

## Our Alliance with Private Clients

Big players like Emar group, Limitless & Dubai International of UAE to invest in Indian Infrastructure

With economic liberalization in India, the domestic infrastructure industry has undergone a revolution witnessing an exponential growth of approx. 10% (9.6% in current fiscal year & 10.1% in 2007) in last couple of years resulting in demand for Consultancy Services. Earlier infrastructure was generally managed by national, single sector utilities but laissez-faire technological and regulatory policies of Govt. of India have paved the way for public and private sector to come together to work on PPP models.

Our current issue focuses on BCEOM India's strategic move in this direction, besides our regular features. We, have also covered the most coveted project of the year "Project Management Consultancy for Ganga Expressway" awarded to BCEOM by Jai Prakash Group. This has been the result of dedicated effort and hard work of each and every individual who has in his own way contributed to the growth of the organisations, as the quote goes: "Coming together is a beginning. Keeping together is a progress. Working together is Success".

- Editorial Team

The importance of infrastructure for sustained economic development is well recognized. There has been a considerable progress over a decade now in attracting private investments into infrastructure projects. With the development of funding agencies like World Bank and ADB slowly the trend changed in 90s. In later 90s, the concept of BOT came into picture, wherein the Concessionaire will Build and Operate the project and in turn will get the concession either in the form of annuity from Government or by way of collecting toll from the users of the infrastructure project or by getting land parcels towards the development of real-estate.

The newer version of this BOT system is the DBFO system. With the Design-Build-Finance-Operate (DBFO) approach, the responsibilities for **designing, building, financing and operating** are bundled together and transferred to private sector partners to get the services in pre-tendering stage and also after winning the Project for detailed designs and for Project Management services.



BCEOM India has started providing services to the private clients right from its inception. Working with private clients is most challenging and interesting. Particularly the pre-bid assistance, where the bid date is fixed and there is no scope for extension of time and the whole strategy of bidding of the concessionaire will depend on our deliverables. Accuracy in estimating, Quality of designs, Value Engineering and timely completion are the main basis of our approach towards these Private Clients. So far, we have successfully completed 5 traffic studies, 14 prebid engineering studies and 4 post bid services. Project Management Consultancy for Ganga Expressway is the biggest project among the works bagged so far.

- Y.V.V Pattabhiram GM(Highways)

## Zoom on Ganga Expressway

### Project conceptualisation

Every year the state of Uttar Pradesh faces flooding of Ganga on left bank, resulting in loss of usable land, life and property. To mitigate this problem UP Irrigation department has proposed the construction of a Marginal Bund along left bank of Ganga from Narora to UP/Bihar Border (Ballia).

The UP Government has decided to utilize the marginal bund for constructing an access controlled 8-lane Expressway. The Expressway will run from Greater NOIDA (Taj Expressway) to Narora over normal Embankment and from Narora to UP/Bihar Border (Ballia) on proposed Marginal Embankment substantially along left/right bank of river Ganga. The Expressway will pass through Badaun, Shahjhanpur, Hardoi, Unnao, Kanpur, Rae Bareilly, Pratapgarh, Allahabad, St. R D Nagar, Ghazipur, Varanasi and Ballia, cutting short the travelling time between Eastern and Western UP by 16 hrs.

In addition three links have been proposed near Farukhabad, Lucknow-Bilhaur, Anraimirzapur. The total length of the project along with the proposed links is 1047 km. There are 7 Ganga crossings, and two more on Ramganga and Garra. There are about 14 ROBs and about 300 minor bridges in the project. The Govt. of UP through the process of competitive bidding awarded the Project to M/s J. P Associates Ltd., on Design-Build-Finance-Operate (DBFO) basis for a concession period of 35 years. The scope of

project include development, design, financing, procuring, engineering & construction, operation & maintenance of the expressway.

### BCEOM India in Ganga Expressway:

To assist in Supervision, co-ordination of all the consultants and proof checking of designs, compilation of DPR, the Concessionaire M/S Jaypee has appointed BCEOM India Pvt. Ltd. as the Programme Management Consultant (PMC).

It's been nice in winning a project of this magnitude but the challenges are plenty. Dealing with more than 7 consultants will be huge task. The biggest challenge ahead is resource mobilisation. Mr. Jean-Claude Genin himself has offered to take-up this challenge and he has put himself in the steering seat. We are sure, with the quality and committed attitudes of BCEOM workforce, this project is going to be a big success, of course with the blessings of "Ganga-mayya" #.



