. 110 V dc Motors For U/S AC Coaches
9	K.D.Chopra, Kolkatta	1. Railway Carriage Fans
10	Flow Well , Bangalore	1. Oil Pump With Motor, WRA Pump
11	Signotron, Kolkatta	1. 100 VA Inverter, 2. 2.5 kVA Inverter
12	Saranya, Hyderabad	1. 100 VA Inverter
13	Hy-Tech Power,Hyderabad	1. 100 VA Inverter
14	Premier Combines, Chennai	1. 18W 110V ac Elect. Lamp Ballast 2. 18W 110V dc Elect. Lamp Ballast
15	Eastern Electro Systems, Gangtok	1. 100 VA Inverter
16	Ruttonsha International, Baroda	1.DEMU Rectifier
17	Legrand	1. 130V dc Ext. Terminal Type MCB's (0.5 A To 60 A)
18	Elgi Electric	1. 110V DV 9HP Motor For Main Compressor 2. Single Ph. 0.5HP 240V AC Motor Transformer Oil Cooler 3. Condenser Fan Motor 4. Evaporator Fan Motor ES112MLD5
19	Elgi Equipment Ltd	1. TRC 1000 DCM Main Comp.
20	Saria Industries	1.RC Fans 140V AC-450MM 2. RC Fans 110V AC- 450 MM 3. RC Fans 110V AC-300 MM

21	P.S. Enterprises, Noida	1.PVC insulated Alu. & Copper cables
22	Cab Cond (India), New Delhi	1.PVC insulated Alu. & Copper cables
23	Mukand Udyog, Delhi	1.PVC insulated Alu. & Copper cables
24	Insucon Cable & Conductor, Jaipur	1.PVC insulated Alu. & Copper cables
25	Ajantha Electric Industries, Noida	1.PVC insulated Alu. & Copper cables

10.13. INCLUSION OF NEW VENDORS IN PART II IN THE VENDOR DIRECTORY

Sl No	Firm Name	Item Description
1	CSM Engineers	Emergency Feed Terminal
2	Sri Bhagya Fire Glass products	FRP Tray for Battery Box
3	CSM Engineers	FRP SMC Moulded Fuse Dist.
4	CSM Engineers	FRP cleats
5	Integ Electronics, New Delhi	Prewired FL fitting with Lamp Ballast
6	Shah sahib Electronics	Amalgamated Transformer Rectifier unit
7	Agastya Technology & Transmission Pvt.Ltd.	LED based passenger alarm indication light
8	Agastya Technology & Transmission Pvt.Ltd.	LED based night cum berth indication light fitting
9	Flowell Engineering, Bangalore	Oil pump with motor
10	Elixir electronics	Ceiling type loudspeaker 4W
11	Diamond Make	Lamp Electric Train Light Tungston
12	K.R. Industries	Compact Fluorescent Light Fitting
13	Vijay Vaid Associates	Rigid PVC Conduit
14	Allied Radiators	Transformer Oil Cooler
15	Kamlesh Industries	Prewired FL Fitting with Lamp Ballast

10.14. UPGRADTION OF VENDORS FROM PART II TO PART I

Sl No	Firm Name	Item Description
1	CG PP1-	Adhesive products for FRLT cotton insulation tape
2	Ramyaa Electrogear P.Ltd.	Additional smoothing Reactor
3	Ramyaa Electrogear Pvt.Ltd.	Driver's desk MCB panel SMC Moulded Fuse Dist.
4	K.R.Industries	Prewired FL fitting with Lamp Ballast
5	Vishal Gas Services	Modular pantry consisting of Bottle cooler, Hot case, Hote water Boiler & Deep freezer etc.
6	Universal Engineers	Modular pantry consisting of Bottle cooler, Hot case, Hote water Boiler & Deep freezer etc.
7	Electrical & Radio Laboratory	Prewired FL Fitting with Lamp Ballast
8	Goyolene Fibres	PVC insulated Aluminium & Copper cables of sizes 1.5 sq.mm to 150 sq.mm.
9	Agastya Technology & Transmission Pvt Ltd	LED based Toilet Occupied Light Fitting
10	SPJ Industries	Railway Carriage Fan 110V AC & 140V AC

10.15. INCLUSION OF NEW ITEMS IN THE VENDOR DIRECTORY

Sl No	Item Description	Firm Name
1	LED based Night light cum Berth Indication Light fitting	Mavee Electronics Pvt.Ltd.
2	Side lamp 110V to SKEL-4094	Kamlesh Industries
3	Light fitting to Drg.No: ICF/SK 7-6-020	Cyclac engineering Industries, Electrical & Radio Laboratory Kamlesh Industries Global engineering & Process
4	Toggle switch 15A, 250V AC/DC	Essem engineering Co., R.G.Keshwani Industries Switchon Industries Seton electrical Products Shriill Refrigeration & Airconditioning Trading Co.
5	PVC insulated Alu & Copper cables	Cab Cond (India) Ajanta Electric Industries Insucon Cables & Conductors (P) Ltd., Mukand Udyog P.S. Enterprises
6	Mirror Light Fitting	K-Lite Industries Kumar Electrical Industries K.R. Industries Integ Electronics

10.16. POWER SUPPLY AND MAINTENANCE OF MACHINERY AND PLANT**Electrical Maintenance wing in ICF**

- Distribution and maintenance of power supply to all shops, Service buildings, Colonies, ICF hospitals, D&D Building, GM's Bungalow, residential quarters and guest house in Perambur area during the year 2012-13 has generally been satisfactory.
- The energy consumption during 2012-13 is 2,54,14,831 units compared to 2,48,51,010 units for the year 2011-12.
- The Energy consumption/ ECU for the year 2012-13 is 7764 units compared to 9356 units for the 2011-12.
- Maintenance of Machines, cranes, traversers, compressors, welding sets, lighting and ventilation arrangements, Pump house, Street lights, centralized air condition plants, air conditioners, water coolers, vehicles, repairs of motors & pumps etc. has been generally satisfactory. The machinery and plant breakdown was kept at 0.78 % during the year 2012-13 as compared to 0.72% during the year 2011-12.
- Maintenance of telephone exchange, Railnet and Internet connectivity has generally been satisfactory.

10.17.IMPROVEMENTS IN FACTORY, COLONIES AND SERVICE BUILDINGS

- a) Retrofitting of 3 nos of HT OCB trucks with VCB in MRS
- b) 24V LED lights provided for generation test pits.
- c) Old aged DSL changed in Shop-30 &NPS traverser.
- d) 1000 Mtrs of lighting BBT replacing OH wires completed in 7th & 8th line of Shop-30
- e) 5000 Mtrs of Insulated wire installed replacing ordinary OH wires in stores area.
- f) 3 Nos. High mast lighting provided in vantage area inside the factory for better illumination
- g) 3 Nos. LT OCBs changed to ACB Panels
- h) 7 Nos. multiple voltage socket outlet panels provided for production and inspection work.
- i) 3 Nos. ACB Panel provided replacing old OCB panels in Shop-32, 33 & 39.
- j) 5 Nos. of MCCB panels provided replacing old LT SFU Panels.
- k) Electrification completed for new OH Tank for CWE/Fur. Admin Building.
- l) Replacement of over aged concrete street light post of 100 nos by galvanized light post with suitable bracket cum 4x14W T-5 fitting.
- m) Two nos. solar street light post with fitting was provided.
- n) 225 qtrs of type-II re-wiring carried out in North and West colony.
- o) 40qtrs of type IV re-wiring carried out in East and West colony.
- p) 40 Qtrs of type-III re-wiring carried out in East and South colony.
- q) 2 nos. of 500 KVA existing over aged transformers replaced by new transformers of 750 KVA in East colony, SS-10.
- r) Lighting arrangement done in newly constructed park in South colony and West colony.

WORK-IN-PROGRESS

- a) Rewiring of ICF Higher Secondary School is in progress.
- b) Energy Audit in pumps and substation.
- c) Electrification for replacement of SE/W/Maintenance and SE/Elect. Maintenance office in Perambur.
- d) Replacement of over aged HT OCB panels in SS11A.
- e) Electrification for strengthening of hospital power supply to cope with the increasing load.

- f) Strengthening of underground cable distribution system with MDB's in west colony.
- g) Re-wiring of type V quarters in ICF colonies and officer's flat.
- h) Re-wiring of type-II and III qtrs in south colony phase-II.
- i) Strengthening and modified wiring arrangement of existing input power supply systems in ICF Colony blocks Ph-II.
- j) Re-wiring of type II staff qtrs in south colony Ph IV.
- k) Air Conditioning work in AWTI and D&D work.

WORK UNDER PLANNING

- a) Re-wiring of type II staff qtrs in south colony Ph V
- b) Replacement of overaged street light post in colonies Ph-II
- c) Re-wiring of type II and III qtrs in south colony phase III
- d) Re-wiring of type IV work in ICF colonies final phase.
- e) Hospital augmentation work.
- f) Re-wiring of Type II Qtrs. In East colony phase II

10.18. Construction Work

During the financial year 2012-13, about 34 LAW book works were completed which were in progress in the year 2011-12. New Contracts awarded for about 50 works amounting to Rs.60 Crores. Contract bills were paid to the tune of Rs.9.62 Crores for the financial year 2012-13 under various plan heads.

In addition to the regular works, Construction wing has involved in the following.

- Applying for the Golden Peacock Eco innovation award. ICF has been awarded with the Golden Peacock Eco innovation Award.
- Celebration of 20th MSG meeting on EMU & Kolkatta metro conducted during Jan'13.
- Celebrating Energy Conservation week.
- Celebrating Electrical Safety Week.
- Celebrating Electrical Engineers Day.

10.19. WIND MILL PROJECT

The total generation from the wind mill during the year 2012-13 is 22.41 million units and the actual consumption is 25.42 million units. The generation from the wind mill has resulted in a saving of Rs.11.03 Crores.(approx)

CDM status ares given below:

- The Project Report has been registered successfully with UNFCCC on 22.07.2011.
- Verification of VER & CER completed.
- Project report is under scrutiny.
- VER issuance cleared by TUV Nord. VCS registration under process for sale of VERS. Expected to be completed by 30.4.2013.
- CER report uploaded in UNFCCC website and under completeness check.
- Expected CER issuance by 31.5.2013.
- Expected revenue from
 - VER (up to 21.07.11) - Rs. 20 Lakhs (approx)
 - CER (from 22.07.11 to 10.07.12 - Rs. 6 Lakhs (approx)

CIVIL ENGINEERING**11.1. BUDGET ALLOTMENT AND EXPENDITURE MADE FOR THE YEAR 2012 – 13 BY CIVIL ENGINEERING DEPARTMENT**

Details	Works in Progress [WIP]	New works [NW] sanctioned	WIP + NW
	(figure in thousands of rupees)		
Budget allotment	21,26,89	3,04,01	24,30,90
Revised Grant	18,63,95	57,05	19,21,00
Expenditure	24,81,37	39,32	20,45,00

11.2. ACHIEVEMENTS

The Plan Head wise Major Projects / Works completed during the year are given below.

PLAN HEAD – 42 - WIPU - SHELL DIVISION – WORKS COMPLETED		
Sl No	Description of work	Amount (Rs. in lakhs)
1	Laying separate pipe line system for fire hydrants with booster pump arrangements inside Shell Factory (Phase II)	41.62
2	Construction of RPF Post/ Shell	31.24
3	Conversion of Old Wheel Shop into Jig Assembly bay in IV Bay of 'B' Shop.	31.48
4	Dust proof enclosure for TRUMPF with CNC Laser Cutting Machine (15m X 10m)	37.42

PLAN HEAD - 42 - WIPU- FURNISHING DIVISION – WORKS COMPLETED		
Sl No	Description of Work	Amount (Rs. in lakhs)
1	Replacement of the fencing wall in between Furnishing division and Avadi Road	14.98
2	Reconstruction of storm water drainage arrangements at shop - 30 & 36, Ist bay, inspection pits at shop - 36 in Furnishing division	12.41
3	Relaying of flooring with bitumen and construction of partition in Furnishing waste segregation yard	33.89

PLAN HEAD - 52 - STAFF AMENITIES – WORKS COMPLETED		
Sl.No.	Description of Work	Amount (Rs. in lakhs)
1	Construction of Holiday Home at Courtallam	37.19
2	Providing wire net for staff quarters type-I & II for 155 units- Phase I.	11.51

11.3. WORKS IN PROGRESS

The Progress of the 252.04 cr. project for Modernisation and Expansion of ICF manufacturing technologically upgraded coaches with increased production capacity from 1500 to 1700 coaches per year is as follows:

i) Civil works executed by ICF

Sl. No	Name of the work	Cost (fig. Rs. in lakhs)	Remarks
1	Construction of Shed for Fiat manufacturing shop & Open gantry including diversion of Storm water drain for Modernization and expansion of Integral Coach Factory, Chennai from 1500 to 1700 Coaches	1404.00	95% work completed. Flooring, fixing pre-coated metal sheets for cladding, Fixing Aluminium windows. White washing, Colour washing and painting is in progress.
2	Construction for office accommodation, Substation with cable trench in & outside & toilet blocks with water supply and sewerage arrangements. Dismantling of existing 3 nos of Nissan shed & Re-construction of 2 nos of Nissan shed inside furnishing division & laying of two tracks with inspection pits, surface drain along with fiat bogie shed for Modernization and expansion of Integral Coach Factory, Chennai from 1500 to 1700 Coaches.	605.00	60%work completed. Substation roof & flooring has been completed. Office accommodation Ground Floor slab completed. Brickwork, Plastering for substation and office accommodation Ground Floor is in progress. First floor slab completed & brick work in progress. Approach road from D&D to LHB site 90% completed
3	Construction of compound wall with main entrance gate in connection with modernisation and extension of ICF from 1500 to 1700 coaches	161.00	50% work completed. East side pile raft and wall upto 0.60m completed. On the South & Western side pile foundation work completed and RCC wall of 1.20 mtrs. Height has been constructed for 100 mtrs. Length on the Southern side.

4	Construction of shed for garnet blasting including flooring and laying of BG track etc., for modernization and expansion of ICF, Chennai from 1500 coaches to 1700 coaches	245.00	The existing structures which has to be dismantled for the construction of garnet ballasting building is yet to be handed over by the Mechanical Department.
---	--	--------	--

ii) Civil Works executed by COFMOW:

Sl. No	Name of the work	Cost (fig. Rs. in lakhs)	Remarks
1	Construction of Assembly & Manufacturing shed (2 bays) including electrical works and provision of main M&P (on turnkey basis) for expanding shell assembly production of capacity.	7339.00 (civil portion – 2154.00)	30% of work completed. Shed Pile foundation work completed. Erection of Steel work is in progress.
2	Civil, electrical works and provision of M&P for other support facilities required for expanding overall production capacity from 1500 to 1700 coaches per year.	5301.00 (civil portion – 1339.00)	Outside traverser foundation works in progress. Pile foundation work for Stores shed in progress. Pile foundation work for DG shed and Compressor room completed.

