

A SAMPLE WRITE UP

NORTH CENTRAL RAILWAY
Allahabad (Uttar Pradesh)

Zonal Railway Profile



North Central Railway (NCR) with its headquarters at Allahabad came in to existence on 1st April, 2003. Present network of this Railway extends over a large area of North Central India, covering the states of Uttar Pradesh, Madhya Pradesh, Rajasthan and Haryana. It consists of three Divisions by including Allahabad and Jhansi Divisions of the erstwhile Northern and Central Railways, and a new Division Agra formed from sections of the then four Zonal Railways. Along with three Divisions, all the activity centers in their jurisdiction i.e. Workshops, Loco sheds, and Training institutes have also been made integral parts of the new Zonal set up.

NCR provides convenient connectivity to different locations of traditional and ancient heritage. The sacred Sangam at Allahabad attracts devotees round the year. Chitrakut Dham holds its divine charm for pilgrims who throng to this place of epic vintage in large numbers. Agra attracts tourists from all parts of the world who relive the glory of royal romance of a bygone era. A visit to many a monument in vicinity of the Taj township gives a glimpse of our glorious cultural heritage. Courage and bravery of Bundelkhand testifies to valour of Rani Laxmi Bai who valiantly fought against the British in the war of Indian Independence. Royal forts at Gwalior and other historic Orchha provide a distinct flavor of their own. Similarly Mathura takes one back to folklore of Lord Krishna. Khajuraho is yet another international destination, currently being served by road from Jhansi. North Central Railway is in process of developing tourist-friendly ambience and amenities both for foreign as well as local tourists. NCR remained closely associated with

celebrations organized by the State Govt. of U.P. in connection with 350 years of the Taj monument.

On the freight side the nascent North Central Railway, though constitutes less than 5% of Indian Railway Network, ferries nearly 16% of the total traffic across its trunk routes. Placed on the Golden Quadrilateral, this Railway provides vital North – East, North-South and North – West links of the Indian Railways. The Railways moves varied mix of traffic like power house coal, steel, cement, petroleum products, fertilizer, containers and food grains under public distribution system, maintaining vital supply chain for the crucial industrial sectors of the country. Rightly regarded as the “**Workhorse of Indian Railways**” NCR’s role and responsibilities in the national context need not be overemphasized.

This Railway has a total of 3062 route kilometers, predominantly double line electrified section of 54.7% of broad gauge track and hauls 84.7% of its traffic on electric traction. NCR has two heavy density over saturated electrified sections i.e. Ghaziabad-Mugal Sarai and Palwal-Agra-Bina. Line capacity utilization of these sections is always above 100%. NCR runs above 230 Mail/Express, 63 passengers/ EMU- MEMU and above 140 goods trains daily. This Railway is having 376 stations, 36 Traction Sub Stations and 02 electric loco sheds.

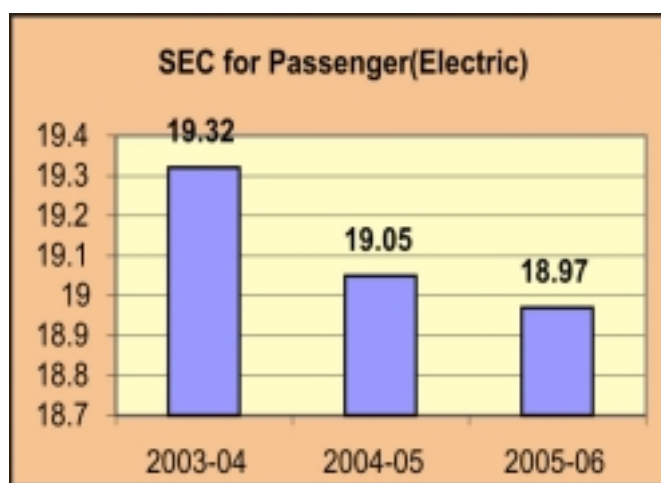
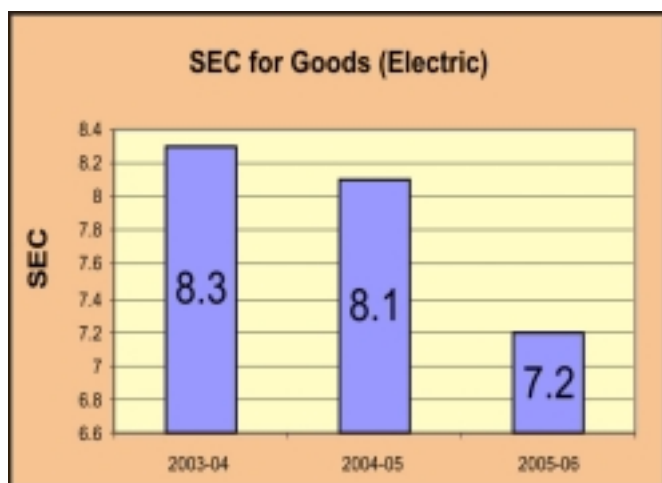
Energy Consumption and Energy Conservation Achievements