**#Ganga-mayya:** The Ganga is a major holy river of the Indian subcontinent, associated in myth and reality with the land and people of India as well as neighbouring countries like Bangladesh.

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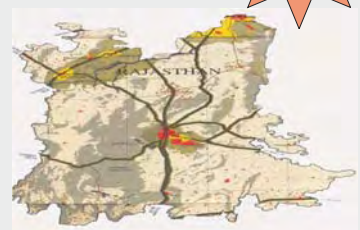
# New Projects in Urban Development

**Name of the project:** Preparation of Master Plan for Rajasthan sub-region of National Capital Region

- Shahjahanpur-Neemrana-Behror Urban Complex in Alwar District.
- Bhiwadi-Tapookara-Khushkhera Complex in Alwar District.
- Alwar in Alwar District

**Name of Client:** Office of Chief Town Planner, National Capital Region Planning & Monitoring Cell, Rajasthan, Nagar Niyojan Bhawan, J.L.N. Marg, Jaipur - 302004

**Associates:** In JV with Groupe SCE India Pvt. Ltd., (Lead - BCEOM India Pvt. Ltd.)  
**Duration:** 7 months



**Karnataka plans high speed rail link to connect city and Bengaluru International airport. A PPP model covers 33 km in 25 min**

## News From Projects

### ★ Independent Consultancy for AP-3: NS2/IC/AP-3- North South Corridor

**Client:** NHAI-PIU, Hyderabad  
**Duration:** 05/05/2006 to 19/02/2009  
**Contact:** bceom\_ap3@bceomindia.com

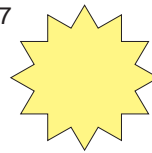


Construction phase commenced on 19/08/2006. The project consists of 12km of maintenance of recently constructed 2 lane dual carriageway, new construction of 17.42km 2 lane dual carriageway, 28.74 km existing 2 lane new carriageway plus 28.74km of new additional 2 lanes.

It consists of 1 Toll Plaza, 1ROB, 2MJB, 11 MNB, 1OP, 27BC, 40 HPC, 1 Truck Lay Bye and rehabilitation of 4 MNB. After a slow start, the progress has picked up and is around 72% as of end of June 2008, expected to complete ahead of its schedule.

### ★ Feasibility Study and Preliminary Design for 6-Laning of National Highways in India under DBFO pattern

**Chilikaluripet-Vijayawada-Rajahmundri**-Nov-06 to Feb-07  
**Nellore-Chilikaluripet**-Sep-07 to Jan-07  
**Client:** National Highway Authority of India  
**Duration of the study:** 4 months & 5 months respectively  
**Contact:** aashiq.h@bceomindia.com



First of its kind for Consulting industries in India, the National Highway Authority of India has been entrusted with the development, maintenance and management of its Highways under NHDP Phase-V Programme under DBFO pattern. Its real challenge being taking up the project where you have to deliver, in a relatively tiny period a product that the booming concession industry looking for. Till now EGIS



BCEOM International in Association with BCEOM India Private Limited has successfully completed two such studies, setting benchmark in delivering the quality products and there are many more in its count. The two studies, Feasibility Study and Preliminary Design for 6-Laning of NH-5 Chilikaluripet-Vijayawada-Rajahmundry (280km) and Nellore-Chilikaluripet (184km) section in Andhra Pradesh State were extremely appreciated by the client and ultimately it's learnt that the concessionaire had an escape to invest fewer resources to bid.

The Scope of the study was to propose a facility in a manner to ensure; enhanced safety and operational efficiency, fulfillment of the access needs of the local Population with minimal adverse impact. With pioneer engineering ideas the study

proposed retrofitting of a 6-Lane Highway on to existing 4-Lane Highway. The facility includes crossing structures like Flyovers, Underpasses and Elevated Sections with Frontage and Service Roads in an Environment that makes safer and comfortable journeys.

The length of the Project Highways is substantial, had variety of features and elements all along. The Project Highways passes through right from a country side to core urban area. There are major River crossings (Krishna and Godavari tributaries) and presence of major Canals parallel to Project Highway is a concern of the study.