PLAN HEAD - 31- TRACK RENEWALS – WORKS - IN- PROGRESS		
Sl. No	Description of work	Amount (in lakhs)
1	Complete track track renewal for 500M and the replacement of 10 sets and 10 points and crossings	152.35
2	Complete track renewal for 1 KM in Furnishing and Shell division.	123.73

PLAN HEAD – 42- WIPU- SHELL DIVISION - WORKS - IN- PROGRESS		
Sl No	Description of work	Amount (Rs. in lakhs)
1	Provision of roof extractors in shell division	46.04
2	Providing concrete aproning between tracks on the northern side of A & B shed in Shell factory (Phase III)	66.86
3	Replacement of AC sheet with non -Asbestos sheets for Spring shop and D shop in Shell factory	35.71
4	AWM's office remodelling and improvement	45.26
5	Reconstruction of stores building with increased storage area for construction works in Shell division	47.18
6	Replacement of AC sheet in roofing with precoated metal sheets in K shed in Shell factory	42.31
7	Replacement of existing damaged gutters with galvalume gutters in various shops in Shell division	47.85
8	Replacement of roof sheets and arresting and rain water leakage in Shell division in Shop A,B,J,G and H shed.	118.29
9	Replacement of Wornout chequered plates over the cable trench at various shops in Shell division Phase II	32.42
10	Replacement of AC sheet by galvalume sheet in A & B shed,' E 'shop bogie assembly shop in shell factory.	177.63
11	Extension of 3rd floor in administrative office building for Mechanical officers	52.41
12	Extension of shop 15 outside of end grinding section (south west corner of L shed) size 15m x 15m with north light roof	53.22
13	Widening of roads in Shell division between B shed South and E,F,D & L shed North	52.35
14	Covering open space in between bogie frame shop and E shop in Shell division	31.25
15	Providing apron concrete between tracks on the north side of A & B shed in Shell division	56.22
16	Providing CC flooring for stacking of store materials near ASRS shed inside Shell factory.	36.27

PLAN HEAD - 42- WIPU- FURNISHING DIVISION – WORKS-IN-PROGRESS		
Sl No	Description of Work	Amount (Rs. in lakhs)
1	Provision of approach sheds and vertical louvers in front of new paint shed to prevent rain water falling on shells and rain water splashing into the paint shed	121.29
2	Extension of D & D building	52.44
3	Replacement of existing AC sheet by precoated metal sheets at TL wards, screw ward, Aluminium ward and shop 34 stores in Furnishing division	40.54
4	Replacement of AC sheet / gutter with galvalume sheet and main store shed in Furnishing factory	53.91
5	Strengthening of roof with polyurea layer on the office accommodation in Furnishing division	48.13
6	Replacement of existing AC sheet roof and gutters with galvalume sheet in Shop 30,32 and 33.	99.98
7	Additional Nissan shed for Bogie parking in shop 54	70.33
8	Construction of bins for scrap ward in Furnishing factory.	24.93

PLAN HEAD -51-STAFF QUARTERS – WORKS-IN-PROGRESS		
Sl No	Description of Work	Amount (Rs. in lakhs)
1	Reconstuction of type – I quarters by type-II-36 units	455.33
2	Construction of Type –III – 48 units in south colony	670.02
3	Rep. of type-I quarters with type –II – 39 units in north colony	348.56
4	Reconstruction of Type II quarters 4 units Block No. 106 in West colony	32.56

PLAN HEAD -52-STAFF AMENITIES – WORKS-IN-PROGRESS		
Sl No	Description of Work	Amount (Rs. in lakhs)
1	Providing wire net for type-I, II & III Quarters in all colonies– Phase III.	32.21
2	Replacement of AC sheet by RCC roof at Welfare Centre in East colony	24.51
3	Raising of silt and gully chambers, man holes and providing SFRC cover slab in South colony	20.05
4	Construction of 1 suite for GM/ICF at New Delhi.	41.83
5	Construction of additional rooms for ICF Kalyana Mandapam	14.37
6	Provision of toilets / improvements for ICF community hall	11.91
7	Providing false ceiling for community hall in South colony	14.61
8	Construction of common toilets for the users of both first floor and ground floor at Kalyana Mandapam	17.58
9	Reconstruction of damaged two wheeler shed for TTC and ICF higher secondary school	15.14

PLAN HEAD -64-OTHER SPECIFIED WORKS – WORKS-IN-PROGRESS		
Sl No	Description of Work	Amount (Rs. in lakhs)
1	Construction of GYM building in ICF stadium	42.80

PERSONNEL BRANCH

12.1. COMPUTERIZATION OF PERSONNEL BRANCH ACTIVITIES

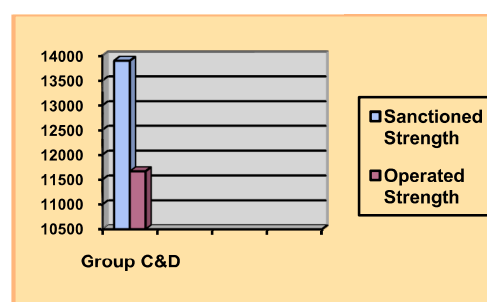
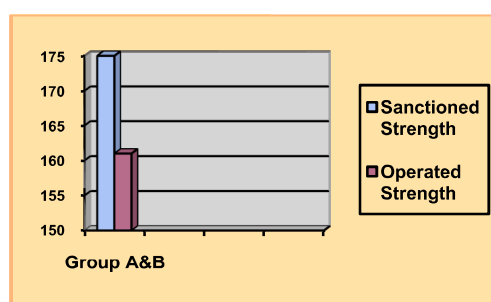
Personnel Branch/ ICF has a proud record of early and effective computerization of office works to the benefit of PB staff and officers as well as to the employees it serves. Most of the areas have been computerized over the years from 1990, the unique feature being that all programs have been developed "in house:" and maintained "in house" resulting in recurring savings of lakhs of rupees to the Administration.

The following applications were developed during the year 2012-13 as a part of the computerization in Personnel Department of ICF:

- SMS to the employee after the Promotion Office order has been signed.
- Software to calculate and generate Benefit from Sec-89 of Income Tax Act for about 800 employees from the financial year 2005-06 onwards.
- Software for Recording, monitoring of processing of RTI applications
- Software for Pre-2006 Revision/Re-revision of pension/family pension with respect to Railway Board letter dated 23.02.2013. The software calculates the re-revision, generated revision proposal and revised PPO to be sent to the respective banks.
- SMS to candidates of Act Apprentices 2012 to inform them about the dates of their examination, venue and also inform successful candidates about the written test results and subsequently inform them about the Viva and their results.

12.2. MARCH TOWARDS RIGHT-SIZING AND COST EFFECTIVE MANPOWER

As on 31.03.2012		Category	As on 31.03.2013	
Sanction	Operated		Sanction	Operated
175	163	Group A & B	175	161
13919	11771	Group C & D	13896	11666
14094	11934	Total	14071	11827



12.3. DETAILS OF WORKCHARGED POSTS IN GAZETTED CADRE AS ON 31/03/2013

Department	HAG	SAG	JAG	SS	Gr.B/ JS	Total
Administration	0	0	0	0	0	0
Accounts (including Data centre)	1	0	1	6*	0	8 *
Electrical	0	1	2	2	2	7
Engineering	0	0	1	1	0	2
Mechanical (including Lab Orgn)	0	2	6	7	1	16
Stores	1	0	0	4	0	5
Personnel	0	0	1#	0	0	1#
Medical	0	0	0	0	2	2
Total	2	3	11	20	5	41

* Including one Group B post of 'Programmer' operated as 'SSA' in Sr.Scale on differential basis against work charged provision.

One newly created JAG work-charged post of Dy.CPO is yet to be operated

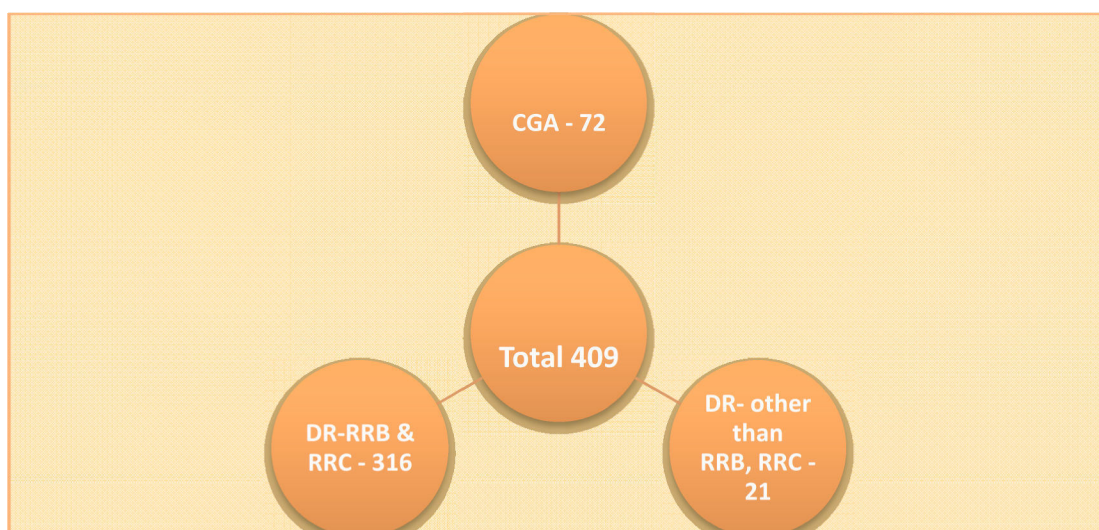
12.4. OPTIMUM UTILIZATION OF MANPOWER

During the year, it was ensured that no employee remained surplus as a part of continuing exercise.

12.5. ADHERENCE TO TARGETS FOR MANPOWER INTAKE

Number of non-gazetted staff recruited through various sources by ICF administration is as under for the year 2012-13:

Category	2012-13
	No. of staff
Compassionate Grounds	72
Direct Recruitment (RRB, RRC)	316
Direct Recruitment (other than RRB/RRC- sports & substitutes)	21
TOTAL	409



Appointments other than through compassionate grounds are within the permitted intake prescribed by the Railway Board.

12.6. ENGAGEMENT OF ACT APPRENTICES

During the year 2012-13, 571 were engaged under the Apprentice Act, 1961 in various designated trades for training. 1 graduate apprentice and 7 Technician apprentices were engaged also under the Apprentice Amendment Act 1973.

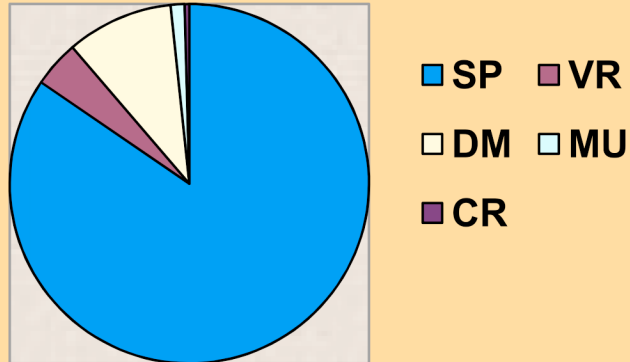
12.7. SETTLEMENT ON RETIREMENT AND OTHER CASES

ICF has a proud tradition of settling all the cases at the earliest. During this year also, settlement payments were arranged on the next working day of retirement for Superannuation cases.

Nature of Termination	2012-13	
	Total	Settled
Superannuation*	405	405
Voluntary retirement	23	21
Compulsory retirement	03	02
Medically unfit cases	10	07
Demise	60	57
Total	501	492

* All superannuation cases were settled

Settlement on Retirement 2012-13



12.8. QUARTERS POSITION

The total no. of quarters in ICF Colony at the end of the year 2012-2013 is 3134 units.

Category	As on 31.03.2013		
	Strength	Occupied	Percentage
Group A & B	161	66	40.99
Group C & D	11666	2703	23.16
Total	11827	2769	23.41

12.9. WELFARE OF EMPLOYEES BELONGING TO SC/ST/OBC COMMUNITY

12.9.1. Reservation percentage prescribed for SC/ST/OBC is as under

	SC	ST	OBC
Local recruitment	15	7.5	27
Recruitment on All India basis	15	7.5	27
Promotion	15	7.5	-

12.9.2. Representation of SC/ST/OBC on initial recruitment and on promotion (SC&ST) is being taken care of so as to ensure prescribed percentages

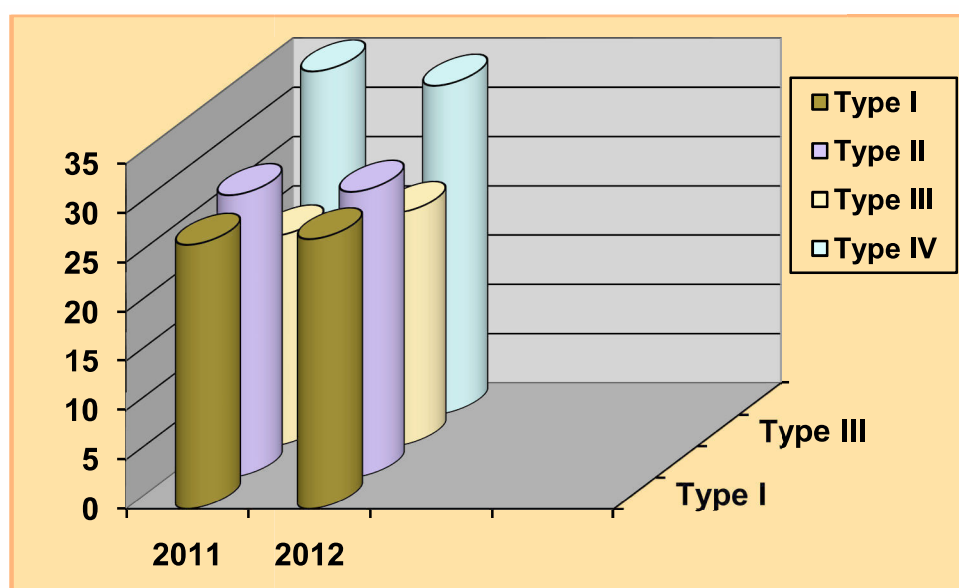
Group	Recruitment as on 31.03.2013				
	Total Vacancies	SC Recruited		ST Recruited	
		No.	%	No.	%
C & D	385	59	14.4	174	42.5

12.9.3. Adequate representation of SC/ST is available

Group	As on 31.03.2013				
	Total	SC		ST	
		No.	%	No.	%
A	80	21	26.25	5	6.25
B	81	24	29.62	6	7.40
C & D	11666	2794	23.94	821	7.04
Total	11827	2839		832	

12.9.4. Number of quarters of each type allotted to SC/ST employees

As on 31.03.2011			TYPE	As on 31.03.2012		
Total allotted	Number allotted to SC/ST	%		Total allotted	Number allotted to SC/ST	%
856	229	26.75	I	856	234	27.33
1621	464	28.62	II	1633	473	28.96
254	54	21.25	III	254	60	23.62
115	40	34.78	IV	117	39	33.33
2846	787	27.78	Total	2860	806	28.18



12.9.5. Number of employees promoted and the number and percentage of SC/STs respectively during the year 2011-12 vis-à-Vis 2012-13

As on 31.03.2012					Group	As on 31.03.2013				
Total Vacancies	SC		ST			Total Vacancies	SC		ST	
	No. promoted	%	No promoted	%			No. promoted	%	No. promoted	%
-	-	-	-	-	A	-	-	-	-	-
11	1	10	--	--	B	8	1	16.6	1	16.6
1461	213	14.57	105	7.18	C&D	1329	277	20.84	69	5.19
1472	214		105		Total	1337	278		70	

12.10. PRODUCTIVITY THROUGH BETTER INDUSTRIAL RELATIONS

During the year, excellent Industrial relations were maintained and there was no loss of man-days on account of stoppage of work etc. There was constant interaction with the elected representatives of the staff council by way of informal and formal meetings. Formal meetings were held as given below:

Details of Staff Council Meeting held during the year 2012-2013

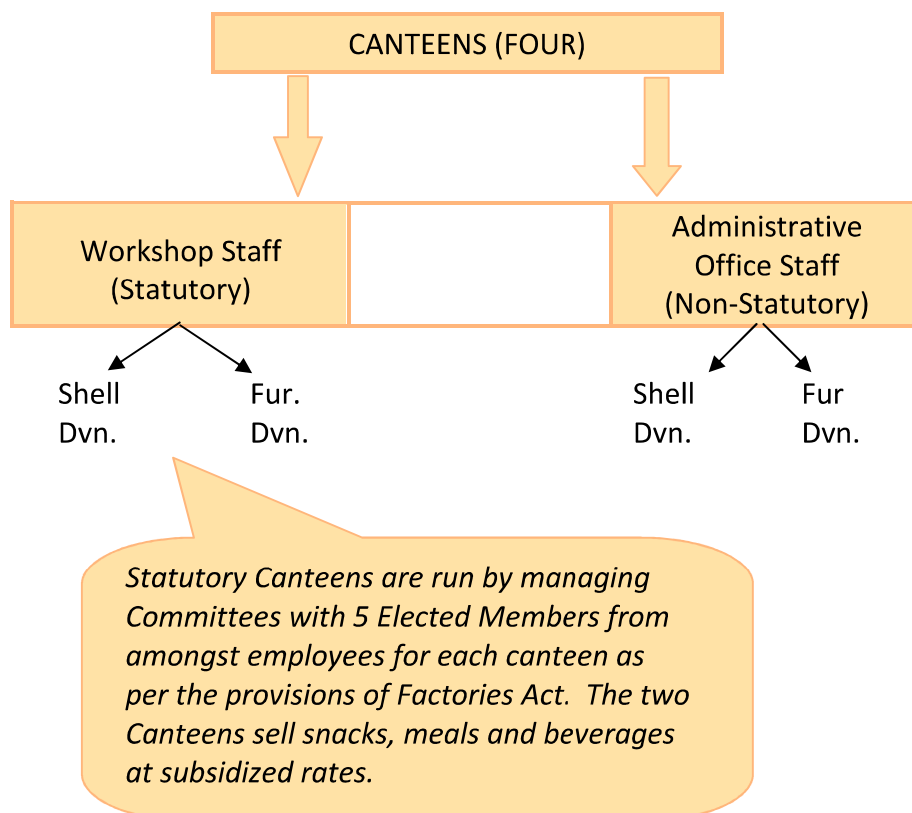
Meetings	Date	Total No. of subjects discussed	No. of subjects finalized	No. of subjects pending
With Railway Board officials	No meeting			
Local meetings				
II meeting of XVIII Staff Council	06.06.2012	17	11	06
II meeting of XVIII Staff Council	24.07.2012	36	11	25
III meeting of XVIII Staff Council	12.12.2012 & 18.12.2012	42	07	35
IV meeting of XVIII Staff Council	20.02.2013	31	4	27

12.11. STAFF BENEFIT FUND

The Staff Benefit Fund in ICF is managed by a Staff Benefit Fund Managing Committee. Two meetings were held in the year 2012-13. The details of expenditure for the year 2012-13 are as follows:

Sl. No.	Heads of SBF	Expenses for 2012-13
1	(a) (i) Education+50% expenses of 2012-13	1789406
	(ii) Scholarship for higher education of Girl child of staff in grade pay of Rs.1800/- and below at Rs.1200/- p.m	802800
	(iii) Scholarship for higher education of Male child of staff in grade pay of Rs.1800/- and below at Rs.1000/- p.m	668000
	(b) Recreation other than sports	587025
	(c) Promotion of Cultural activities	652177
	(d) (i) Relief to distress, sickness, etc.,	1207661
	(ii) Relief to distress, sickness, etc., for staff in grade pay of Rs.1800/- and below	426925
	(e) Women Empowerment activities	452206
	(f) Miscellaneous	564204
2	Indigenous system of medicine including Homeopathy (salary paid to Homeopathy doctor & medicines	305329
3	Training for developing occupational skills of physically/ mentally challenged wards especially girls of railway employees	1756287
TOTAL		8892403

12.12. CANTEENS



The canteens are controlled and managed by the committee, consisting of elected members and nominated members. Chairman of the committee is an officer nominated by the Administration. The Chairman convenes periodical meetings to improve the quality of food items served. The canteen prepares tea, coffee, snacks, breakfast and meals and serve the same to the employees at their work place. The canteen is functioning on both day and night shifts for the benefit of the employees.

