

MANAGEMENT DISCUSSION AND ANALYSIS



Shri Rajen Gohain, Honourable Minister of State for Railways addressing the railway officials at the formal handing ceremony of 18th brand new AC-DC 1350 HP diesel electric locomotives to Myanma Railways,



This analysis report briefly describes about the company, industry, present business environment and ability to avail opportunities, leverage strengths, handling of threats/ weaknesses, financial performance, internal controls and other related issues.

I. ABOUT THE COMPANY AND THE INDUSTRY

RITES Limited is a wholly owned Government Company, a Miniratna (Category-I), Schedule 'A' Public Sector Enterprise and a key player in consultancy and engineering in the transport infrastructure sector in India having diversified services under one roof with geographical reach.

RITES has an experience spanning 44 years and has undertaken projects in over 55 countries including Asia, Africa, Latin America, South America and Middle East regions. The company is the only export arm of Indian Railways for providing rolling stock overseas (other than Thailand, Malaysia and Indonesia).

The major business engagements as consultants, engineers and project managers are in railways, highways, airports, ports, ropeways, urban transport and inland waterways in India and abroad. The company also provides services of third party inspection, quality assurance, construction supervision & project management, operation & maintenance, leasing and export of rolling stock. Company has undertaken projects relating to construction of railway infrastructure, electrification works and modernization of railway workshop on turnkey basis. The company has diversified into the

field of renewable energy such as solar and wind energy and implementation of power procurement contracts for Indian Railways under 'Open Access Policy' and rail concession in India on PPP/JV basis.

Company is placed very well to utilize opportunities for business resulting from massive expansion of railways, road network, ports, airports and multi-modal connectivity projects, e.g. as per 2018-19 budget of Union of India, ₹ 5.97 lakh crores are to be invested in the infrastructure sector. Indian Railways are planning to spend ₹ 1.48 lakh crores for expansion of railway line capacity, electrification and redevelopment of major railway stations in 2018-19.

The company is led by an experienced and well qualified management team and has technical personnel capable of providing innovative solutions to the clients' requirements. With the track record of successfully handling of a number of projects in infrastructure in India and abroad, RITES has earned a brand name as "The Infrastructure People".

Government of India (GOI) recognizes the importance of investment in infrastructure and towards job creation and pushing GDP growth. Massive investment has been planned, for creating and upgradation of infrastructure. Diverse plans are proposed to develop roads, railways, connectivity infrastructure in border areas, DFC's, airports, seaports, ropeways, logistic parks and implement smart cities project. Under the development agenda "New India 2022" - Specific goals/targets for 75th year of Independence have been set for a modern and efficient transportation system with



Ship Lift Facilities for National Coast Guard, Mauritius for Project Trident

key emphasis on modernization of Railways by introduction of separate corridors for freight and high speed passenger trains and reinforcing the safety measures by modern signaling system and removal of level crossings.

As per the World Bank Report of 31st October, 2017, India has jumped up 30 notches into the top 100 rankings on the World Bank's 'ease of doing business' index, due to major reforms like introduction of GST, increase in limits of FDI upto 100% in certain sectors and other measures of such as resolving insolvency, payment of taxes, protecting minority investors and getting credit which in turn augments well for investments in infrastructure sector and development of the same.

II. STRENGTH AND WEAKNESS

RITES provides a comprehensive range of consultancy service offerings, primarily in the transport infrastructure space such as railways, urban transport, roads and highways, ports, inland waterways, airports and ropeways besides export of rolling stock, locomotive leasing services and turnkey construction services which enables access to additional business opportunities from our existing clients as well as potential new clients in India as well as abroad.

The company is led by an experienced and well qualified management team and has in house team of highly qualified and experienced technical personnel and also has access to pool of technical experts and infrastructure facilities of Indian Railways to handle the projects requiring additional / specific expertise.

RITES ability to collaborate and work jointly through alliances, joint ventures, subsidiaries and consortium arrangements enables it to enhance the range of its services and allows it to focus its attention on large scale projects.

RITES is highly dependent on skilled manpower/ professionals and with the increased government initiative to attain accelerated economic growth, more and more organizations are making inroads in the market.

III. OPPORTUNITIES AND THREATS

Over the years, we have expanded our service offerings to address new market opportunities and macroeconomic trends arising in the infrastructure sectors. RITES plans to expand its international operations by expanding business of rehabilitation of locomotives and wagons overseas and the exporting of railway locomotives, rolling stock, railway equipment and other spares. RITES is also planning to expand existing range of products for export to various international customers by developing different types of locomotives for export and leasing.