### ★ Construction Supervision for Tuticorin Port Connectivity project Tamil Nadu

**Client:** National Highway Authority of India  
**Duration of the study:** 08/03/04 to 30/06/08  
**Contact:** bceomtuty@bceomindia.com



BCEOM has signed a contract with NHAI for construction supervision of Tirunelveli-Tuticorin section of NH-7A in Tamil Nadu State in March 2004. The Contractor commenced the Works in February 2004. The Scope of work comprised widening to 4-lane width of the existing 2-lane road from km 4 to km 51.2 including construction of all road layers, 2 major bridges, 10 MNBs, 33 pipe and 33 slab culverts. The Contractor was MECON-GEA JV.  
 BCEOM India Pattrika / July 2008

At the end of the stipulated period of 30 months, the Contractor could achieve only 22.45% progress. The main reasons for delay was primarily because of land acquisition problems, and poor performance by Contractors - MECON was practically absent & GEA not being a civil engineering firm, failed in their first venture. The CSC recommended an extension of time of 225 days for I Milestone and 309 days for MS-2, which was not approved by NHAI. Frustrated by the lack of progress, increasing costs not commensurately escalated in the invoices and idling of site staff, BCEOM decided to pull out from the project with effect from 1st July 2008.

BCEOM has prepared and submitted bid documents to NHAI for the balance works on item rate contract method. Through a separate assignment, BCEOM was also involved in preparation and submission of a financial viability report on tendering the balance works on BOT basis. Decision is yet to be taken whether the balance works will be tendered on item rate method or on BOT basis.

NEWS

**National Highway Projects in North Eastern region for proposed 11th plan.**  
 Assam: 292 crore  
 Manipur: 99 crore  
 Meghalaya: 264 crore  
 Mizoram: 119.50 crore  
 Nagaland: 50.50 crore



## News on Project Management

There has been hectic activity in the Project Management Team preparing and submitting the Consultancy Variation Proposals for several NHAI CS Contracts where the construction supervision duration is over / getting over soon like Tamil Nadu, Assam, Punjab, Maharashtra & extension of time claims as well from the Contractors.

Our Project Management team constitutes Mr. J.C Genin, Mr.C Ramlal, Mr. Rajesh Chaabra & Mr. P Raghunandan. The Team is further strengthened by the induction of Mr. AK Lal, Senior Contracts Specialist, with effect from June 2008.

The Chairman, NHAI and the Member (Technical), NHAI have recently visited several of our sites during the last month including Maharashtra, Tamil Nadu and Allahabad Contracts. The Chairman has visited our Team Leader's Office in Tirunelveli and conducted Progress Review Meeting for NS-42 and NS-43 Contracts. Our Project Management team is currently busy with Standardization of Reports and preparing the standard Monthly Progress Report. Template is likely to be communicated to sites soon, after the review by the Quality Management Group.

- C.S.S.B. Ramlal, GM (PM)

## Airports Scenario in India

Nucleus for the most of our airports was formed during the second world war and with the growth of traffic and increasing size of operating aircraft the airports were developed in Phases depending upon requirement. Though initially these airports were kept away from the city centers, progressively population growth and economic development have ensured that cities have grown to the airports and surrounded them in majority of the places.

Unprecedented growth of airtraffic during last few years due to liberalisation policies in the Air Transport sector have added tremendous pressure on the system. Various forms of development, management and ownership pattern are currently being tried. Depending on projected need and anticipated growth, runway are being added, extended and strengthened, expansion of apron, terminal building and carpark being undertaken, PPP projects for construction of Greenfield airports being approved. State govts, flying Clubs and corporate sectors are undertaking construction of small private airports. All this presents a very exciting

and challenging business opportunities for the consultancy, design and construction management and other essential associated services.

Airports, airspace and airworthiness matters are a complex intermix of many Engineering disciplines like Civil, Electrical, Aeronautical, communications and Computer Engineering along with other specialities like pilots and air traffic controllers. As pilots and aircraft of every country have to go other countries due to international nature of aviation activities, uniformity of standards, recommended practices and guidelines in the matter of rules, regulations, procedures, design, operation and maintenance is a must.

*A team from the Group Company EGIS-AVIA, consisting of Mr. Bernard Baradel, Key Accounts Manager-India & South East Asia and Project Director Mr. More Federic & Mr. Fabric Breton visited India from 14th to 18th April 2008. Besides attending to other official work, they interacted with Airports Authority of India and other business partners on the matters of mutual interest.*



This Uniformity is achieved by Annexes, Procedures for Air Navigation Services and Manuals of International Civil Aviation Organization, a specialized technical agency of United Nations with its Headquarters based in Montreal Canada. All the 190 countries of the Globe are its members and it works as a global regulatory body in the field of Civil Aviation.