CANTEEN SERVICE SCHEDULE	
TIME	ITEM
Starts at 06.00 hrs	Breakfast
07.30 hrs	Breakfast & Tea, Special Tiffin is priced at Rs.10/- Tea is priced at Rs.3.50 (inclusive of paper cup)
11.30 – 12.15 hrs	Lunch Priced at Rs.15.00
06.30 – 09.30 hrs	Token Time for lunch (sold at main gate)
07.30 hrs to 09.30 hrs	Token Time for lunch (sold at extension counter)
14.00 hrs	Tea & Snacks
17.30 hrs	Night Shift for Canteen Workers
20.30 hrs	Night Shift – Bhath items are served depending on the number of tokens sold.

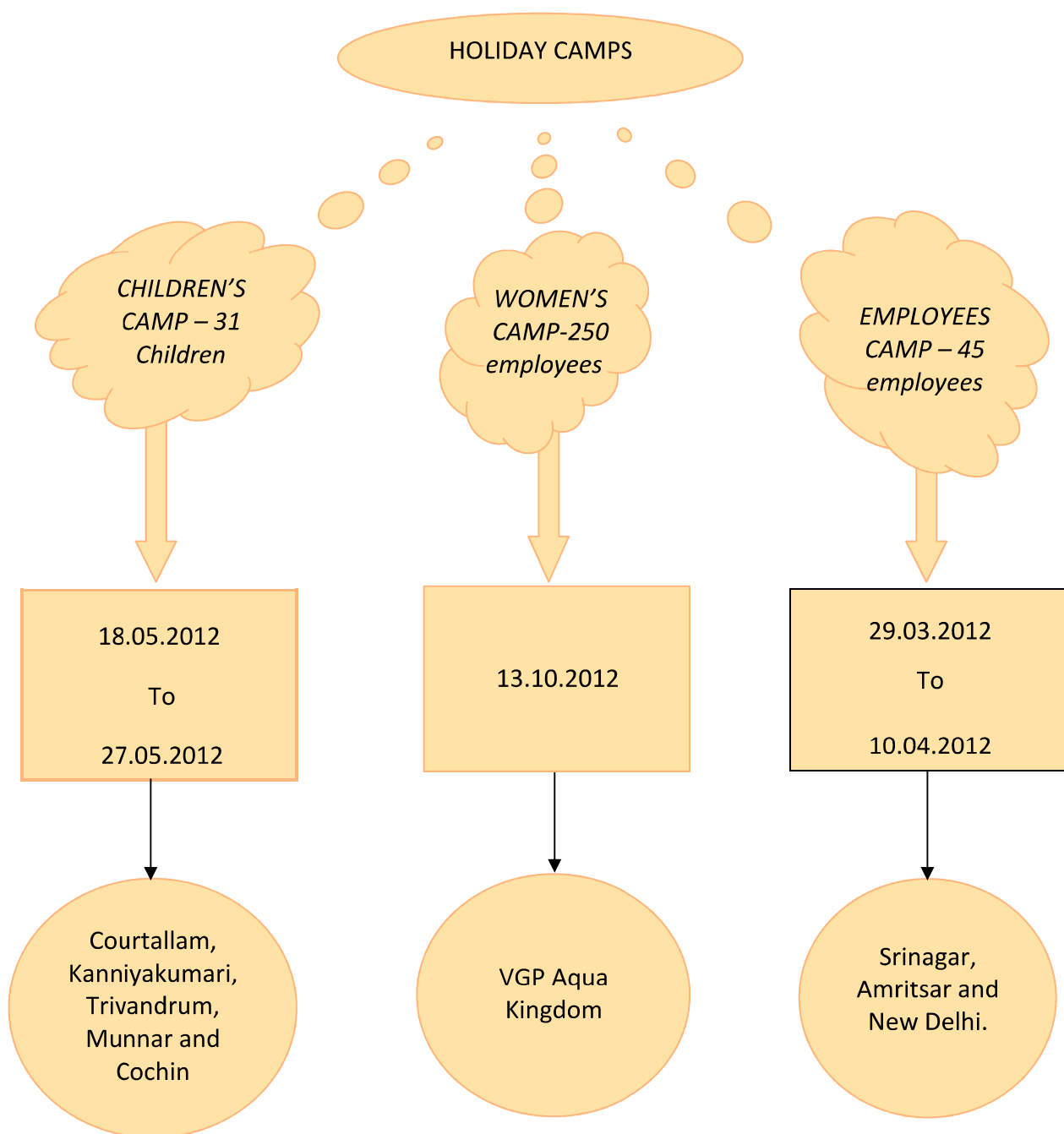
a) Workers Canteen/Shell

- i) The canteen caters to the needs of about 5400 employees of Shell division with breakfast, snacks, beverages and meals. Coffee, tea and snacks are served in morning and evening session. Meals are served in the canteen counter, rest of the items are served to the workers at their work spot. In addition to this, one extension counter is functioning inside the factory near B- shop where hot milk , tea, coffee, snacks and special breakfast are sold.
- ii) Automatic Dosa making plant was inaugurated by G.M on 03.12.2012, which has a capacity to make 300 dosas in an hour. In addition to the dosa machine, new refrigerator and an electronic weighing machine is in use.
- iii) Prices were revised in Worker's canteen/shell with effect from 31.01.2012. The entire out standing amount at the canteen was paid to the vendors after the price revision.

b) Workers Canteen/Fur.

- i) The canteen caters to the needs of about 3400 (Appx) employees of Furnishing division with breakfast, snacks, beverages and meals. Coffee, tea and snacks are served in morning and evening session. Meals are served in the canteen counter, rest of the items are served to the workers on their work spot. In addition to this, there are 20 points of service. The food items are taken in trolley by the vendors for supply at the points.
- ii) In addition to this, one extension counter is functioning inside the factory adjacent to shop 33. The canteen is functioning at both day and night shifts for the benefits of the employees.
- iii) Orders for the preparation of sweets, beverages and snacks and Spl. lunch are also undertaken on the occasions of the employee's retirement functions. The total volume of sales for the financial year 2012-13 is Rs.50,87,970/- and the total meals token sold are 26,631.

12.13. RECREATION



The above camps were welcomed by the both Staff and their wards alike.

12.14. ICF INSTITUTE

The ICF institute was started in the year 1954 to promote recreational and cultural activities amongst the ICF employees and their family members. As on date around 8363 employees of ICF have enrolled themselves as members of the Institute.

The Institute is managed by a committee consisting of nine elected members and six nominated members of the ICF administration. The tenure of the managing committee is three years. Elections to the Managing Committee of Institute were held on 20.11.2010 and the new Institute Managing Committee was constituted on 18.12.2010.

The major sources of income to the Institute are the monthly subscription from the members, which are fixed as low as Rs.15/- per month for employees in pay band PB-I and Rs.20/- per month for employees in pay band PB-II and above in the revised VI Pay Commission Scales.

Dr.Ambedkar Arangam, an auditorium with a seating capacity of around 900 persons is a part of ICF Institute where cultural and recreational programmes are held throughout the year. An amount of Rs.10,000/- is collected for booking of arangam, which comprises of Rs.6000/- towards rent and Rs.4000/- towards refundable deposit which will be returned after deducting electric consumption charges.

The Institute runs a library for its members, where over 3,000 books on novel, fiction, drama etc. in Tamil, English, Telugu, Malayalam etc. are available. New books are purchased every year to keep the library up-to-date. The library also has a reference section where books on general knowledge, encyclopedia and rare books are available. Apart from this, all reputed dailies and magazines in Tamil, English, Telugu and Malayalam are also made available in the reading room for the benefit of the members. As it is a practice to issue New Year compliments to the institute members, during the year 2012, 8500 members were issued compliments.

Institute members are availing the facilities for playing Table Tennis, Badminton & Carrom Board. Pongal treated was conducted on 26.01.2013 for the benefit of the wards of ICF Institute members on the eve of pongal festival and competitions for children in various disciplines like Quiz, Dance, Drama and Music were conducted and prizes were distributed on the function held on 26.01.2013.

12.15. SCHOOLS

In ICF, there are 4 schools (2 under state aided free education and 2 run as self-financing institutions), which are recognized by the Education department of Government of Tamil Nadu and managed by the committee of management constituted by the Administration.

Name of the School	Year started	Std. From to	Medium of instruction	No. of students	No. of teachers	Non-teaching staff	No. of sub-staff
ICF Silver Jubilee Primary School	1964	LKG to V	English	961	25	2	9
ICF Silver Jubilee Mat. HSS	1979	VI to XII	English (Tamil & Hindi as 2 nd languages)	960	42	0	6
ICF Colony Aided Primary School	1956	I to V	Tamil and Telugu	150	8	0	2
ICF HSS	1960	VI to XII	Tamil, English and Telugu up to X std.	1155	448	11	9

a) ICF SILVER JUBILEE MATRICULATION SCHOOL (PRIMARY SECTION)

- i) Academics: The pass percentage of the school for the year is 100%
- ii) Extra curricular activities: Cubs and bulbuls classes are conducted in once a week.
- iii) Hand and Work Needle work: All the children are taught handwork and needle work. The work are exhibited during the Railway Week Celebrations
- iv) Functions: The School Annual day was celebrated on 07.01.2013. Teacher's day was celebrated on 5th September and Sports day was celebrated on 8th March 2013. Independence day and Republic days celebrated.

- v) Inter class competitions: Inter class competitions was conducted for the children LKG to V std in July 2012. A Thirukkural competition was conducted for the children from LKG to V std. Inter class quiz competitions for conducted for the children from II to V STD.
- vi) Class day function: The school introduced a class day function, which was conducted by the class children without the help from the class teachers. The children themselves organized the function welcoming the chief Guest, rendering vote of thanks, compering, cultural etc. This activity helped the students to be self-confident and to learn the manners in which the guests should be treated.

b) ICF SILVER JUBILEE MATRICULATION HIGHER SECONDARY SCHOOL

i) Methodology

Students skills, good manners, etiquette and acquisition of academic merits. At the higher level, pupils are prepared for the Matriculation Examinations in X std. and the State Board Examinations at +2 stage

ii) Co – curricular activities

- Debates, Quiz, Elocution, Art competitions are conducted as per schedule.
- Rotary club functions well, with students participating in the RYLA, an inter school event.
- Special training is given to the promising athletes and sportsmen.
- The school competed in a number of inter school tournament and won many laurels in foot ball and Basket ball , Table tennis, boxing. A.P.Srija and Maria Brinda of IX std participated in National Athletic meet.
- Guides and scouts have their regular meetings and attend training camps. Many have won RajaPurashkar and President awards.
- Many of our pupils participated in other inter school competitions and a number of prizes were won.

iii) Counseling/Meetings

Parent teachers meetings were conducted along with counseling session for the seniors. Staff meetings were conducted periodically to assess performance and draw up more realistic programmes.

iv) Celebrations

The school celebrated the Independence Day, Republic day, Children's day and Annual Day.

v) Results

School	No. of students appeared	No. of students passed	Pass %	No. of I Classes
Matriculation	141	138	98	59
Higher Secondary	128	122	95	86

School toppers:

Matriculation

- a) E.Swathi - 471/500
- b) S.Gomathi - 469/500
- c) T.G.Lokesh Babu - 468/500

Higher Secondary

- a) Padmanabha Prasanna - 1147/1200
- b) S.Maheswari - 1130/1200
- c) S.Nazia Banu - 1129/1200

S.Ranjani has secured centum in Accountancy

L.S.Ancy Sujitha has secured Centum in Business Maths.

c) ICF HIGHER SECONDARY SCHOOL

i) Co- Curricular activities

There is an army wing of NCC for girls functioning efficiently under the leadership of the In charge Smt G.Vidhya, with fifty cadets.

Under NCC for boys the total strength is 100. 25 cadets attended CATC camp at Avadi and 10 cadets attended CATC cum RDC camp at the same place. Shri Gandhi Maheswaran who guides and leads the NCC army wing for boys successfully trained 38 cadets to the certificate "A" examination.

ii) Naval Wing

Under the guidance of Shri D.Gopalakrishnan, the Naval officer, 67 cadets participated in the Annual training camp at JPR Engg. College, kelambakkam. 42 cadets appeared in "A" certificate examination and passed successfully with most of them getting A grade.

iii) Scouts & Guides, Junior Red cross, NSS

There are 55 scouts and 60 guides. The scouts and Guides participated in Rainwater harvesting Rally, Aids awareness Rally and World Environmental day Rally and created awareness among the public on conservation of water protection, against aids and pollution control. They participated in the Museum rally on 14.11.2012, where G.M was the Chief Guest. The junior red cross and the NSS unit actively involved in Rain water Harvesting rallies and observed Worlds Aid day on 1st December. Further the children conducted rally against the use of polythane and plastic material by the public.

iv) Sports and Games

The various prize winners and runners during the year are as under:

- a) Winners in Foot ball, Basket ball, Kabaddi, Hockey and Volley ball in under 19 category and under 17 category. (Inter school)
- b) V.Ganesh of XII was awarded the Man of the Match at District level interschool cricket tournament.
- c) M.Sundaras VII won Gold medal at State Level Boxing competitions and participated in National Level held at M.P
- d) P.Nandha kumar XII won I place at District Level Atheletic Championship.
- e) Khabbaddi team won I place in Inter District Level tournament.

v) Academics

The results for the year 2011-12 are as under.

HSC: 59% SSLC : 71%

d) ICF COLONY AIDED PRIMARY SCHOOL

- i) Every Monday, the National Flag is hoisted and students take oath against Untouchability. The important news items are read in the Prayer daily. Thirukural is recited and meaning is explained. Yoga and Mediation classes are also conducted.
- ii) Thiru Kamaraj Birth day was celebrated on 15.07.2012.
- iii) Independence day was celebrated on 15th August.
- iv) Girl baby's day was celebrated on 11.10.2012

- v) Saplings were planted on 29.10.2012
- vi) Pandit Jawaharlal Nehru birth day was celebrated on 14.11.2012.
- vii) Annual Inspection was conducted on 28.11.2012.
- viii) Education sports festival was celebrated on 19.12.2012.
- ix) Pongal festival was celebrated on 11.01.2013
- x) Republic day celebrated on 26.01.2013
- xi) Sports competitions were conducted on 01.03.2013
- xii) Telugu New year day celebrated on 11.04.2013
- xiii) Annual day celebrated on 09.04.2013.

Other activities:

Every Monday Manavar Mandram is conducted and students are given opportunity to identify their capacities by encouraging them.

Noon meal scheme:

About 150 children are given lunch every day by the State Government under the Scheme.

Academic Results:

The school has achieved 100% results in all the classes.

12.16. THE ICF EMPLOYEE'S CONSUMER CO-OP STORES LTD.

- | | | |
|---|---|--|
| a) Name of the registered Co-operative Society | : | The ICF Employee's Consumer Co-op Stores Ltd., X-346, Ch-38. |
| b) No. of sections actively | : | Functioning 3 fair price shops and a textile section. |
| c) No. of membership | : | 6399 |
| d) Amount of share capital | : | Rs.1,21,570 |
| e) Business turnover including fair price shops | : | Rs.93,85,881 |
| f) Amount of subsidy given | : | Nil |

12.17. HOLIDAY HOMES

ICF has two Holiday Homes at Udthagamandalam (4 suites) and at Kodaikanal (4 suites) for the benefit of non-gazetted employees of ICF. We have inaugurated another holiday home at Courtallam with 2 suites each for Gazetted and Non-Gazetted Staff.

12.18. TOURIST COACH

The ICF has a Tourist coach from the year 1986. The labour cost was borne by all the employees at Rs.30/- per employee. The coach is being allotted to the employees for holiday camps, industrial tours and also for tours organized by employees in groups. The allotment is done in two halves in a month.

For the year 2012-13, the coach was allotted to Children's holiday camp and Employees tour.

12.19. ST.JOHN AMBULANCE

There are five Ambulance and one nursing Division of St.John Ambulance Brigade, ICF Corpus having a total strength of 152 members including Corps commander Dr.Renuka Sridhar, Addl.CMS/RH/ICF and other officers. Parade and First Aid practices are being conducted regularly. They have been 40 parades and 4 special parades like Republic day parade, Independence day parade etc.

Details of First Aid services rendered			
S.No.	Occasions	No. of occasions	No. of cases attended
1.	Public duty (Local & Out station)	126	586
2.	Off – Duty (Inside & out side of factory)	28	65

On 15th March Annual re-examination in First Aid and Home nursing was conducted by the Divisional Commander (Medical) and all the members attended.

Annual inspection was conducted by Dr.Swornappan, Asst.Commissioner /SJAB /S.Rly on 24th July 2012 at ICF hospital.

Special Duties

- SJAB/ICF corps members have manned the first aid posts from 9th April to 11th August at Thiruparakundrum in connection with Adi Krithigai Festival
- ICF corps have manned the first post at Sikkal from 18th November to 20th November for Skanda Sasti festival.
- Ekadesi festival public duty at Guruvayur from 22.11.2012 to 25.11.2012.
- 13 members team of SJAB/corpps have manned the first aid posts from 30.11.2012 to 03.12.2012 at Nagercoil for St.Xavier Car festival.