RITES recently has been appointed by the Government of Mauritius as a consultant for implementing light rail project in Mauritius and also to prepare a detailed project report on Trident port project. RITES is working in Nepal on two integrated check-posts at Birgunj and Biratnagar and are conducting construction supervision services of a road project in Botswana through our Subsidiary, RITES (AFRIKA). RITES is in the process of executing a major export order for Sri Lanka comprising of 10 diesel locomotives and 6 DMU train sets. RITES has



Construction of Railway Tunnel in Manipur



Export of modern coaches for intercity train to Bangladesh

successfully exported 18 meter gauge locomotives in Myanmar and 120 broad gauge passenger services coaches to Bangladesh and have also recently completed detailed project report for airport at Rwanda and ports project in Sri Lanka. RITES is also undertaking detailed project report preparation consultancy for East Bank-East Coast road linkage project in Guyana (South America).

The company had leased out 16 cape gauge locomotives to Mozambique for use by CFM, Mozambique in 2007, which has recently been sold to them, along with our obligation to maintain the same initially for a period of 6 months. RITES has completed three maintenance workshops for Sri Lankan railways. In the past, company has exported rolling stock to Benin, Senegal, Mali, Myanmar, Sudan and Vietnam and also operated railway systems in Tanzania, Iraq, Ghana, Mozambique, Zambia and various other countries.

RITES has in the past carried out feasibility studies for rail transport infrastructure in countries such as Ethiopia and U.A.E and road infrastructure in countries such as Afghanistan, Bangladesh, Ethiopia, Ghana, Malaysia, Mozambique, Myanmar, Nepal, Tanzania, Uganda, U.A.E. and Zambia.

In Africa, South Asia, Middle East and other developing nations, there has been an increase in demand for rehabilitation and up gradation of roads and railway systems, leasing of railway locomotives and other rolling stock by way of import of such goods and services from India due to similarities of technical standards and specifications and this offers good business opportunities for the company

to increase our international operations.

Specific goals set in development agenda "New India 2022" include commissioning of complete operationalization of Eastern and Western dedicated freight corridors, capacity augmentation on the saturated trunk routes, gauge conversion, rail network in north eastern states, completion of Udhampur-Srinagar-Baramula section of Jammu-Baramula project and Bilaspur-Mandi-Manali-Leh all weather broad gauge railway track.

The dedicated freight corridor project, targeted to increase the freight transportation capacity of Indian Railways and also achieving cost efficiency in operations, offers opportunities for RITES as both consultants and project managers. Another key priority of Indian Railways over the last few years has been towards developing high speed railway corridors for facilitating the operation of trains at higher speeds. Over the recent years,



Mr.P.K. Gupta RITES Executive Director signing an agreement with Metro Express Ltd, a SPV of Mauritius Government for construction supervision of 26 km metro project from Port Luis to Curepipe in Mauritius.



Recently completed 4.56 km long rail cum road Bogibeel Bridge

redevelopment of existing railway stations by leveraging the commercial value of the location of these stations has emerged as another business segment. These developments shall provide ample business opportunities.

GOI aims to boost public and private investment in roads sector through various schemes such as NHDP, PMGSSY, Bharat Mala scheme with introducing business-friendly strategies that will balance profitability with effective project execution. The government's 40 km per day road construction target and a huge project pipeline are expected to ensure that NHAI's project award remains robust.

The Ministry of New and Renewable Energy, Government of India has set specific targets for installation of generation capacity and procurement of renewable energy for all public sector undertakings and governmental instrumentalities which for the Indian Railways is set as 20% of the total consumption to be through renewable energy. In order to assist the Indian Railways meet its stipulated target for procurement of renewable energy, the Indian Railways and RITES have set up a company, namely Railway Energy Management Company Limited ("REMCL").

Aggressive approach adopted in pricing the bids by some new entrants can pose a threat of reducing business opportunities as there is a constraint in reduction of manpower cost by RITES.

IV. RISKS AND CONCERNS

RITES faces certain competitive pressures from the existing competitors and new entrants in both

public and private sector. Increased competition and aggressive bidding by such competitors can make its ability to procure business in future more uncertain which may adversely affect its business, financial condition and results of operations. Business is gaining sophistication and clients demand high reliability and quality of service.

Clients prefer to engage a single agency who will do the design; engineering, construction and commissioning of projects, especially for projects with proven/standard design such as ROBs/RUBs, railway sidings, city/municipal roads, etc. Thus, there will be a need to revise approach towards business openings by offering services on turnkey basis, i.e., from concept to commissioning including consultancy. However, turnkey projects fetch lower margins than consultancy, while having higher risks, and some of these may require capital deployment from the company's resources.