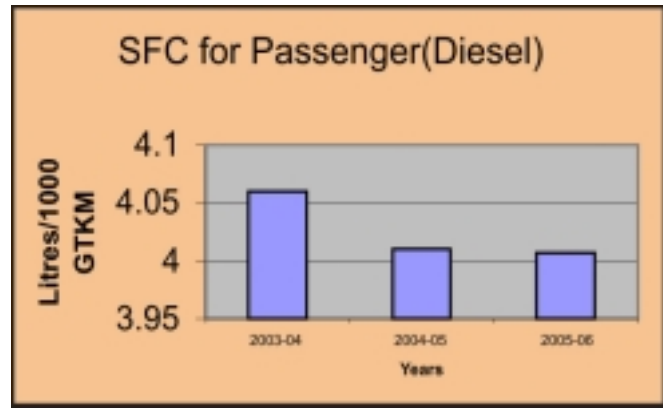
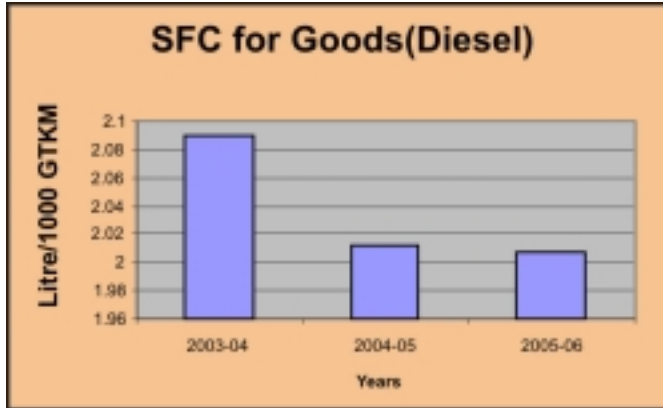
Fuel (Electricity and Diesel) constitutes the second largest component of NCR’s working expenses. NCR pays around Rs 520 crores for electric traction, Rs. 170 crores for diesel traction, Rs. 45 crores for non-traction electric purposes, which are around 22%, 7% and 2% of total working expenses. Consumption of electricity and diesel for traction applications depend upon traffic hauled. There has been significant increase in GTKM hauled during 2005-06 & 2004-05 w.r.t. previous year. Corresponding increase in electricity and diesel consumption has been quite less resulting in decreased SEC/SFC as evident from the figures tabulated below-

SPECIFIC ENERGY CONSUMPTION REDUCTION			
TRACTION (Electric)	2003-04	2004-05	2005-06
Unit Consumed (Lakhs kWh)	12734	14088	13828
GTKM for Goods	82361627	87552991	87709973
GTKM for Passenger	34959806	36953638	39774420
SEC for Goods (kWh/ 1000 GTKM)	8.3	8.1	7.2
SEC for Passenger (kWh/ 1000 GTKM)	19.32	19.05	18.97
% SEC reduction during 2004 – 05 & 2005-06 for (Passenger) w.r.t. preceding year.	—	1.4	0.42
% SEC reduction during 2004 – 05 & 2005-06 for (Goods) w.r.t. preceding year.	—	2.41	11.11