- In connection with Maha Kumba Mela festival at Allahabad, two batches of 11 members were mentored the First Aid post during February and March 2013.
- The members of SJAB/ICF corps have rendered their service at ICF hospital and four colonies of ICF in two phases of Pulse Polio Immunization camp (20.01.2013 and 24.02.2013).

Training camp

- The annual training camp was held at Hubli from 8th July 2012 to 12th July 2012. 48 members attended the camp.
- on 8.10.2012 and 9.10.2012, SJAB/corps have participated in the corps level overnight camp at Salem.
- The combined corps level annual training camp was organized from 17.1.13 to 19.01.13 at Trivandrum.

Other events

- During July 2012, SJAB/ICF corps celebrated annual Day, and G.M was the Chief Guest.
- On July 2012, SJAB members helped in rescue operation at Nellore TamilNadu express Fire accident. Special assistance both was opened at Chennai Central and Egmore Railway Station in connection with people fleeing to Assam.
- Five members of SJAB were awarded by Shri K.Rosaiah, Governor of TamilNadu and President of SJAB/TamilNadu
- On 12.02.2013, band concert was organized. SJAB members performed band play, for which GM/ICF had declared Rs.10,000/- as cash award in appreciation of the band.

Blood donation

Many of the SJAB members donated blood more than 20 times to the public and employees of ICF during emergencies.

12.20. ICF DISTRICT BHARAT SCOUTS & GUIDES

Out of Southern Railway State Bharat Scouts and Guides, ICF District received the **“Best District Award”** for the year 2012-13

ICF District Association has a registered strength of 877 members for the year 2012-13 with 5 District officials 579 scout wing and 293 Guide wing.

Programmes organized and attended.

- GO GREEN planting of trees programmes was organized for the GKM Colony residences on 05.04.2012.
- Annual District camp was held at STC Palode from 24.09.12 to 29.9.12.
- Cubs and Bulbuls Utsav was held at State Training Centre, Mandapam from 30.1.2013 to 01.02.2013.
- ICF district conducted District Rally from 16.02.2013 and 17.02.2013.

- 2 Rovers and 1 Ranger attended 2nd Special Integration camp held at Islamabad (Pakistan) from 02.05.2012 to 06.05.2012.
- 1 Ranger attended the World Forum 2012 held at Chicago, USA from 12.07.2012 to 16.07.2012
- 1 Ranger of SGG attended the International Scholarship event held at Sangam, Pune from 06.08.2012 to 17.08.2012
- Scouts & Guides attended the Warden Cum Quarter Master Camp held at Pachmarhi from 27.10.2012 to 31.10.2012
- Various training programmes were conducted through out the year for beginners.

Services provided

The Scouts, Rangers and Rovers rendered services at Railway Week Celebrations, World Environment day, Adult Leader Training Course, Chaturtha Charan/Heera Pankh And Golden Arrow Award Testing Camp, Disaster Management cum Community development programmes, Recruitment of Physically challenged on Railways, Awareness campaign on carrying crackers in train, 63rd Flag Day celebrations, World Aids Day, Music Academy and Pulse Polio Immunization programme.

Awards

- K.Sridhar, Cub Master of Subash Scout group received the 57th Railway Week award
- ICF District Rovers and Rangers received the cash award of Rs.7000/- for their parade in Republic Day.

The various groups are Kamban Scout Group, Mahathma Gandhi Scout Troop, Sarojini Guide Group, Subhas Scout Group, Vachinathan Scout Group, V.O Shitambaram Scout Group

12.21. ICF SPORTS ASSOCIATION - PERFORMANCE REPORT

APRIL 2012

- a) 52nd Sr. National Body Building Championships at Pune from 18.04.2012 to 20.04.2012 – Shri V. Jayaprakash of ICF secured Second Place and Shri S. Senthilkumaran of ICF secured Second Place in their respective categories.
- b) Melaka International Chess Championships at Malaysia 2012 from 23.04.2012 to 30.04.2012 – Shri R.R. Laxman of ICF secured Second Place.
- c) All India Volleyball Tournament at Kizhakkambalam from 15.04.2012 to 22.04.2012 – ICF Team secured Third Place.

MAY 2012

- a) 66th Sr. national Football Championships at Bhubaneshwar from 11.05.2012 to 25.05.2012 – Shri. Shanthakumar and Shri. Suman Raj of ICF represented Tamil Nadu and secured Second Place.
- b) World Railway Chess Championships held at Bulgaria from 19.05.2012 to 25.05.2012 – Shri R.R. Laxman of ICF represented Indian Railways and secured Second Place.

JUNE 2012

- a) World Olympic Volleyball Qualification Tournament at Nanjung (China) from 08.06.2012 to 10.06.2012 – Shri G. Prabhakaran of ICF represented the Indian Volleyball Team.
- b) 4th International Fide Rated Chess Tournament at Chennai from 19.06.2012 to 24.06.2012 – Shri R. Balasubramanian of ICF secured Second Place and Shri. Syed Anwar Shazuli of ICF secured Third Place.

JULY 2012

9th Men All India Railway Powerlifting Championships held at Mumbai from 25.07.2012 to 27.07.2012 – Shri A.V. Vinayan of ICF secured Second Place.

SEPTEMBER 2012

- a) Asian Volleyball Championships at Vietnam from 01.09.2012 to 07.09.2012 – Shri G. Prabhakaran of ICF represented Indian Volleyball Team.
- b) AIMA – TFA Shield Football Tournament at Chennai from 14.09.2012 to 29.09.2012 – ICF Football Team secured First Place.
- c) All India Railway Chess Championships at Mysore from 22.09.2012 to 29.09.2012 – ICF Chess Team secured First Place.

OCTOBER 2012

Havells RSC International Rating Chess Tournament at Cochin from 22.10.2012 to 26.10.2012 – Shri P. Phoobalan of ICF secured First Place.

NOVEMBER 2012

48th All India Railway Ball Badminton Championships at Chennai from 06.11.2012 to 08.11.2012 – ICF Ball Badminton Team finished Joint Winners along with Southern Railway.

DECEMBER 2012

- a) Sr. National Ball Badminton Championships at Bangalore from 26.12.2012 to 30.12.2012 – Three of our ICF Players viz. Shri. Aravindan, Shri. Satheesh and Shri. Manoharan, represented Indian Railways Team which secured First Place. Shri A. Jeyagan of ICF was the Coach of the Indian Railways Team.
- b) 63rd Sr. National Basketball Championships at Ludhiana from 28.12.2012 to 04.01.2013 – Shri. Sreenivasan of ICF represented the Indian Railways Team and Shri. Senthilselvan of ICF was the Coach of the Indian Railways Team.

JANUARY 2013

- a) Sr. National Volleyball Championships at Jaipur from 07.01.2013 to 15.01.2013 – Shri. Prabhakaran and Shri Dileep represented the Indian Railways Volleyball Team in the above Championships.
- b) Sr. National Football Championships at Cochin – Shri V.P. Satish Kumar and Shri. Vimal Raj represented the Indian Railways in the above Championships.
- c) ICF Volleyball Team secured Second Position in the All India Railway Volleyball Championships held at Bhubaneshwar.

FEBRUARY 2013

All India railway Body Building Championships at Madurai from 06.02.2013 to 08.02.2013 – Shri. Haribabu of ICF secured Second Place, Shri M. Kothandaraman of ICF secured Second Place and Shri V. Jayaprakash of ICF secured Second Place in their respective categories.

MEDICAL DEPARTMENT**13.1. HEALTH ORGANISATION**

Integral Coach Factory Hospital was inaugurated with 50 beds in 1984, Subsequently it has been upgraded to 101 beds Hospital in 1997. A new Out Patient Department Block was commissioned on 27/03/2010. ICF Hospital caters to the needs of 11958 employees and 9127 Retired Employees with their families. The total population covered (i.e. $11958 * 5 + 9127 * 2$) is 78044.

13.2 MAN POWER RESOURCES

There are 167 staff both Gazetted and Non-Gazetted staff. There are also 2 House surgeons (Medicine & Surgery). Three Hon. visiting specialists, 2 of whom attending the hospital on all days for two hours (Diabetologist & Oncologist) and one (Opthal) is visiting the hospital 4 days a week for two hours per day. There is also provision of visiting consultant specialists in all fields who can be called on case to case payment basis. At present the hospital is in tie up with 22 such consultants.

13.3. SERVICES PROVIDED:

- OPD
- Casualty
- IPD [Surgical, Medicine, ENT, Gynaec & Obst, Paed, Ortho, Neuro, Skin,]
- Radiology Department
- Laboratory
- Physiotherapy Department
- Dental
- Endoscopy [Gastroscopy]
- Ultra Sound
- Audiometry
- Pharmacy
- OT – 3
- Minor OT – 1
- Library

13.4. IN-PATIENT ADMISSION

The present 101 beds are divided into two General Wards (Male & Female), one Children ward and one surgical ward. The existing one Female Ward is accommodating both Maternity cases and Medical cases. A separated postoperative ward is being operated in the surgical block with 11 beds four in the Female Medical ward and 6 in the Male side. In the female medical ward 7 semi ICU beds are available to treat critical cases. Apart from this, 3 Postoperative beds are available in the Antenatal ward to take the post Gynaec and post natal cases. There are 3 special cabins for the Gazatted officers and their dependants. Two more small AC side cabins are also available for eligible Group C staff.

13.5. BED OCCUPANCY RATIO

The bed occupancy Ratio is 68.24 %.

13.6. INJURIES AND ACCIDENTS ON DUTY

Simple : 33 Grievous : 41
Fatal : 1 Total : 75

13.7. SURGERIES

OPERATIONS PERFORMED		
1	Major	797
2	Minor	578
3	Trivial	714

13.8. OUT-PATIENT ATTENDANCE

The Out-Patient attendance in this hospital is on an increasing trend. With the full coordination of all doctors and staff of this hospital, high standard is being maintained by giving careful attention to each and every patient. This hospital has to satisfy the need of 11958 employees and their dependents and 9127 RELHS beneficiaries and their dependants. Average OP attendance per day is 892. First Aid Posts are being operated in Shell & Furnishing Divisions of the Factory.

13.9. AVERAGE NUMBER OF CERTIFIED CASES AND DAYS OF SICKNESS

Total Number of sick certificates issued : 3002
Number of certified days : 56751
Average days/certificate : 18

13.10. COST OF MEDICAL AND HEALTH SERVICES

An amount of Rs.8,40,00,000/- has been sanctioned towards the cost of Medicines and other expenses. The cost of Medical and health services is on an increasing trend. The medicines, which are not being purchased regularly, are being purchased through local market as and when prescribed for, but it is maintained at the minimum possible level.

13.11. HEALTH AND FAMILY WELFARE ACTIVITIES

- Surface sanitation of the hospital Old and New OPD blocks has been privatized. Sensitive areas like Operation Theatre Laboratory and Special wards are managed with Saffaiwalahs under ICF Hospital, supervised by Chief Matron.
- Colony sanitation, malaria eradication, water testing are maintained by Engineering Department with CHI under their control.
- Food sampling under PFA & Quality Control is being done by HI under the guidance of Medical Department.
- The family welfare department looks after the well being of each employee and his family as a whole. Various kinds of family welfare programs, health awareness programs, etc., are being conducted on frequent intervals. Video shows, presentations, lectures etc., mark special days such, World No Tobacco Day, World Population Day, etc., as per the guidelines of UN and Government of India.

13.12. HIGHLIGHTS OF WORK DONE

- Registration of all Chronic Disease cases is being done and new health Books are being given to them.
- Out sourcing lab investigations that are not being done here and arranging monthly bill payment without asking patients to pay & then get reimbursed.
- Procuring equipments to upgrade the facilities in Gynaec, ENT, Ophthal, Surgery, Lab, Ambulance etc.
- Modern Surgical Procedure are being done (Laparoscopic surgeries, Total Knee Replacement, Semi Arthroplasty, FESS etc.). Phaco Surgery (Cataract) is introduced.
- Introducing mechanized cleaning for better output.
- Assistance is being given to patients, who are on long sick leave without getting salary through imprest created from SBF. [Rs.3000./- per month is given]
- The computerization of the hospital is also on the right track, and taking into account, the transparency as suggested by the Chief Vigilance Commissioner, the ICF Hospital, is giving the details of payments made to its suppliers through its website.
- The existing Radiology department has been modernized with Computerized Radiographic Equipment duly adopting networking facility with latest software.
- The Out Patient Registration is Computerised with bar coding facilities.
- The In -Patient Department is Computerised.
- The Laboratory Department Computerisation is in Progress.

13.13. PROPOSALS SENT TO RAILWAY BOARD

- Recognition of Noble Hospital for managing emergency Head Injury cases.
- Additional staff for developing ICU Services.
- Recognition of RG Stone, Urological Centre for ESWL Procedure.

SECURITY BRANCH

Working Of Security Branch:

14.1.1. The main function of the Security Branch at ICF is to protect and safeguard the movable and immovable Railway properties in Shell and Furnishing factories which are spread over in 7,67,100 Sq.m. of land, Railway properties in all the four ICF Colonies consisting of 3107 staff quarters, a full fledged Technical Training Centre, a 120-Bed Railway Hospital, 4 Schools, Electrical Substations, 3 Auditoriums, 3 Kalyana Mandaps (Marriage Halls), etc., round the clock.

14.1.2 Some of the main duties performed by the Security Branch:

- Providing enhanced security at 5 factory gates by monitoring the entry and exit of workers in both Shell and Furnishing factories round the clock, besides guarding both 'IN' and 'OUT' Gates of Shell and Furnishing Administrative offices and main porticos.
- Providing security at the 2 Vehicle Gates duly monitoring the entry and exit of both Govt. and private vehicles and drivers / cleaners / coolies under proper documentation.
- Monitoring the movements of Railway materials through different types of gate passes and maintenance of records to this effect.
- Round the clock Guarding of Cash Office, Technical Training Centre, ICF Hospital, Main Receiving Stations and other vital installations inside and outside the factories, etc.
- Maintaining surveillance over suspected elements.
- Keeping the ICF premises free from unauthorized persons, violators are being brought to book under the provisions of the Railways Act, 1989.
- Collecting and collating of crime intelligence and initiating action against the employees / outsiders / receivers indulging in clandestine removal of Railway properties under the provisions of the Railway Property (Unlawful Possession) Act, 1966.
- Monitoring the activities of various Political/Federations based Trade Unions and category-wise Associations and keep the Administration well informed in advance to maintain Industrial peace and harmony between the Administration and working class.

- Ensuring proper structural and procedural security arrangements in and around the factories.
- Ensuring strict adherence of laid down procedures during scrap deliveries.
- Wall patrolling is being made – both inside and outside the factories.
- Providing security during the visits of VVIPs/VIPs, various elections conducted by the Administration, functions organized by the Administration, various agitations/meetings/dharnas resorted by the trade unions, besides during auction sale of scrap material by the stores Department.
- Enquiry into the theft of Railway material cases and other untoward incidents when reported.
- Maintaining a good liaison with other law enforcing agencies of both the State and Central Governments, also with the other sister departments of ICF and neighboring Southern Railway.

14.2. Vulnerable Areas:

ICF being a unit closed by boundary walls all around and other Access Control Systems, regulated through men and materials pass at the gates. RPF prevents any possible removal of railway property that may occur through the gates when the Workers, contract labourers and Vehicles pass out through the gates. Old Workers Canteen / Fur., which is now being used for stocking MRVC items, CHI office and three SSE/Works, Villivakkam Coaching Yard, Shell Pump House and other vital installations outside the factory are other areas prone to theft. Wall throwing is the another mode of removal of Railway materials for which patrolling by RPF men are being made both inside and outside the factories.

14.3. Modus Operandi:

An analysis of the cases of yester years reveals that generally some of the Contract laborurers or a very miniscule section of the employees resort to committing thefts by concealing materials on their person either in their apparel or shoes, or tying to their body as also collecting and throwing the materials over the boundary walls. Such persons have been apprehended by RPF staff and cases were registered under the RP (UP) Act, 1966. They generally tend to conceal small railway materials like, copper wires, drill bits, small brass items, etc. Outsiders are mainly contract labourers, who also, while going out tend to conceal materials and try to take clandestinely from the ICF premises.