In the Airspace matters also there is a global move by ICAO to change over from current ground based communications, navigation and surveillance system to satellite based one. Uniformity of standards along with its global coverage makes it an ideal arena for international consultancy services. Let us dedicate ourselves with enthusiasm to face the challenges of this exciting future.

-S.S Singh, Advisor

## Anil Nadagouda

Date of Joining: 14th May 2003

Mr. Anil Nadagouda is our Deputy General Manager (Materials), currently posted at IC TN-6B project at Trichy. He joined BCEOM in 2003 as Material Engineer for Jaipur-Kishangarh Expressway BOT Project. Prior to BCEOM, he worked with reputed construction firms such as L & T, UEDI (Malaysian company), Somdutt Builders, Siemens India Pvt Ltd. He is a qualified Civil Engineer with rich experience in the field of **Materials, Pavement and Highway Engineering.**

He is a seasoned professional who has the experience of working with contracting firms as well as in consulting. His journey in consulting field started with BCEOM on Jaipur-Kishangarh Expressway Project. He got his training and experience in Quality Assurance from his Team Leader Mr. Per H. George, an authority in the field of Quality Assurance and Quality Audit. Under the leadership of Mr. George, Mr. Anil learnt the intricacies and modern techniques of quality control system & quality assurance programs in highway projects. He feels immensely proud to be a part of India's first BOT Project.



He feels that his learning still continues under the aegis of his current Team Leader at TN-6B project, Mr. Andrew Polonski. He is grateful to BCEOM Management for providing immense opportunities to learn and grow as a professional.

## News from Egis Projects (O & M)

Egis does PPP projects, mainly along 3 lines: investment, equipment, operation & maintenance, whereas the construction itself is left to other companies. Most of Indian infrastructure projects come today under PPP schemes. In practical terms, let's have a look at O&M: setting a dedicated company, performing the initial consulting services, and then generally for a long period taking a full scope of toll operation (from the driver pocket to the Concessionaire Bank account, possibly via ETC), traffic management (patrolling, emergency services, staffing of a traffic control room), regular maintenance (pavement, highways facilities, green areas), and engineering services (surveys, reporting, organization of heavy repairs).

You will note that this type of services is a good complement to Egis India services, which makes our Egis Group approach quite consistent in India. Our last success is the M25 London ring road: It comprises the operation & maintenance of 200 km of the M25, including the tolling and operation of the Dartford bridge and tunnel, the operation and maintenance of 200 km of motorways linking to the M25, and the upgrading of various sections of the M25 with a total length of 58 km.

BCEOM India Pattrika / July 2008

# Erosion of earth fill around abutments and Approach Slab settlement Causes and remedies

Erosion of earth fill around abutments and settlement of approach slab are observed all along the Highway. These two defects are interrelated. Approach slab settlement results in a hump and jump as the vehicle enters and leaves a bridge. The settlement of approach slab cause severe inconvenience to the road user. In some cases, the portion of slab supported on bracket behind the dirt wall, rises awkwardly as the rest of approach slab resting on soil settles down seriously compromising safety of the road user.

### Probable causes:

The settlement might have been caused by one or a combination of multiple reasons like:

- ☞ Poor compaction behind the abutments.
- ☞ Leaving the embankments slopes undressed after compaction
- ☞ Scouring due to longitudinal drains near abutments due to absence of proper protection works pitching of the slope and supporting the slope with toe walls and launching aprons
- ☞ Absence of water collector channels and drainage chutes with stilling basins at the end of approach slab to drain the water from the approaches into the river leads to scouring of the sides of wing walls.
- ☞ Use of smaller stones of weight less than 40 kg in pitching of slopes.