TRACTION (Diesel)	2003-04	2004-05	2005-06
Diesel Consumption in KL	42683	45650	48624
SFC for Goods (Liters/1000 GTKM)	2.09	2.013	2.007
SFC for Passenger (Liters/1000 GTKM)	4.06	4.01	4.007
% SFC reduction during 2004-05 & 2005-06 for (Passenger) w.r.t. preceding year.	—	4.01	4.007
% SFC reduction during 2004-05 & 2005-06 for (Goods) w.r.t. preceding year.	—	2.013	2.007
NON - TRACTION ELECTRIC			
Electricity Consumed in Lakhs kWh	1044	1070	1122
Connected Load in KW	80390	81154	81276
SEC in kwh/kw	108.25	109.8	114.9
% SEC reduction during the period 2004-2005 & 2005-2006 w.r.t. preceding year. {(current year SEC-previous year SEC)/ previous year SEC}.	---	1.43	4.64

Graphical Representation:





Major Activities Implemented to reduce energy consumption:-

Activity	Action Taken
Shunt Capacitor Banks for Power Factor Improvement.	Provided at 09 Traction Sub Stns. Namely Chunar, Jigna, Naini, Mirzapur, Sirathu, Rasulabad, Manauri, Bhirpur, Jeonathpur.
Energy Efficient Fittings.	CFLs, High frequency electronic chokes etc. provided at Agra Fort, Agra Cantt. Idgah, Jhansi, Gwalior Rly Stations. HPSV, MH fittings provided in circulating areas, yards, station concourse.
Automation of pumps	Done at 76 pumping installations.
Static converters in place of ARNO converter in Electric Locos.	Provision made on 42 Electric Locomotives.
Provision of right level of illumination in Electric Locoshed, Kanpur.	Relocation, rationalization and use of energy efficient fittings.
Use of regenerative braking in electric locomotive.	Implemented in trains passing through the NCR territory with WAG-9/WAP-5 & WAP-7 class of locomotives.
Coasting, lowering of pantograph of electric loco when required to stop for more specified period.	Regular counseling of Drivers.
Avoiding simultaneous starting of trains as far as practicable.	Regular counseling of Traction Power Controller and section controller.
Inculcating awareness regarding Energy Conservation Act 2001 amongst users.	A brief write-up on the provisions and suggested modalities for implementation circulated for information and guidance of staff, supervisors and

Activity	Action Taken
	officers. Field units interacting with users of electrical assets for inculcating awareness.
Energy Auditing	05 Officers attended the 02 weeks special course at Indian Railway Institute of Electrical Engineers, Nasik conducted by the training wing of National Productivity Council under BEE. One officer has already passed the examination for certified energy auditors.
Solar Water Heating Systems	Installed in Running Rooms, Central Hospital Allahabad, Hostel of Electric Training Center Kanpur.
Replacement of defective energy meters	3500 Nos. defective energy meters replaced, out of which 1500 Nos. by electronic energy meters.
Automatic timers, infrared sensors for switching ON/OFF lighting circuit as per requirement.	Provided at one platform of Allahabad station.
Segregation of load	Segregation domestic from industrial load to avail cheaper tariff completed at most of the locations.
Unauthorized connection/tapping removal	3678 unauthorized connections removed and penalty imposed during last 03 years.

Energy Conservation Plans 2006-07

- Carriage & Wagon Workshop, Jhansi has been selected for energy audit through M/s Petroleum Conservation Research Association, New Delhi.
- Provision of capacitor Banks in 03 traction substations.
- Extensive use of energy efficient fittings like CFLs., High frequency electronic ballast, electronic fan regulator etc.
- Use of timers/ group control switches to operate lights/fans for controlling electrical loads at stations, offices, shop floors and also for street and yard lighting.
- Replacement of overhead lines by under ground cables at colonies to avoid hooking/tapping. Replacement of over aged cables having deteriorated IR value less than specified IR minimum.