14.4. Crime:

14.4.1. Performance Under The RP (UP) Act, 1966:

- a) No of cases registered / detected:

Year	Cases Registered
2011 – 2012	14
2012 – 2013	11

- b) Value of property stolen / recovered:

Year	Stolen	Recovered
2011 – 2012	Rs. 1,02,284 /-	Rs. 1,02,284 /-
2012 – 2013	Rs. 53,008 /-	Rs. 51,508 /-

- c) Arrests made:

Year	OS	RE	RPF
2011 – 2012	20	02	-
2012 – 2013	20	-	01

14.4.2. Performance Under The Railway Act, 1989:

The ICF being a Production Unit and does not have open line jurisdiction. Movements of unauthorized elements in ICF area are being watched. The trespassers / Unauthorised hawkers and those causing nuisance are regularly booked under relevant sections of the Railway Act 1989. The details of persons apprehended and the fine amount realized from them are as under:

Year	Person prosecuted	Fine realized
2011-2012	1053	Rs. 3,14,800 /-
2012-2013	1035	Rs. 1,97,150 /-

14.5. Localised Case of theft of Railway materials:

Year	No of case reported with value	No of case detected with value
2011-2012	02 / Rs. 67,984 /-	02 / Rs. 67,984 /-
2012-2013	07 / Rs. 41,258 /-	07 / Rs. 39,758 /-

Gist of the Localized cases:

- On 13.06.2012, JE / W / P. Way reported missing of 08 Nos of Bearing plates from D & D Building opp. to Avadi Road, valued Rs. 2000 /-. In this connection IPF / Fur registered a localized case and during the course of enquiry, arrested 02 outsiders and recovered the reported missing property. This case is converted into RP (UP) Act case and now is under trial.
- On 25.06.2012, SSE / Shop – 74 / ICF reported missing of 04 Nos of Ceiling Fans head with rod meant for repairs from Shop – 74 / ICF valued Rs. 1200 /-. In this connection IPF / TTC registered a localized case and during the course of enquiry on 25.06.2012, arrested two outsiders and recovered the missing property. This case was closed since detected and pursued under RP (UP) Act and the accused were convicted.
- On 08.10.2012, SSE / P. Way / Fur / ICF reported missing of 02 Nos Fish plates, 04 Nos of ACB plates & 15 Nos of Pandrol clips valued Rs. 3750 /-. In this connection IPF / Fur registered a localized case and during the course of enquiry, arrested 02 outsiders and recovered the missing property. This case was dealt under RP (UP) Act, tried in the Court and ended in conviction.
- On 12.10.2012, SSE / Shop – 74 / ICF reported missing of Copper tubes from outdoor AC unit at Suit B, C, & F of ICF Guest House. In this connection IPF / TTC registered a localized case and arrested 04 outsiders and recovered Engg. Materials valued Rs. 1400 /-. During the course of enquiry, the arrested person confessed to have committed theft of AC Tubes and disposed it to unknown street vendors who could not be located and thus the property could not be recovered, however the accused persons were sent to jail and one accused person was convicted.
- On 06.12.2012, SSE / P. Way / Fur / ICF reported missing of 02 Nos of Bearing plates, 13 Nos of ACB plates & 37 Nos of Pandrol clips valued Rs. 9350 /-. In this connection IPF / Fur registered a localized case and arrested 05 outsiders with recovery of the Stolen materials and dealt them under RP (UP) Act.
- On 03.02.2013, SSE / Shop – 39 / Fur / ICF reported missing of 26 Nos of Crimping Sockets (150 sqmm) valued Rs. 1558 /-. In this connection IPF / Fur arrested 01 contract labourer and recovered the missing property. This case was tried in the Court under RP (UP) Act and the accused was convicted.

- On 07.03.2013, SSE / Shop – 39 / Elec / Fur / ICF reported missing of 33 mtrs of Copper cable & 21 Nos of Crimping Sockets valued Rs. 21,900/ -. In this connection, earlier, IPF / Fur arrested 01 RPF staff & 01 Outsider with a recovery of the entire Stolen Property. This case is under enquiry.

14.6. Assistance Rendered:

RPF personnel play a vital role in the removal of unauthorized structures from ICF land and helped the Administration to make ICF an encroachment-free area. Similarly, RPF personnel provide elaborate security arrangements during all Foreign Nationals visits to ICF and for all the Departmental examinations and various Sports Meets conducted by the ICF Administration.

14.7. Preventive Checks and Crime Detection:

ICF, being a Production Unit, considerable income is being generated every year through the sale of shop refuse. Periodical checks / preventive checks on delivery of scrap materials are being done at all levels on the description of materials, weight of such refuse, etc.

In order to improve effective surveillance, the existing CCTV System was augmented with additional cameras and features such as recording, zooming, tilting, high distance coverage, etc. Further expansion of CCTV system with additional 07 cameras are under process.

Consequent to outsourcing of some works, more than 500 contract labourers are entering the Shell and Furnishing factories daily. Since they are from different places and keeping in view of the present security scenario, individual permits are issued to them and to co – relate with the IDs cards issued by their employees.

14.8. Fire Fighting:

Ever since the winding up of RPF Fire Wing, all fire fighting arrangements are done by a private firm under the control of Mechanical Department. However all the necessary assistance and co-ordination are extended in fighting fire in and around ICF.

14.9. Periodical review of Security arrangement is being made and improvements are initiated wherever needed. Security audit of vital locations / spots was also carried out and deficiencies have been communicated to the in-charge officials for necessary remedial modification.

14.10. General:

Crime over ICF is well under control and close co-ordination is being maintained with Local Police & other law enforcing agencies besides maintaining a high level of industrial harmony.

RTI-CASES OF ICF FOR THE PERIOD FROM 01.04.2012 TO 31.03.2013

A-Details of RTI Cases and Appeals							
Particulars	Opening Balance as on 1.4.12	Received during this year(Incl. cases transferred to other PIO's	No. of cases trfd. to other PIO's	Decisions where No. of case/ appeals rejected	Decisions/ information supplied	Total cases disposed off	No. of cases pending as on 31.3.13
Initial RTI Applications	12	387	48	20	308	366	23
1 st Appeals	2	65	0	0	64	64	3
CIC cases	0	2	0	0	2	2	0

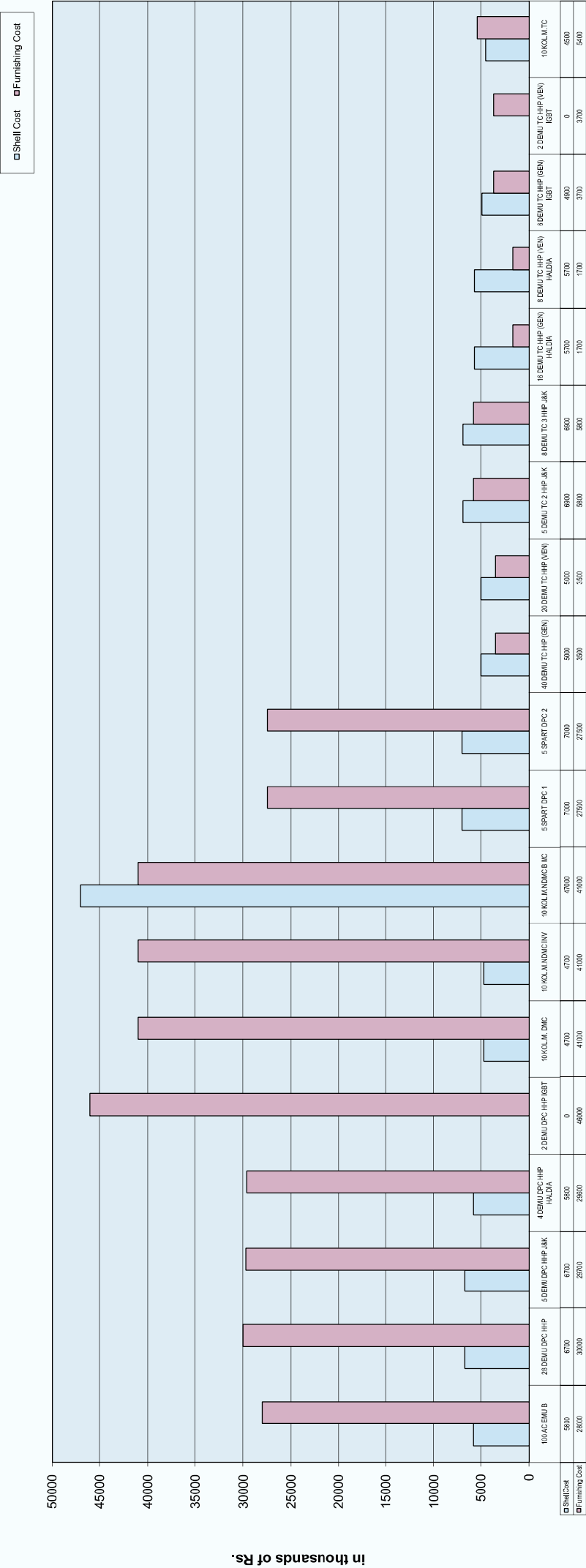
B – Cases rejected under section – 8(1) of RTI Act															
A	B	C	D	E	F	G	H	I	J	K	9	11	24	Others	Total cases
									6					14	20

C –Details of CIC Cases					
Opening balance as on 1.4.2012	Total CIC case received	Total CIC case Disposed	Total CIC cases pending as on 31.3.2013	Decisions/ information supplied	No. of cases where Disciplinary action taken against any officer
0	2	2	0	1	0

D – Total Amount / Charges received in rupees		
Registration Fee	Additional/Documents Fee and any other charges	Penalty if received
Rs. 2330	Rs. 526	

E - LIST OF PUBLIC INFORMATION OFFICERS AND APPELLATE AUTHORITIES			
Sl.No.	Department	Public Information Officer	Appellate Authority
1.	Accounts	Dy.FA&CAO/Shell	FA&CAO/Project
2.	Electrical	Dy.CEE/D	CEGE
3.	Engineering	Dy.CE	Chief Engineer
4.	Mechanical	Dy.CME/Planning	CME/QA
5.	Medical	Sr.DMO/RH	Chief Medical Officer
6.	Personnel	Dy.CPO	Chief Personnel Officer
7.	Stores	Dy.CMM/P/Shell	CMM/Fur
8.	Security	Assistant Security Commissioner	Chief Security Commissioner
9.	Vigilance	Senior Vigilance Officer	Chief Vigilance Officer
10.	NODAL PIO	Public Relations Officer	-

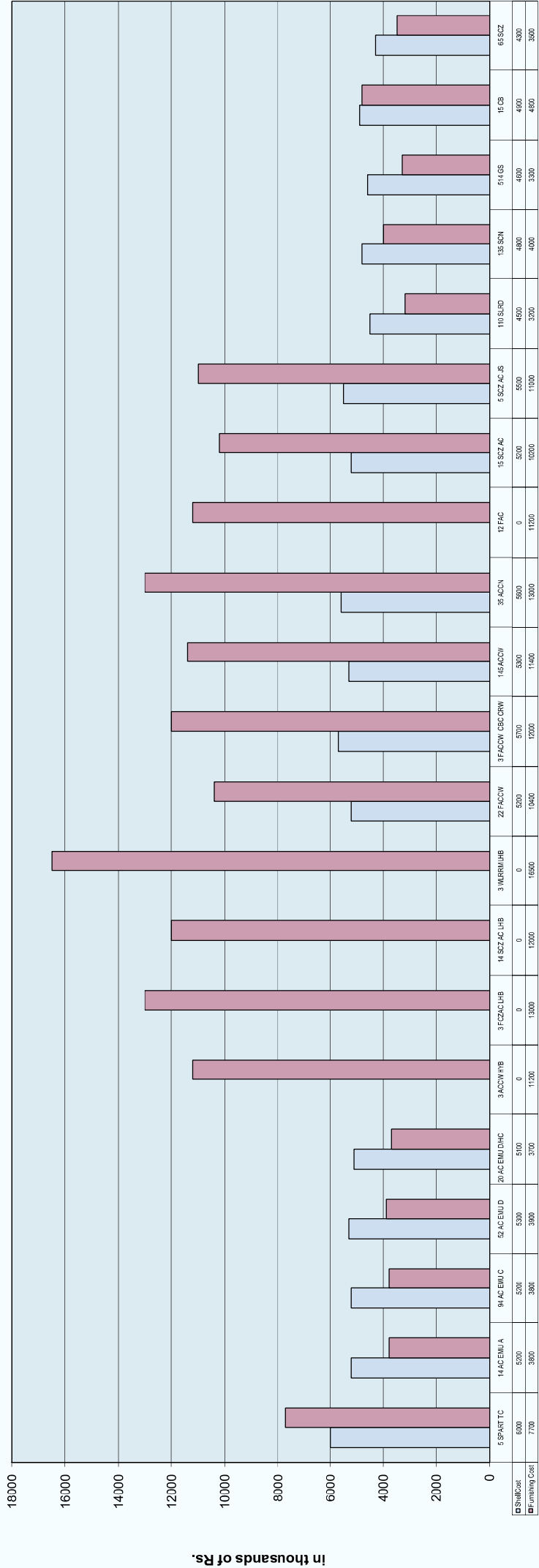
PROVISIONAL COST OF SHELL & FURNISHING COST MANUFACTURED DURING 2012-13



in thousands of Rs.

PROVISIONAL COST OF SHELL & FURNISHING COST MANUFACTURED DURING 2012-13

□Shell Cost ■Furnishing Cost



in thousands of Rs.

BALANCE SHEET FOR 2012-2013

(Figures in units of Rs.)

(Figures in units of Rs.)									
LIABILITIES					ASSETS				
Sl.No.	Particulars	As on 31st March 2012		Sl.No.	Particulars	As on 31st March 2012		As on 31st March 2013	
		Details	Amount			Details	Amount	Details	Amount
1	Total investment as in the Block Account Statement			1	Fixed and Floating Assets as in the Block Account Statement		6384865930		7091906044
2	Sundry Creditors			2	Cash in hand		806410		888290
a.	Provident and Other Funds			3	Sundry Debtors				
i.	General Provident Fund			a. i.	F-Loans and Advances to Railway Employees-Festival Advance, Passage Advance and Permanent Advances	73083672		50966157	
ii.	State Railway Provident Fund (Contributory)			ii.	Other Departmental Advances	0		0	
iii.	State Railway Provident Fund (Non - Contributory)	1324858822		iii.	Advances to Port and Customs Authorities.	0		883	
iv.	Indian Railway Conference association employees Provident Fund.		1409496581	iv.	Advances to Railwaymen's Consumer Co-operative Societies	0		0	
v.	a. Contributory b. Non-Contributory			v. a.	Advance to the Family of the deceased who died in service				
vi.	Contributory (Transferred Railway Personnel) Provident Fund.			b.	Traffic Account-Other Railways	484685		321603	
vii.	Non -Contributory (Transferred Railway Personnel) Provident Fund.			c.	Demands Recoverable				
viii.	Savings Provident Fund-Rlys.			d.	Miscellaneous Advance-Revenue				
ix.	Staff Benefit Fund	13829556		e.	Sundry Deposits with Central Government(vide item 2(b) per contra)	845473321		1591307318	
x.	Miscellaneous Provident Fund (Contributory)			4	INVESTMENTS				
	Miscellaneous Provident Fund (Non-Contributory)		1338688378	a.	Indian Railways Conference Association Employees Provident		919041678		1642595961
				</					

BS 12-13

BALANCE SHEET FOR 2012-2013

(Figures in units of Rs.)

LIABILITIES			ASSETS		
Sl.No	Particulars	As on 31st March 2013 Details Amount	Sl.No.	Particulars	As on 31st March 2013 Details Amount
b. Miscellaneous Deposits					
i.	Security Deposits of Subordinates	444383		Staff Benefit Fund	
ii.	Security Deposits of Contractors and others	233191370	5	Savings Bank Account with Govt. (vide item 2(a) 3 & 4(i) per contra less item (4) above)	6139573591
iii.	Contribution for work done for Private persons and Public bodies		6	Reserve Fund Investment Account (vide item 4(ii) per contra	
iv.	Unpaid Wages	342626	7	Accounts with States	
v.	Sums due to contractors			a.	
vi.	Net earnings of worked items		8	Account with Central (Civil)	
vii.	Private Companies			Account with the Government of Pakistan Railways.	
viii.	Miscellaneous	611365825	9	Account with the Government of Pakistan (Civil)	
ix.	Capital deposited by Branch line Companies.		10	Adjusting Account with Post and Telegraphs.	
x.	Trust Interest Account		11	Adjustment account with Defence	
xi.	Account with Reserve Bank		12	Account with Government of Bangladesh	
xii.	Remittance into Bank	-54476689	13	Balance in Transfer	
xiii.	Cheques and Bills	55533844	14	Loss	
xiv.	Other Deposits Companies outstanding liabilities of D.H. Railways.				
xv.	PAO Suspense/Railways	-1333279			
xvi.	A.G. Suspense Account				
xvii.	Railway Employee Insurance Scheme.				
					6579902868

BALANCE SHEET FOR 2012-2013

(Figures in units of Rs.)

Sl.No.	Particulars	LIABILITIES		Sl.No.	Particulars	ASSETS	
		As on 31st March 2012 Details	Amount			As on 31st March 2012 Details	Amount
xvi	Group Insurance Scheme						
xix	Election Commission - Assam Election.						
xx	Repayment of Additional DA Suspend Account.						
xxi	Repayment of Additional Wages Suspend Account.						
xxi	Fine Forfeiture Account						
xxi	Payment on account of SRPF/SPF in advance of Cash Credits to be Recovered from Pakistan.						
xxi	Payment on behalf of Central Claims Organisation - Pension and Provident Fund.						
xxi	Decretal Court Deposits						
xxi	Other Transactions						
xxi	Unclaimed Provident Fund	405241					
c.	Demands Payable		845473321				1591307318
		0	0				0
3	i. Depreciation Reserve Fund	-1558824858					
	ii. Railway Development Fund	0					
	iii. Railway Pension Fund	6364618212 *					
	iv. Accident Compensation Safety and Passenger Amenities Fund	0					
	v. Railway Safety Fund	0					
	vi. Special Railway Safety Fund	-4908141					
			4800885213				5158692335
4	Revenue Reserve Fund						
	i. Cash Balance						
	ii. Investment						
5	i. Balance due to Central Government for Loans and Advances to Railway Employees etc.(vide item 3(a) (i) per contra.	73083672					

* : due to rounding off

** : Not included, since not exhibited in the Debt Head Report 2012-13

BALANCE SHEET FOR 2012-2013

(Figures in units of Rs.)