### Rehabilitation measures:

- ☞ Before taking up the rehabilitation of settlement of approach slab the embankment quadrants around the wing walls shall be stabilised first; Loose boulder pitching on the settled/ erroded embankment shall be removed and stacked separately.
- ☞ The exposed embankment shall be checked for the compaction conditions. The loose material, if any, shall be removed and replaced with suitable materials duly compacted; Thereafter, the embankment shall be built up to required levels.
- ☞ Provide boulder pitching with boulders weighing not less than 40 kg over 150 thick filter media / geo synthetics fiber. In case of bridges, crated boulders perform better than loose boulders.
- ☞ Similarly, all areas of loose boulder pitching having smaller stones shall be replaced with boulders weighing not less than 40 kg except those required for filling voids between boulders.
- ☞ A toe wall and launching apron shall be provided at the end of boulder pitching. Length and thickness of launching apron shall be as per the design.
- ☞ Provide water collector channels after the end of approach slab for a length to suit the site conditions; Provide RCC drainage chutes at 5 m intervals with one drainage chute at start and end of water collector channel; Provided stilling basins at end of drainage chutes duly protected from scouring.
- ☞ Make up the settlement in approach slab and approach embankment with suitable bituminous course.
- ☞ In case settlement of approach slab has resulted in the end of approach slab resting on bracket projecting from dirt walls projecting over the road surface, the approach slab shall be dismantled and replaced with a new slab after making up the settlement

### Precautions during construction:

- ☞ Compaction behind the abutments shall be given special attention.
- ☞ Embankments slopes shall be dressed to the required slope after compaction and turfed.
- ☞ Bank protection works in form of pitching of the slope and supporting the slope with toe walls and launching aprons shall be provided.
- ☞ Water collector channels and drainage chutes with stilling basins shall be provided at the end of approach slab to drain the water from the approaches..
- ☞ Stones of weight less than 40 kg shall not be used in pitching of slopes, toe walls and launching aprons.

-Sanjeev Verma, GM (Bridges & Structures)

# ISO 9001:2000 certification for BCEOM India

### Progress so far

BCEOM India launched its initiative for getting ISO 9001:2000 certified in the month of Nov' 2007 with target date of certification Aug 2008.

- ★ Awareness training on ISO 9001: 2000 has been imparted to almost all the employees of BCEOM India at Faridabad.
- ★ Internal Quality Auditors training has also been organized and imparted to a select group of employees from different functions.
- ★ Quality Policy & Quality Objectives have been defined.
- ★ All the relevant process documents have been defined, documented and released for its implementation.

### BCEOM India's quality policy is to:

- ❖ Satisfy its clients by providing consistent, high quality and cost effective services in a timely and responsive manner, integrating sustainable development requirements.
- ❖ Satisfy its employees by providing a suitable working environment and employment conditions.
- ❖ Provide its shareholders with a satisfactory return on investment.
- ❖ Establish mutually beneficial relationship with JV Partners/Contractors/Suppliers.

# Tips on Effective Work Relationships

Effective work relationships form the cornerstone for success and satisfaction at Work Place. Following top Seven Actions form the basis for effective work relationships:

- ❖ **Bring suggested solutions with the problems to the meeting table** - Thoughtful solutions are the challenge that earn respect and admiration from coworkers and bosses;
- ❖ **Don't ever play the blame game** - you need allies at work;
- ❖ **Your verbal and nonverbal communication matters** - respect your colleagues and coworkers;
- ❖ **Never blind side a coworker, boss, or reporting staff person** - Always discuss problems with the people directly involved who "own" the work system;
- ❖ **Keep your commitments** - Always keep commitments, and if you can't, make sure all affected employees know what happened as works are interrelated in an organization;
- ❖ **Share credit for accomplishments, ideas, and contributions** - Always thank, reward, recognize and specify contributions of the people who help you succeed;
- ❖ **Help other employees find their strengths** - Help fellow employees to exhibit their best abilities by creating a positive, empowering & motivating environment as growth of individual employees benefit the whole organization.

- Sushmita Basu, GM (HR)

# Staff Joining between April to June

## At Headquarter:

AKLAL, Senior Contract Specialist  
 BHUPESH MOHAPATRA, Senior Manager (Environment)  
 PRADEEP KUMAR SHARMA, Business Development Executive (Railways)  
 K.K.SARASWAT, Senior Survey Engineer  
 HARNAIK SINGH, Senior AutoCAD Expert(Structures/Bridges)  
 VIVEK KUMAR GOVILA Business Development Manager (Urban)  
 DAVIS T.K., Assistant Manager Business Development (Roads)  
 SUNIL P.JOHN, Accounts Executive  
 SEEMA KUMAR, Highway Engineer (Design)