Sl.No.	Particulars	LIABILITIES		Sl.No.	Particulars	ASSETS	
		As on 31st March 2012	As on 31st March 2013			As on 31st March 2012	As on 31st March 2013
		Details	Amount			Details	Amount
ii.	Other Advances(vide item 3(a)(ii) per contra.)	0	0				
iii.	Advances to Port and Customs authorities(vide item 3(a)(iii) per contra)	0	883				
iv.	Advance to Railwaymen's Consumer Co-operative societies (vide item 3(a)(iv) per contra.)	0	0				
v.	Advance to the family of the deceased who died in service (vide item 3(a)(v) per contra)	484685	321603				
6	Balance in transfer		73568357				
7	Balance of amount in account with Government		806410				
8	Profit						
	TOTAL		13444287609		TOTAL		15315293163

Note: The Figures shown in the Assets Side - Item 3(a)(ii) - Other Departmental Advances comprise the figures of Advance of Pay, TA on Transfer Account and Ceremonial Occasion.

"CERTIFIED THAT THE BALANCE SHOWN AGAINST EACH HEAD OF ACCOUNT IN THE BALANCE SHEET AGREES WITH THOSE REFLECTED IN THE ACCOUNT CURRENT AND THE DEBT HEAD REPORT".

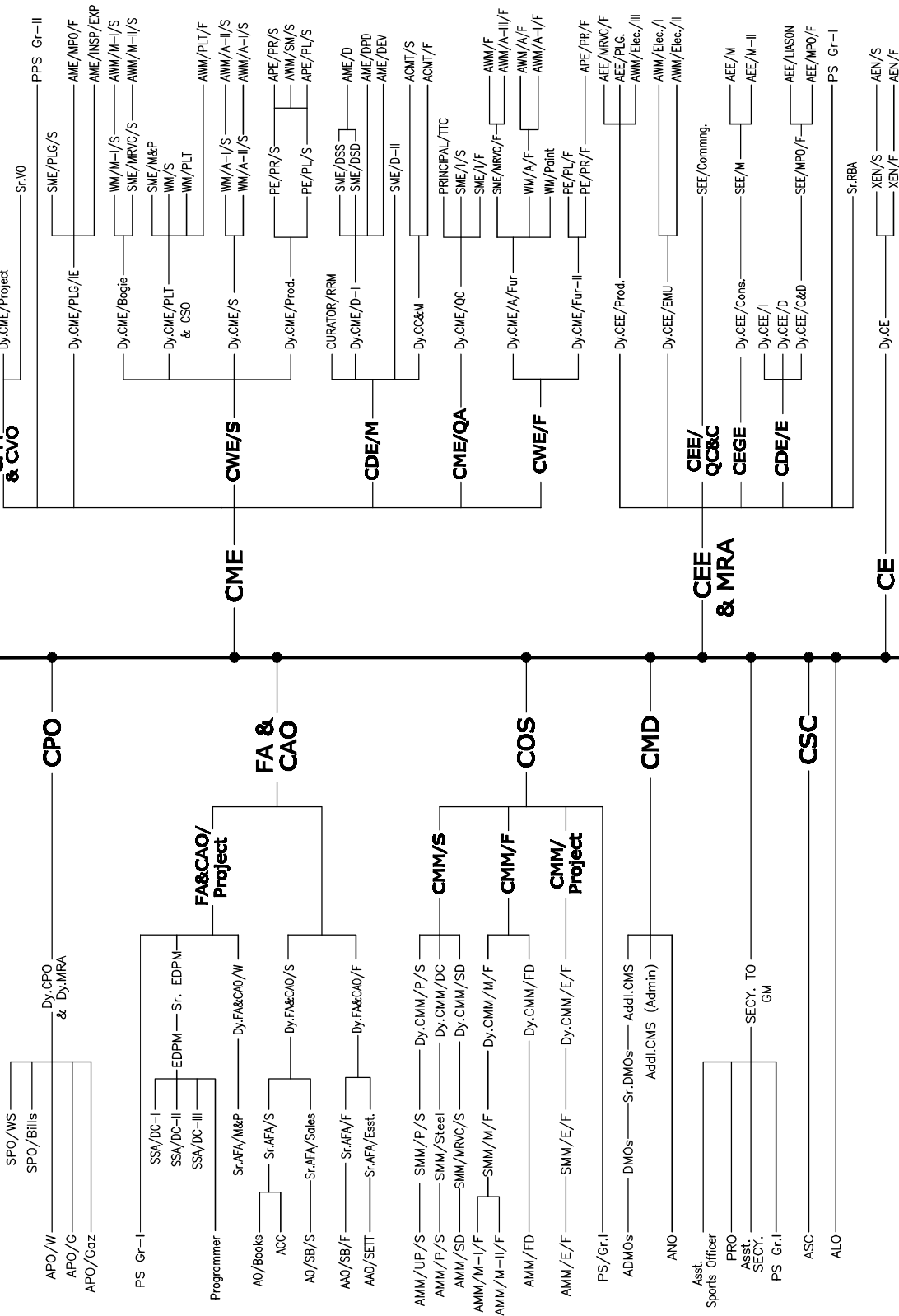
Meera 26/6/13
(MEERA NAGESHWARAN)
FINANCIAL ADVISER AND
CHIEF ACCOUNTS OFFICER.

Abhay K. Khanna
(ABHAY K. KHANNA)
GENERAL MANAGER/ICF

ICF GAZETTED ORGANISATION CHART

ON 31-03-2013

GM



ICF - Milestones and Achievements									
1	First	Third Class Shell production		2nd October 1955	51	First	Metro Coach for Calcutta Sub-urban		1981-82
2	First	Indigenous Shell produced		14th August 1956	52	Export	9 Coaches to Bangladesh		1984-85
3	First	Temporary Furnishing Capacity created		1956-57	53	Export	15 Coaches to Mozambique		1984-85
4	First	Full production capacity achieved		1958-59	54	Export	61 Coaches to Bangladesh		July 1986
5	First	Second Shift working introduced		April 1959	55	First	Taj Express		1987-88
6	First	Incentive system of payment introduced		January 1960	56	First	Shatabdi Express		1989-90
7	First	MG First Class Coach		1960-61	57	First	MG Palace on Wheels, 20 Coaches, 5 types		July 1991
8	First	1000th Shell, fully furnished and produced		1962-63	58	First	Conventional Coach with Air Brake		November 1993
9	First	Technical collaboration concluded		27th May 1961	59	First	AC MEMU Motor Coach		March 1994
10	First	Fully furnished third class sleeper coach		October 1961	60	First	DEMU Coach		March 1994
11	First	Furnishing division inaugurated		2nd October 1962	61	Export	15 AC Coaches of 2 types to Vietnam		January 1995
12	First	AC EMU A produced		September 1962	62	First	BG palace on Wheels, 20 Coaches, 5 types		May 1995
13	First	AC EMU C produced		January 1963	63	First	Biological Toilet implemented		May 1995
14	First	AC EMU D produced		February 1963	64	First	OHE Inspection Car (DETC)		November 1995
15	First	AC EMU Motor coach with Hitachi equipment		May 1963	65	First	Roof Mounted BG ACCW Coach		January 1996
16	First	AC EMU Motor coach with AEI equipment		January 1964	66	First	DHMU Coach		March 1996
17	First	Metre Gauge Third class coach		December 1963	67	Export	27 Coaches to Tanzania		July 1997
18	First	MG Diesel Rail Car		1964-65	68	First	DHTC Shell for SAN Engineering.		March 1998
19	First	MG EMU Motor coach		1965-66	69	First	AC Chair Car Roof Mounted		1998-99
20	First	Inauguration of Computer centre		November 1966	70	First	ARMV DTC AC coach		March 1999
21	First	Export of bogies to Thailand		April 1967	71	First	Stainless Steel AC Coach		1999-2000
22	First	AC Express		1966-67	72	First	DEMU High Horse Power		2000-01
23	Export	Bogies to Burma		1968-69	73	First	AC DC EMU Motor Coach		2001-02
24	First	AC Pantry Car		1968-69	74	First	AC DC EMU Trailer Coaches		2001-02
25	First	Rajdhani Express		November 1968	75	First	Jan Shatabdi Coach		2001-02
26	First	Power Car (WLRRM)		November 1968	76	First	Coaches fitted with Modular Toilets		2001-02
27	First	DC EMU Motor coach		1969-70	77	First	New Generation EMUs for AP Metro		2002-03
28	Export	MG bogies to Thailand		1970	78	First	Deccan Odyssey Coaches for MTDC		2002-03
29	Export	113 Coaches to Taiwan		June 1971	79	First	CBC-fitted coaches for Prayag Raj Express		2003-04
30	Export	6 coaches of 2 types to Zambia		May 1973	80	First	Fire retardant coaches		2003-04
31	First	AC Composite Coach (FACCW)		1972-73	81	First	HHP DMU with aerodynamic front end		2003-04
32	First	BG AC 2 tier Sleeper		December 1974	82	First	Prototype coaches for MRVC		2004-05
33	Export	30 coaches of 2 types to Philippines		February 1975	83	Export	MG AC Shells to Malaysia		2004-05
34	Export	Bogies to Taiwan		1975	84	First	SPURT Car		2004-05
35	First	AC Power Car (WLRRM AC)		1975-76	85	First	Jet Deflector Crane Car		2005-06
36	First	Second Class Day Coach (SDC)		1975-76	86	First	DEMUs for Jammu & Kashmir Region		2006-07
37	First	DC EMU high capacity Motor coach		January 1976	87	First	AC Chair Cars for Garib Rath Train		2006-07
38	Export	17 coaches to Tanzania		August 1976	88	Export	Cape Gauge Coaches to Angola		2006-07
39	First	BG Double Decker Coach		1976-77	89	First	AC/DC EMUs with Siemens Electrics		2007-08
40	First	Manufacture of Vaigai Express		15th August 1977	90	First	Luxury Tourist Coaches for KSTDC		2007-08
41	First	23 Metre (70 feet) SCN Coach		1978-79	91	First	Coaches for Lifeline Express		2007-08
42	First	Military Ward Car		1978-79	92	First	LHB Stainless Steel Coach Design		2008-09
43	First	Military Ward cum Dining Car		1978-79	93	First	Self-Propelled Accident Relief Train		2009-10
44	Export	30 coaches of 2 types to Philippines		1978-79	94	First	Integrated Communication Coach		2009-10
45	Export	20 coaches to Uganda		February 1979	95	First	Maharajas' Express Coaches for IRCTC		2009-10
46	First	MG Milk van Bogie		4th July 1979	96	First	Prototype A/C Rakes for Kolkata Metro		2010-11
47	First	Military Kitchen Car		1979-80	97	First	ICF's Production Crossed 1500 Coach Mark		2010-11
48	Export	50 Coaches to Vietnam		April 1980	98	First	Stainless Steel DEMU Rakes for Sri Lanka		2010-11
49	Export	32 Coaches to Nigeria		1981-82	99	First	Emission test car		2011-12
50	First	MG ACCW coach		1981-82	100	First	1600 HP DEMU		2012-13

Shell Production during 1955-56 to 1969-70

SHELL TYPE \ YEAR-->	55-56	56-57	57-58	58-59	59-60	60-61	61-62	62-63	63-64	64-65	65-66	66-67	67-68	68-69	69-70
BROAD GAUGE : MOTOR COACHES															
AC EMU B								1	3	10	22	28	44	33	17
DC EMU B														1	8
WIDE BODIED TRAILERS															
DC EMU C														1	14
AC EMU C								27	91	30	30	10	13		
AC EMU A & D								28	89	47	50	46	62	64	3
DC EMU D														1	12
AC COACHES															
WFAC												5		2	
WCBAC														2	
WCDNAC												6			
WTAC												21		3	
POWER CARS															
WLRM												8		4	
CONVENTIONAL COACHES															
FIRST & THIRD CLASS								405	39						6
FIRST,SEC.&THIRD CLASS													37		
FCZ												4			
WTCN												4	95	215	6
SECOND & THIRD CLASS	12	88	222	380	345										60
SECOND & THIRD CLASS (CONV)						115									
FIRST & SECOND CLASS															60
FIRST CLASS						156	335	126				78		80	33
TLR / SLR				1	100	20	222	13	142						
TCW					2	148						4			
SCN												46	4		
THIRD CLASS											95	214	84		196
CTT										16					
CT										23					
TLR (C)						144	41								
SPECIAL COACHES															
CT											3				
DYNAMOMETER CAR (RK)												1			
DR											24				
TOURIST KITCHEN CAR (CK)												6			
ROL													1		
CDN											20				
DINING CAR (CD)												2			
RZ/RA											19		27		
METRE GAUGE															
EMU MC											19	26			
CL											8				
WC											9				
RZ										1				1	2
PLV											76	69			
CD											1				
RDSO														2	
YRD										2			2	8	
EMU OT											38				
EMU DT											19				
TCG													100		
FIRST,SEC.&THIRD CLASS													44		
THIRD / SECOND / GS									224	263	90		14	147	
TLR														36	202
FIRST / THIRD													22		
FIRST & SECOND CLASS									1			16	33	40	
SECOND&THIRD CLASS															30
FIRST CLASS									16	90	117	36	60		
TCN2 / SCN2										100					
TCN2 / SCN3										50					
TOTAL	12	88	222	381	447	583	598	600	605	632	640	630	642	640	649

Shell Production during 1970-71 to 1979-80											
SHELL TYPE \ YEAR -->	70-71	71-72	72-73	73-74	74-75	75-76	76-77	77-78	78-79	79-80	Total
BROAD GAUGE : MOTOR COACHES											
DC EMU B	14	10	4	35	32	17	10				122
AC EMU B	13	12	21				12	18	32	27	135
WIDE BODIED TRAILERS											
AC EMU C								27	12	30	69
DC EMU D		10	22	30	30	17					109
DC EMU C		10	22	29	32	18					111
AC EMU A & D	14							54	24	60	152
AC COACHES											
ACCW					10		22	17	36	18	103
WTAC	7										7
WCBAC	2										2
PARTIAL AC COACH						11	14				25
WFAC	2		6	19						17	44
WF ACCW			2								2
POWER CARS											
AC WLRRM						2					2
WLRRM	3			3		7					13
CONVENTIONAL COACHES											
SDC						53					53
SCNLR									50		50
SECOND CLASS						205	41				246
FCZ			3	7	27		1				38
FSCN								78			78
TLR / SLR	66	10							50		126
SCN							91	250	309	377	1027
WCB							47			10	57
WTCN				367	143						510
SCW		45									45
TDC			19		106						125
FIRST CLASS	96	79	53	32		54	142				456
FIRST & THIRD CLAS	24	27		147	66						264
THIRD CLASS	130	112	468	78	60						848
SPECIAL COACHES											
MK/ML		4								2	6
RZ	2	2		3							7
MRA								7			7
MRD								1			1
MSA							4				4
DOUBLE DECKER						1		12		24	37
METRE GAUGE											
EMU DT					24			6			30
EMU OT					24			12			36
THIRD CLASS						133	65				198
TLR	84									50	134
FIRST & THIRD CLASS							88	2			90
FIRST CLASS		83	45				26	19			173
TCN								138	187	47	372
CB							7				7
ML							2	3			5
THIRD / SECOND / GS	136	153									289
SECOND&THIRD CLA	67										67
EXPORT											
EXPORT		113	6		30	17			50	50	266
TOTAL	660	670	671	750	584	535	572	644	750	712	6548

Shell Production during 1980-81 to 1989-90											
SHELL TYPE \ YEAR	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	Total
BROAD GAUGE : MOTOR COACHES											
AC EMU B	20	37	32	12	6	16	14		33	40	210
DC EMU B					21	5	12	6			44
METRO DMC	4	4		6		4		4		2	24
METRO NDMC	2	2		3		14	4	13		4	42
METRO BATTERY								3			3
WIDE BODIED TRAILERS											
AC EMU A & D	56	44	44						12	48	204
AC EMU C	24	24							10	54	112
DC EMU C						26		18			44
DC EMU D						26		18			44
OTHER TRAILERS											
METRO TRAILER CO	2	2		3		6		7		4	24
AC COACH SHELLS											
SCZAC				3		6	6	23		24	62
WFAC		24	5	15					4	6	54
ACCW	49	40	21	45	73	34	54	6	54	41	417
WG FACCW										12	12
WGFZAC									3		3
RA AC										2	2
WCBAC		1	7								8
WTAC	20	7	25	3							55
POWER CARS											
WLRRMAC	2		2					5			9
WLRRM	3										3
CONVENTIONAL COACH SHELLS											
FIRST CLASS										74	74
WCB	28	18				10	10	20		30	116
SCN	309	50	100	220	60	90	172	235	223	173	1632
SECOND CLASS			317	487	589	587	520	263	236	59	3058
SCNLR	32	19									51
SDC		277	105		30						412
SPECIAL COACH SHELLS											
RA / RZ	1		2	3					15	28	49
DOUBLE DECKER				1	11	12					24
METRE GAUGE : ALL TYPES											
EMU MC									6		6
EMU OT			22		19						41
SCZAC										3	3
AC COMPOSITE								5	15		20
ACCW		10						25	5	22	62
THIRD/SECOND								185	45	227	457
TCN / SCN								11	214	55	280
TLR / SLR										50	50
THIRD CLASS		44									44
FIRST CLASS			4								4
FCZ	3	2									5
SCZLR	5	3	1								9
SCZCH	3	2	2								7
SCZ	13	6	27								46
TCN	96	20	26								142
SCZR											0
RA		1	2								3
CB			15								15
TLR	50	51	11								112
EXPORT											
EXPORT		32		8	16						56
BDR III CLASS							61				61
TOTAL	722	720	770	809	825	836	853	847	875	958	8215

Shell Production during 1990-91 to 1999-2000

SHELL TYPE \ YEAR	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00	Total
BROAD GAUGE : MOTOR COACHES											
AC EMU B		29	50	25	23	34	55	52	57	43	368
DC EMU B			9	30	18	31				4	92
AC MEMU DMC				3	40	33	28	10	13	5	132
DMU DPC OB (DEMU)				3	8	5	17	20	14	20	87
DMU DPC US (DHMU)						1	2		6		9
METRO DRIVING MC	12										12
METRO NDMC	30										30
OHE CAR						4	3	17		12	36
ARTV									5	5	10
WIDE BODIED TRAILERS											
AC EMU D	40	45	35	43		53	75	23	25	20	359
AC EMU C	28	52	48	40	57	55	48	88	92	52	560
DC EMU C			10	30	18	31				20	109
DC EMU D			10	30	18	31				7	96
OTHER TRAILERS											
AC MEMU TC				2	85	120	80	30	39		356
ARMV DTC										5	5
METRO TRAILER CO	12										12
DMU DTC OB				1	8	9		25	20	20	83
DMU TC OB				5	15		42	25	20	22	129
DMU TC US							2				2
AC COACH SHELLS											
SCZAC	31	26	20	30							107
WG SCZ AC RM									10	20	30
WCBAC			10	10	5			9		4	38
WFAC			6					10		4	20
ACCW RM						5	20	34	70	58	187
ACCW	27	36	49	41	63	37	11				264
WG FACCW				16	16	38	9	13	20	17	129
AC SPECIAL											
ARMV DTC AC									5		5
WPSAC (POW)					1						1
WPCTAC						14					14
WPCDAC						2					2
WPCTLAC						1					1
RA AC							4				4
MIL ACCW						4	5				9
POWER CARS											
POW WPSRRM					2						2
WLRRMAC	9		13	4	28		8	7	11	4	84
MG WPSRRM(POW)		2									2
CONVENTIONAL COACH SHELLS											
FIRST CLASS	156										156
SDC	88	100	153	225	20	85		134	107	45	957
WCB	52			50	30	31	58	59	40	10	330
SCN					106	45	161	201	206	316	1035
SECOND CLASS / GS		170	305	424	231	196	325	203	295	306	2455
SPECIAL COACH SHELLS											
RDSO STAFF CAR			1								1
RA / RZ							17				17
RDSO FUEL TEST CAR			1								1
POW WPSRS						1					1
MK/ML			13								13
METRE GAUGE : ALL TYPES											
EMU MC	4	15									19
MG WPCTAC(POW)	1	13									14
MG WPCDAC(POW)		2									2
MG WPCTLAC(POW)		1									1
MG WPSRS(POW)		1									1
THIRD/SECOND	354	475	224								1053
TCN / SCN	162										162
SCZ / SDC	10										10
TLR / SLR		50	80								130
EXPORT											
VNR MG AC					9	1					10
VNR MG 3T					5						5
TZ								27			27
TOTAL:											
TOTAL BG COACHES	485	460	733	1012	792	866	970	960	1055	1019	8352
TOTAL MG COACHES	531	557	304	0	0	0	0	0	0		1392
EXPORT	0	0	0	0	14	1	0	27	0		42
GRAND TOTAL :	1016	1017	1037	1012	806	867	970	987	1055	1019	9786

Shell Production during 2000-01 to 2009-10											
SHELL TYPE \ YEAR	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	Total
BROAD GAUGE : MOTOR COACHES											
AC EMU B	18		5	9	27	33	45	30	9	14	190
AC/DC EMU B	3	43		10	5	17	6				84
AC/DC EMU B MRVC							4	32	152	164	352
AC MEMU DMC	10		21								31
AC EMU B (MMTS)			18	8							26
KOL. METRO MC										12	12
DMU DPC OB (DEMU)	15										15
DEMU DPC HHP	5	15	7	9	10	8	7	8	14	22	105
DEMU DPC HHP J&K							5	1			6
DEMU DPC 1600 HP											0
DETC OB	4	8	7	14	5	10	4	14			66
DETC US	1	2									3
SPART DPC										2	2
ARTV	3										3
WIDE BODIED TRAILERS											
AC EMU D	10		7	6	18	20	35	9	4	10	119
AC EMU C	26		6	5	24	40	49	38	11	21	220
AC EMU A					12	10	18				40
AC EMU C (MMTS)			22	8							30
AC EMU D (MMTS)			21	8							29
DC EMU C	21										21
DC EMU D	21										21
DC EMU D HC	6										6
KOL. METRO TC										4	4
AC/DC EMU C	3	48	1	18	10	14	2				96
AC/DC EMU C MRVC							4	28	156	148	336
AC/DC EMU D	2	14		5	5	10	3				39
AC/DC EMU D MRVC							2	14	78	82	176
AC/DC EMU D HC	1	14		4	6	4					29
AC/DC EMU D HC MRVC							2	14	78	74	168
OTHER TRAILERS											
AC MEMU TC	30		63								93
DMU DTC	12										12
DMU TC	18										18
DMU TC HHP	15	45	21	27	30	33	12	24	24	42	273
DMU TC 1 HHP J&K							5				5
DMU TC 2 HHP J&K							5				5
DMU DTC HHP J&K							5				5
DEMU TC 1600 HP GEN											0
DEMU TC 1600 HP VEN											0
SPART TC										1	1
ARMV DTC	3										3
AC COACH SHELLS											
WG SCZ AC LHB	1										1
WG SCZ AC	15	18	10	16	10	2	18	6	10	23	128
EOG SCZ AC (G R)							20	32			52
WG SCZ AC JS		3	17				5	6	2	10	43
EOG WCB AC	5	2									7
EOG W FAC	3	2	8	10	15	4	9	28	12	10	101
ACCW	42	63	50	47	96	64	45	46	62	51	566
EOG ACCW LHB									4	6	10
WG FACCW	15	15	12	15	34	17	15	20	10	25	178
SG ACCN											0
S WGACCW										2	2
RA AC						1					1
POWER CARS											
WLRRMAC	5	3								6	14
CONVENTIONAL COACH SHELLS											
SCZ	38	60	28	127	67		104	230	110	140	904
SCZ JS		23	127				16	10	8	30	214
WCB	10	10	15	18	54	35	20	15	20	20	217
SCN	313	401	172	359	324	421	312	59	144	165	2670
GS	332	265	202	247	207	312	261	471	325	333	2955
SR/SRD				10			88	51	47		196
SLR/SLRD			59	80	130	91	75	26	37	33	531
SR JS		6	34				6		2	5	53
S WGS											0
S WGSCN											0
S SLRD											0
RA						1					1
EXPORT COACH SHELLS											
MG SS SHELLS TO MALAYSIA					11						11
CG COACH SHELLS TO ANGOLA						17	24	15			56
BG COACH SHELLS TO SRI LANKA										1	1
SPECIAL COACH SHELLS											
JET DEFLECTOR CRANE CAR						4				8	12
INTEGRATED COMMUNICATION COACH										7	7
MILITARY KITCHEN CAR						14					14
MIL/MOD. MIL. WARD CAR									5	3	8
DECCAN ODYSSEY			21								21
KSTDC							10	8			18
RTDC								22			22
IRCTC										23	23
SPURT CAR					2						2
EMISSION TEST CAR											0
TOTAL	1006	1060	954	1060	1102	1182	1241	1257	1324	1497	11683

Shell Production during 2010-11 to 2012-13				
SHELL TYPE \ YEAR	2010-11	2011-12	2012-13	Total
MOTOR COACHES				
AC EMU B	30	120	97	247
AC/DC EMU B MRVC	137	12		149
AC EMU B (MMTS)	12			12
KOL. METRO MC	14	30	22	66
DEMU DPC HHP	23	28	30	81
DEMU DPC HHP (J&K)		8	4	12
DEMU DPC HHP (HALDIA)			4	4
DEMU DPC 1600 HP		2		2
SPART DPC 1			5	5
SPART DPC 2			5	5
WIDE BODIED TRAILERS				
AC EMU D	20	86	52	158
AC EMU D HC			20	20
AC EMU C	40	154	94	288
AC EMU A			14	14
AC EMU C (MMTS)	12			12
AC EMU D (MMTS)	12			12
AC EMU C (MUTP-II)			3	3
AC EMU D (MUTP-II)			2	2
AC EMU D HC (MUTP-II)				0
KOL. METRO TC	4	10	8	22
AC/DC EMU C MRVC	162	3		165
AC/DC EMU D MRVC	72	10		82
AC/DC EMU D HC MRVC	73	2		75
OTHER TRAILERS				
DMU TC HHP	70	83	72	225
DMU TC HHP (J&K)		24	12	36
DMU TC HHP (HALDIA)			12	12
DEMU TC 1600 HP		6	2	8
SPART TC			5	5
AC COACH SHELLS				
WG SCZ AC	20	20	15	55
WG SCZ AC JS	5		5	10
EOG W FAC	10	20		30
ACCW	80	105	140	325
LWACW			3	3
WG FACCW	20	25	23	68
SG ACCN	10		35	45
S WGACCW	4			4
CONVENTIONAL COACH SHELLS				
SCZ	100	90	45	235
SCZ JS	20			20
CB	20	15	15	50
SCN	136	172	174	482
GS	279	339	546	1164
SR/SRD	12			12
SLR/SLRD	85	85	117	287
SR JS	6		2	8
S WGS	4	2		6
S WGSCN	14	1		15
S SLRD		2		2
EXPORT COACH SHELLS				
BG COACH SHELLS TO SRI LANKA	51	49	19	119
SPECIAL COACH SHELLS				
EMISSION TEST CAR		1		1
TOTAL	1557	1504	1602	4663

Outturn of Coaches during 1957-58 to 1969-70														
COACH TYPE / YEAR ==>	57-58	58-59	59-60	60-61	61-62	62-63	63-64	64-65	65-66	66-67	67-68	68-69	69-70	TOTAL
BROAD GAUGE : MOTOR COACHES														
AC EMU B							4		21	19	37	28	29	138
DC EMU B													2	2
WIDE BODIED TRAILERS														
AC EMU A & D						11	80	58	65	9	75	62	29	389
AC EMU C						10	79	49	40		23			201
DC EMU C													7	7
DC EMU D													7	7
AC COACHES														
WTAC										16	5	3		24
WFAC										4	1	2		7
WCBAC												2		2
WCDMAC										4	2			6
POWER CARS														
WLRRM										8		3	1	12
CONVENTIONAL COACHES														
FIRST & SECOND CLASS													60	60
THIRD / SECOND CLASS	74	171	209	20	5				46	263			60	848
1st,IIrd & THIRD CLASS											37			37
TLR / SLR			40	21	6		51							118
CNT/SCN3										4			38	42
TCW / SCW (2 TIER)				150						4	50			204
FIRST CLASS				3	229	180	3	2		20	62	67	44	610
FIRST & THIRD CLASS						171	18							189
THIRD CLASS											84		167	251
WTCN											62	202		264
SPECIAL COACHES														
CT								1	5					6
CK										4	2			6
CDN									13	7				20
RZ/RA											2			2
METRE GAUGE														
EMU MC									3	25	17			45
EMU OT									38					38
EMU DT									19					19
THIRD / SECOND / GS							109	357	101					567
FIRST, SECOND, & THIRD CLASS											10	34		44
TCN2 / SCN2								99	1					100
TCN2 / SCN3								1	49				30	80
FIRST / THIRD							1				22			23
FIRST & SECOND CLASS											49	40		89
THIRD CLASS												161		161
TLR												20	190	210
TCG											100			100
FIRST CLASS							6	97	119	36	51	9		318
FCL							1							1
SPECIAL COACHES : MG														
YRD								2				2	4	8
PLV									31	114				145
WC									5					5
CD											1			1
CL											8			8
AC MRA									2	2				4
EXPORT COACHES														
Total types of Builds	1	1	2	4	3	4	10	9	16	16	21	14	14	
TOTAL BG COACHES	74	171	249	194	240	372	235	110	190	362	442	369	444	3452
TOTAL MG COACHES				0	0	0	117	556	368	177	258	266	224	1966
GRAND TOTAL	74	171	249	194	240	372	352	666	558	539	700	635	668	5418
SUMMARY														
MOTOR COACHES	0	0	0	0	0	0	4	0	24	44	54	28	31	185
WIDE BODY TRAILERS	0	0	0	0	0	21	159	107	105	9	98	62	43	604
OTHER TRAILERS	0	0	0	0	0	0	0	0	57	0	0	0	0	57
AC COACHES	0	0	0	0	0	0	0	0	0	24	8	7	0	39
POWER CARS	0	0	0	0	0	0	0	0	0	8	0	3	1	12
CONV. COACHES	74	171	249	194	240	351	189	556	316	327	527	533	589	4316
SPECIAL COACHES	0	0	0	0	0	0	0	3	56	127	13	2	4	205
EXPORT														0
GRAND TOTAL :	74	171	249	194	240	372	352	666	558	539	700	635	668	5418

Outturn of Coaches during 1970-71 to 1979-80											
COACH TYPE / YEAR ==>	70-71	71-72	72-73	73-74	74-75	75-76	76-77	77-78	78-79	79-80	TOTAL
BROAD GAUGE : MOTOR COACHES											
AC EMU B	24	14	19	9				22	31	23	142
DC EMU B	7	10	17	30	31	18	16				129
WIDE BOEIED TRAILERS											
DC EMU C	8	8	17	32	28	18	8				119
DC EMU D	6	6	17	31	31	19	5	22	10	30	177
AC EMU A & D	12	2						40	26	52	132
AC COACHES											
WTAC	6	1									7
WFAC	1	1		11	14					10	37
ACCW					10		5	24	25	39	103
FAC&F					1	5	1				7
WCBAC	1		1								2
WGFSCZAC							18	2			20
POWER CARS											
WLRRM	1	2		3		7					13
AC WLRRM						2					2
CONVENTIONAL COACHES											
THIRD CLASS	159	112	402	144		215	91				1123
TLR / SLR	20	56							50		126
FIRST CLASS	88	48	88	34		44	147	5			454
FIRST & SECOND CLASS								78			78
FIRST & THIRD CLASS	30	27		128	85						270
FCZ				10	26	1	1				38
SCW (TWO TIER)		24	21								45
TDC			19		73	86					178
SCN (THREE TIER)				311	199		57	247	316	370	1500
SCNLR									50		50
CB							15	32		10	57
SPECIAL COACHES											
DOUBLE DECKER							1	12		24	37
RZ/RA			1	1	3						5
MRA									5		5
MRD									1		1
MSA								4			4
MK/ML										2	2
METRE GAUGE :											
EMU OT					24			12			36
EMU DT					24			6			30
THIRD / SECOND / GS	89	186				93	105				473
SECOND&THIRD CLASS	67							110	185	76	438
FIRST & THIRD							88				88
FIRST CLASS		25	103					34			162
SCZLR								4			4
SCZ								8			8
SCZCH								2			2
TLR	112									26	138
CB								7			7
ML									3		3
YRD	4										4
EXPORT COACHES											
Total types of Builds	17	16	11	13	14	12	15	19	12	12	
TOTAL EXPORT	0	113	0	6	21	9	17	0	50	50	266
TOTAL BG COACHES	363	311	602	744	501	415	365	488	514	560	4863
TOTAL MG COACHES	272	211	103	0	48	93	193	183	188	102	1393
GRAND TOTAL	635	635	705	750	570	517	575	671	752	712	6522

Outturn of Coaches during 1980-81 to 1989-90											
COACH TYPE / YEAR ==>	80-81	81-82	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	TOTAL
BROAD GAUGE : MOTOR COACHES											
AC EMU B	30	33	33	18	6	10	20		33	40	223
DC EMU B					6	20	8	2	8		44
METRO BATTERY									3		3
METRO DMC		4	4	2	4	4		4			22
METRO NDMC		2	2	1	2	14		17			38
WIDE BODIED TRAILER COACHES											
AC EMU A & D	68	48	48						12	48	224
AC EMU C	31	24							2	58	115
DC EMU C						26		12	6		44
DC EMU D						26		12	6		44
OTHER TRAILER COACHES											
METRO TC		2	2	1	2	6		7			20
AC COACHES											
WTAC	20	7				6	3	3		23	62
WG FACCW										2	2
WFAC / WAC	7	5	20	19					2	4	57
ACCW	31	58	17	38	60	42	58				304
ACCW RM								12	54	25	91
SCZAC			25	3				12	10	1	51
WCBAC		1	7								8
WGFSZAC										3	3
POWER CARS											
WLRRM	3										3
AC WLRRM	2		2					1	4		9
CONVENTIONAL COACHES											
FIRST CLASS										60	60
SECOND CLASS			242	515	607	565	538	262	245	84	3058
TDC / SDC		245	137		30						412
TCN / SCN	301	95	100	220	60	90	160	240	213	172	1651
SCNLR	32	19									51
WCB	19	14	13			2	8	30		30	116
SPECIAL COACHES											
DOUBLE DECKER					12	12					24
RA / RZ									12	26	38
METRE GAUGE											
AC EMU MC									6		6
EMU OT			22		12	7					41
ACCW		10						25	5	22	62
SCZAC										3	3
AC COMPOSITE								5	15		20
FIRST CLASS			4								4
THIRD CLASS		44									44
THIRD/SECOND								173	57	210	440
TCN	91	25	26					4	207	69	422
SCZ	7	12	27								46
SCZCH	1	4	2								7
SCZLR	2	3	1								6
FCZ	1	4									5
SCZR		3									3
TLR / SLR	74	36	26							45	181
CB			15								15
EXPORT COACHES											
Total types of Builds	17	24	22	9	12	14	8	18	19	20	
TOTAL EXPORT	0	32	0	0	24	0	57	4	0	0	117
TOTAL BG COACHES	544	557	652	817	789	823	795	614	610	576	6777
TOTAL MG COACHES	176	141	123	0	12	7	0	207	290	349	1305
GRAND TOTAL	720	730	775	817	825	830	852	825	900	925	8199
SUMMARY											
MOTOR COACHES	30	39	39	21	18	48	28	23	50	40	336
WIDE BODY TRAILERS	99	72	48	0	0	52	0	24	26	106	427
OTHER TRAILERS	0	2	24	1	14	13	0	7	0	0	61
AC COACHES	58	81	69	60	60	48	61	57	86	83	663
POWER CARS	5	0	2	0	0	0	0	1	4	0	12
CONV. COACHES	528	504	593	735	697	657	706	709	722	670	6521
SPECIAL COACHES	0	0	0	0	12	12	0	0	12	26	62
EXPORT	0	32	0	0	24	0	57	4	0	0	117
GRAND TOTAL :	720	730	775	817	825	830	852	825	900	925	8199