ATUL SINGHAL, Highway Engineer, IC U.P. (Meerut-Muzaffarnagar)  
 RAJESH KUMAR, Resident Engineer, USRIP (Uttrakhand)  
 V.B.ARORA, Team Leader, USRIP (Uttrakhand)  
 ANURAG KUMAR, Field Engineer (Roads), Punjab State Road Project  
 DEEPAK KUMAR, Laboratory Technician, Uttrakhand(USRIP)  
 JAMAL HUSSAIN, Computer Operator cum Assistant Manager, DPR-Patna, Buxar  
 JAYMANT JHA, Pavement/Material Engineer, Uttrakhand(USRIP)  
 NILADRI SHEKHAR MITRA, Environment Officer, Punjab State Road Project  
 RAJESH GOLAN, Field Engineer (Bridges), Punjab State Road Project  
 AJITH KUMAR.S, Field Engineer, (Bridges) KSTP-I  
 Abdullah Farooq, Field Engineer, (Structures) Uttrakhand(USRIP)  
 CHANDRASHEKHAR DASH, Laboratory Technician, KSTP-I  
 S.N.YASIN, Pavement/Material Engineer, Uttrakhand(USRIP)  
 C.H.PRASHANT, Draftsperson, IC Project (AP-3)  
 AJAY KUMAR, Topographic Surveyor, Uttrakhand(USRIP)  
 SURENDRA PRATAP YADAV, Topographic Surveyor, Uttrakhand(USRIP)  
 RAJAN DHARI, Structural/Drainage Engineer, USRIP (Uttrakhand)

V.K. AGARWAL, Rural Water Supply & Sanitation Expert, ECFP  
 RAJENDRA KUMAR GOYAL, Structural/Drainage Engineer, USRIP (Uttrakhand)  
 PANKAJ KUMAR, Site Engineer,(Roads) Uttrakhand(USRIP)  
 SANJAY KUMAR, Secretary, Punjab State Road Project  
 KANTI BALLABH DUMKA, Site Engineer (Roads), Uttrakhand(USRIP)  
 RAJESH KUMAR KILLAMSETTY, Survey Engineer, IC Project (TN-4)  
 SAKET BIHARI, Site Engineer (Roads), Uttrakhand(USRIP)  
 KALEEMA S.K., CAD Operator, Uttrakhand(USRIP)  
 PREM SINGH BHANDARI, Office Manager cum Accountant, Punjab State Road Project  
 ASHWANI KUMAR SHARMA, Office Assistant, NS Punjab, CS-1  
 N.P.ESHWAR RAO, Resident Engineer, Uttrakhand(USRIP)  
 RAJAT CHAND, Office Assistant, Ganga Express Highway  
 JASTI SRINIVAS, Senior Quality/Material Expert, IC Project (TN-4)  
 RAJENDRA KUMAR GOYAL USRIP (Uttrakhand), Tanakpur  
 LT. COL SURINDER SINGH, PSRP, Mohali  
 SHAILESH KUMAR SINGH, Allahabad Bypass Project, Allahabad

## At Projects:

SHIVANI SHARA, Office Assistant, ECFP  
 HARI SHANKAR PRASAD, Senior Environment Officer, KSTP-I  
 GOVINDA CHANDRA PANDA, Site Supervisor (Roads), KSTP-I  
 MANISH BHONDE, Planning Engineer, Punjab State Road Project  
 VASANTHRAJ G.M., Field Engineer,(Roads KSTP-1)  
 ISANDEEP PRASAD, Computer operator cum Assistant Office Manager, Uttrakhand(USRIP)  
 DHIRAJ KUMAR, Laboratory Technician, NS Punjab, CS-1  
 SURYA PRAKASH, Resident Engineer, Uttar Pradesh State Road Project

# Library

- Specifications for Roads and Bridges works by MOSRTH
- Standard plans for Concrete Solid Slabs without Footpath for Highways by MOSRTH
- Field Manual for Highway Bridge Engineering by V K Raina
- Railway Year Book-2007 by Autometer Alliance Ltd



"How do they expect us to learn time management when every hour here feels like three hours, a week feels like a year, and the weekends fly by like ten minutes?"

## TO CONTACT THE EDITORIAL TEAM:

Rupal Gupta  
AM (HR)

Robin K Thomas  
BDE (Airports)

Sushmita Basu  
GM (HR)

(Patrika@bceomindia.com)



"My team has created a very innovative solution, but we're still looking for a problem to go with it."