Outturn of Coaches during 1990-91 to 1999-2000											
COACH TYPE / YEAR ==>	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00	TOTAL
BROAD GAUGE : MOTOR COACHES											
AC EMU B		24	50	21	32	30	59	52	55	45	368
DC EMU B				30	16	33				4	83
DC EMU B (Disc Brake)				9							9
AC DC EMU B											0
METRO DMC	14										14
METRO NDMC	27	7									34
AC MEMU DMC				1	31	44	28	10	13	5	132
DMU / DPC OB				1	2	10	20	20	14	18	85
DMU / DPC US						1	2		6		9
DMU / DPC HHP										2	2
OHE CAR						4	3			12	19
DHTC								16			16
ARTV									5	5	10
ARMV DTC AC									5	5	10
WIDE BODIED TRAILERS											
AC EMU D	40	45	35	43		42	84	25	25	20	359
AC EMU C	32	45	40	43	53	69	50	87	85	60	564
DC EMU C				30	18	31				23	102
DC EMU D				30	18	31				4	83
DC EMU C (Disc Brake)				10							10
DC EMU D (Disc Brake)				10							10
AC DC EMU C											0
AC DC EMU D											0
OTHER TRAILERS											
METRO TRAILER	16										16
DMU/DTC OB / US				1		13	4	25	20	20	83
DMU/TC OB / US				4	16		44	25	20	22	131
AC MEMU TC					87	120	80	30	39		356
AC COACHES											
WCB AC			10	10	5			9		4	38
WGFZ AC											0
WG FACCW	10			16	16	30	14	16	20	17	139
SCZ AC VB		13	1								14
SCZ AC AB	32		32	13	17						94
WG SCZ AC RM									10	20	30
POW						21					21
RA AC	1						4				5
ACCW US	28	57	33	57	55	36	20				286
ACCW RM						5	20	34	70	50	179
WFAC	4		6					10		4	24
MIL. ACCW							9				9
POWER CARS											
AC WLRRM	9		13	4	8	20	8	7	11	4	84
CONVENTIONAL COACHES											
SDC / GSCZ AB				35	52	85		133	107	45	457
SDC / GSCZ VB	80	100	153	158							491
Second Class / GS AB				20	257	157	318	225	291	299	1567
Second Class / GS VB		133	286	442							861
SCN / GSCN	17				62	67	169	200	221	308	1044
WCB AB				25	30	31	58	59	40	10	253
WCB VB	30	22		25							77
FIRST CLASS	170										170
SPECIAL COACHES											
RA / RZ	6						17				23
RDSO STAFF CAR			1								1
MK/ML			13								13
RDSO Fuel Test Car			1								1
METRE GAUGE											
AC EMU MC		15	4								19
POW		20									20
THIRD/SECOND	325	480	265								1070
TCN / SCN	162										162
SCZ / SDC	5	5									10
TLR / SLR	5	50	80								135
EXPORT COACHES											
	0	0	0	0	5	10	0	27			42
Total types of Builds	21	14	17	21	19	21	20	19	19	24	
TOTAL EXPORT	0	0	0	0	5	10	0	27	0	0	42
TOTAL BG COACHES	516	446	674	1038	775	880	1011	983	1057	1006	8386
TOTAL MG COACHES	497	570	349	0	0	0	0	0	0	0	1416
GRAND TOTAL	1013	1016	1023	1038	780	890	1011	1010	1057	1006	9844

Outturn of Coaches during 2000-2001 to 2009-2010											
COACH TYPE / YEAR ==	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	TOTAL
BROAD GAUGE : MOTOR COACHES											
AC EMU B	18		2	12	27	33	45	30	9	14	190
AC EMU B (MMTS)			18	8							26
AC DC EMU B	3	5	10	21	19	14	12	32	156	151	423
KOL. METRO DMC											0
KOL. METRO NDMC MC											0
KOL. METRO NDMC INV											0
AC MEMU DMC	10		21								31
DMU / DPC OB	15										15
DEMU HHP	5	12	9	10	6	9	10	8	14	22	105
DEMU HHP J&K							5	1			6
DETC OB	4	8	7	14	5	8	4	16			66
DETC US	1		2								3
SPART DPC										2	2
ARTV	3										3
WIDE BODIED TRAILERS											
AC EMU D	10		2	12	20	17	38	9	4	10	122
AC EMU C	26		2	12	25	39	50	38	11	21	224
AC EMU A					12	10	18				40
AC EMU D (MMTS)			18	8							26
AC EMU C (MMTS)			18	8							26
KOL. METRO TC											0
DC EMU C	21										21
DC EMU D	21										21
DC EMU D HC	6										6
AC DC EMU C	3	48	1	16	4	20	4	32	156	148	432
AC DC EMU D	2	6	1	10	3	14	3	16	78	76	209
AC DC EMU D HC	1	12		6	2	8		16	78	74	197
OTHER TRAILERS											
DMU/DTC OB / US	12										12
DMU/TC OB / US	18										18
DMU/TC HHP	15	45	21	27	30	18	27	24	24	42	273
DMU/TC 1 HHP J&K							5				5
DMU/TC 2 HHP J&K							5				5
DMU DTC HHP J&K							5				5
SPART TC										1	1
ARMV DTC	3										3
AC MEMU TC	30		63								93
AC COACHES											
WCB AC	5	2									7
WG FACCW	15	15	12	15	33	18	15	20	10	25	178
SCZ AC			8		8		17	7	10	23	73
SCZ AC JS			20				5	6	2	10	43
WG SCZ AC RM	15	18		12		11					56
EOG SCZ AC GARIB RATH							20	32			52
ACCW RM	49	60	50	43	93	70	45	49	63	51	573
ACCW RM SS	1										1
ACCN											0
WFAC	3	2	8	10	12	7	2	35	12	10	101
EOG ACCW LHB									4	6	10
S WGACCW (Hybrid)											0
RA AC							1				1
POWER CARS											
AC WLRRM	5	3								6	14
CONVENTIONAL COACHES											
SDC / GSCZ	38	60	28	124	51	19	104	230	110	140	904
GSCZ JS			150				16	10	8	30	214
BG GS	332	300	170	269	217	300	251	470	348	292	2949
SCN / GSCN	300	419	170	323	366	414	312	66	129	180	2679
SR / SRD				10			81	58	47		196
S WGS (Hybrid)											0
S WGSCN (Hybrid)											0
S WGSLRD (Hybrid)											0
SR JS			40				6		2	5	53
WCB	10	10	13	20	54	35	20	15	20	20	217
SLR / SLRD			59	80	130	91	75	26	37	33	531
RA						1					1
SPECIAL COACHES											
JET DEFLECTOR CRANE CAR						4				8	12
INTEGRATED COMMUNICATION CAR										7	7
MILITARY KITCHEN CAR						14					14
MIL/MOD. MIL. WARD CAR									5	3	8
DECCAN ODYSSEY			21								21
KSTDC							10	8			18
RTDC								22			22
IRCTC										23	23
SPURT CAR					2						2
EMISSION TEST CAR											0
EXPORT COACHES											
COACHES FOR ANGOLA						1	40	15			56
DEMU COACHES FOR SRI LANKA											0
Total Number of Builds	32	17	34	30	22	29	41	54	30	45	
GRAND TOTAL	1000	1025	944	1070	1119	1175	1251	1291	1337	1433	11645

Outturn of Coaches during 2010-11 to 2012-13				
COACH TYPE / YEAR ==>	2010-11	2011-12	2012-13	TOTAL
BROAD GAUGE : MOTOR COACHES				
AC EMU B	30	120	100	250
AC EMU B (MUTP-II)			4	4
AC EMU B (MMTS)	12			12
AC DC EMU B	147	15		162
KOL. METRO DMC	4	12	10	26
KOL. METRO NDMC MC	4	12	10	26
KOL. METRO NDMC INV	4	12	10	26
DEMU DPC HHP	23	28	28	79
DEMU DPC HHP (J&K)		7	5	12
DEMU DPC HHP (HALDIA)			4	4
DEMU DPC 1600 HP			2	2
SPART DPC 1			5	5
SPART DPC 2			5	5
WIDE BODIED TRAILERS				
AC EMU A			14	14
AC EMU C	40	154	94	288
AC EMU D	20	86	52	158
AC EMU D HC			20	20
AC EMU C (MUTP-II)			4	4
AC EMU D (MUTP-II)			2	2
AC EMU D HC (MUTP-II)			2	2
AC EMU D (MMTS)	12			12
AC EMU C (MMTS)	12			12
KOL. METRO TC	4	12	10	26
AC DC EMU C	150	15		165
AC DC EMU D	78	10		88
AC DC EMU D HC	70	5		75
OTHER TRAILERS				
DMU/TC HHP	70	83	60	213
DMU TC HHP J&K		23	13	36
DMU TC HHP (HALDIA)			24	24
DMU TC 1600 HP			8	8
SPART TC			5	5
AC COACHES				
FACCW	20	21	25	66
SCZ AC	20	20	15	55
SCZ AC JS	5		5	10
ACCW	80	100	145	325
ACCN		10	35	45
FAC	10	8	12	30
LWSCZAC			14	14
LWFCZAC			3	3
S WGACCW (Hybrid)		3	3	6
POWER CARS				
LWLRRM			3	3
CONVENTIONAL COACHES				
GSCZ	100	70	65	235
GSCZ JS	20			20
GS	265	343	514	1122
GSCN	128	180	135	443
SRD	12			12
S WGS (Hybrid)		6		6
S WGSCN (Hybrid)		15		15
S WGSLRD (Hybrid)		2		2
SR JS	6			6
SG CB	20	15	15	50
SLRD	85	85	110	280
SPECIAL COACHES				
EMISSION TEST CAR		1		1
EXPORT COACHES				
DEMU COACHES FOR SRI LANKA	52	38	30	120
Total Number of Builds	34	36	48	
GRAND TOTAL	1503	1511	1620	4634

STATEMENT OF STORES TRANSACTIONS FOR THE YEAR ENDING 31ST MARCH 2013.

MAJOR GROUPS	PARTICULARS	GROUP	50% OF ISSUES	ORDINARY STORES										VARIATION FROM PREVIOUS BALANCE		SURPLUS STORES		STORES OBTAINED FOR SPECIAL WORKS				EMERGENCY STORES		TOTAL		MAJOR GROUPS	
				RECEIPTS DURING THE YEAR				BALANCE AS ON 31.03.2012		FROM PURCHASES ETC.		FROM MATERIALS RETURNED FROM WORKS		ISSUES DURING THE YEAR		BALANCE AS ON 31.03.13		VARIATION FROM PREVIOUS BALANCE		BALANCE AS ON 31.03.2012		BALANCE AS ON 31.03.2012		BALANCE AS ON 31.03.2013			
				TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL		TOTAL			
				6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
1	STEAM LOCO PARTS & FITTINGS	00 TO 09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
2	DIESEL LOCO PARTS & FITTINGS	10 TO 19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
3	ELECTRICAL LOCO PARTS & FITTINGS	20 TO 29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
4	FITTINGS	30 TO 39	5428268	1425545	11143467	120032	11263499	10856536	1832508	406963	-3595760	0	310	310	0	1559	1559	0	0	0	0	0	0	0	1425855	1834067	4
5	ELECTRICAL STORES	40 TO 49	608877	283251	1283497	0	1283497	1217754	389094	65743	-249883	0	31	31	0	33	33	0	0	0	394	373	293676	359400	5		
6	SIGNAL & TELECOMMUNICATION STORES	50 TO 59	2	54	0	0	0	0	50	-4	48	0	0	0	0	0	0	0	0	0	0	0	0	0	54	6	
7	PERMANENT WAY MATERIALS, TRACK TOOLS & BRIDGE WORKS	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
8	ENGG. STORES COVERING BULDG.	61 TO 69	21640	15521	57820	0	57820	43280	30061	14540	8421	27	15	42	27	256	283	0	0	0	1854	2329	17417	32673	8		
9	ABBRASIVES, TOOLS, HARDWARES ETC.,	70, 72, 73, 74	32801	65914	65965	0	65965	65603	66276	362	33475	0	22	22	0	51	51	0	0	0	705	705	66641	67032	9		
10	BRUSHES, BRUSHWARE, ETC.	71	434	670	672	0	672	867	475	-195	41	0	2	2	0	2	2	0	0	0	0	0	0	672	477	10	
11	INDIA RUBBER, LEATHER CANVAS ETC.	75	52058	17089	107439	0	107439	104117	20411	3322	-31647	0	23	23	0	17	17	0	0	0	20	20	17132	20448	11		
12	ELECTRODES & WELDING ACCESSORIES	76	33049	32555	65699	0	65699	66098	32156	-399	-893	0	0	0	0	0	0	0	0	0	17	10	32572	32166	12		
13	PAINTS, ENAMELS & VARNISHES	77	62418	46227	129891	0	129891	124836	51282	5055	-11136	0	5	5	0	25	25	0	0	0	0	0	0	46232	51307	13	
14	CROCKERY, CUTLERY AND NAPERY	78	833	27	6711	0	6711	1666	5072	5045	4239	0	0	0	0	0	0	0	0	0	0	0	0	27	5072	14	
15	CLOTHES, CLOTHING & PERSONAL EQUIPMENTS	79	9586	15556	12621	670	13291	19171	9676	-5880	90	0	3	3	0	3	3	0	0	0	0	0	0	15559	9679	15	
16	PETROLEUM PRODUCTS OTHER THAN FUEL OIL	80	10355	8870	19718	0	19718	20709	7879	-991	-2476	0	7	7	0	7	7	0	0	0	0	0	0	8877	7886	16	
17	ETC.	84	23995	6381	60833	0	60833	47991	19223	12842	-4772	0	0	0	0	0	0	0	0	0	0	0	0	6381	19223	17	
18	BALL & ROLLER BEARING	85	85404	-86	173918	0	173918	170808	3024	3110	-82380	0	10	10	0	10	10	0	0	0	231	189	155	3223	18		
19	CHEMICALS, DRUGS, PHARMACEU-TICALS AND OTHER MISC. STORES SUCH AS FIRE	81, 82, 86	17337	4472	36211	0	36211	34674	6009	1537	-11328	0	22	22	0	22	22	0	0	0	0	0	0	4494	6031	19	
20	STATIONERY, FORMS ETC.	83	4804	5273	10341	0	10341	9608	6006	733	1202	0	0	0	0	4	4	0	0	0	0	0	0	5273	6010	20	
21	METALS - FERROUS	90	755764	489194	1362181	-1262	1360919	1511529	338584	-150610	-417180	0	0	0	0	0	0	0	0	0	5408	5124	494602	343708	21		
22	METALS - NON-FERROUS	91	38002	23238	72995	0	72995	76005	19628	-3610	-18374	0	0	0	0	0	0	0	0	0	0	0	0	23238	19628	22	
23	FUEL - COAL, COKE ETC.	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	
24	FUEL - OIL	92	23390	1244	46164	0	46164	46780	628	-616	-22762	0	0	0	0	0	0	0	0	0	0	0	0	1244	628	24	
25	TIMBER	93	66997	26237	119669	0	119669	133994	12212	-14025	-54785	0	31	31	0	31	31	0	0	0	0	0	0	26268	12243	25	
26	SCRAP	98	0	0	0	0	0	0	0	0	0	48591	0	48591	59664	0	59664	0	0	0	0	0	0	48591	59664	26	
27	ROLLING STOCK - COMPLETE UNITS	97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	
	TOTAL		7276014	2477232	14775512	119440	14894952	14552030	2820154	342922	-4455860	48618	487	49105	59691	2026	61717	0	0	0	8629	8750	2534966	2890621			
	ADD: AMOUNT UNDER ADJUSTMENT																										
	STORES IN TRANSIT																							43264	3563	S-I-T	
	STOCK ADJUSTMENT ACCOUNT																							-15853	-21517	S.A.A/C	
	DIFFERENCE BETWEEN PRICED LEDGER AND GENERAL BOOKS																										
	NET																							2475849	2872667	NET	

NOTE: FIGURES UNDER COLUMN 4 & 12 ARE FOR STATISTICAL AND COMPARISON PURPOSES ONLY SINCE THE PURCHASE AND STOCKING OF STORES ARE BASED ON PRODUCTION PROGRAMME.