Company enters into joint ventures and consortium arrangements for completion of its projects which may expose it to additional liabilities on account of its partners' failure or under performance and any premature termination of which, may adversely affect its business, reputation, financial condition and results of operations.

The business of export of rolling stock is cyclical in nature and largely dependent on lines of credit offered by GOI to various countries in Asia and Africa. RITES global operations are exposed to international legal, tax and economic risks.

RITES is subject to risks arising from currency



Major renovation of Varanasi station under implementation by RITES

exchange rate fluctuations, which could adversely affect its business, financial condition, results of operations and future prospects. These risks are managed through measures as in currency risk management policy.

V. INTERNAL CONTROL SYSTEMS AND THEIR ADEQUACY

RITES maintains internal control systems and audit systems for enhancement of efficiency in operations and to ensure compliance with applicable laws, rules and regulations. Company has structured policies and guidelines in place for the optimal delegation of authority for facilitation of business including its 'Detailed Finance & Accounts Manual' and 'Guidelines on Construction Project management' which strengthens its internal checks and controls. RITES internal audit is conducted by experienced professionals and external audit firms. The internal control and audit systems which are in place are also reviewed periodically. Corrective and preventive measures, whenever necessary are taken up from time to time for continuous improvement.

Risk Management System

A Risk Management system is there in the company which takes care of areas of risk, identification and ways to mitigate the effect of risks.

Treasury Risk and Liquidity Management

Execution of foreign projects gives rise to currency variation risk. For this purpose, the company regularly monitors exchange fluctuations to mitigate this risk. The company has a sound currency risk management policy in place. Policy covers various aspects of currency risk management, benchmarking, hedging and risk appetite, permissible instruments, structure

of the risk management committee and treasury group, reporting procedures etc.

For control and directions of operations pertaining to currency risk management, the company has a committee and an external consultant. Actions taken are informed to the management periodically.

The company has continued to optimize its surplus funds by adhering to efficient decision process of investing its surplus funds in deposits with banks, mutual funds and corporate bonds within the framework and guidelines of government bodies, Department of Public Enterprises (DPE), Companies Act 2013 and those approved by BOD. There is an investment committee of the Board of Directors, which approves investments and reports to the Board periodically.

The company has been affirmed 'IND A1+', the highest short term rating for its non fund based working capital limits by India Ratings & Research (erstwhile Fitch Ratings). This rating helps the company to get non fund based facilities at more attractive terms.

VI. FINANCIAL PERFORMANCE

RITES has achieved all time highest turnover during the year 2017-18. The company recorded total income of ₹ 1603 crore compared to ₹ 1507 crore in the previous year. Profit after tax for the year 2017-18 is ₹ 337 crore against ₹ 331 crore in the previous year. Continuous satisfactory performance to win confidence of clients and efforts on business development has contributed in closing the year with a record order book of ₹ 4818 Crore, which is also the highest so far. During the financial year, the company has earned an operating turnover of



Inauguration of the new campus of Central University at Kasargod, Kerala (PMC of RITES) by Hon'ble Vice President of India, Shri M. Venkaiah Naidu

₹ 1439 crore as against ₹ 1299 crore of previous year with addition of ₹ 140 crore. The net-worth has also grown from ₹ 2035 crore to ₹ 2192 crore. During the year the company has spent ₹ 9.90 crore as against ₹ 9.20 crore in the previous year towards corporate social responsibilities.

VII. SEGMENT-WISE PERFORMANCE

During the year, consultancy services including quality assurance services contributed 67% of the total operating income, export sales contributed 16 %, leasing income contributed 7 % and balance 10 % was contributed by turnkey construction projects. A segment-wise comparison is given below:

(₹ in crore)

Particulars	2016-17		2017-18	
	Operating Income	%	Operating Income	%
Consultancy Services				
- Domestic	770	59.28	906	62.96
- Abroad	28	2.15	62	4.31
Turnkey Construction Projects	31	2.39	147	10.22
Export	377	29.02	232	16.12
Leasing (Domestic & Abroad)	93	7.16	92	6.39
Total	1299	100	1439	100

OPERATIONAL PERFORMANCE

VIII. BUSINESS OUTLOOK

Diversified sector portfolio of RITES in consultancy services in the transport infrastructure sector uniquely positions it to expand operations in the sectors in which company already has significant

presence and also empowers it to access sectors with growth potential according to changing macroeconomic trends.

RITES comprehensive range of services help its clients, to achieve their business objectives and enables it to obtain additional business from existing clients as well as address a larger base of potential new clients in the areas of building world class infrastructure. Further, RITES competence in providing a comprehensive range of services has resulted in developing long-term relationships with a large number of clients in India as well as abroad.

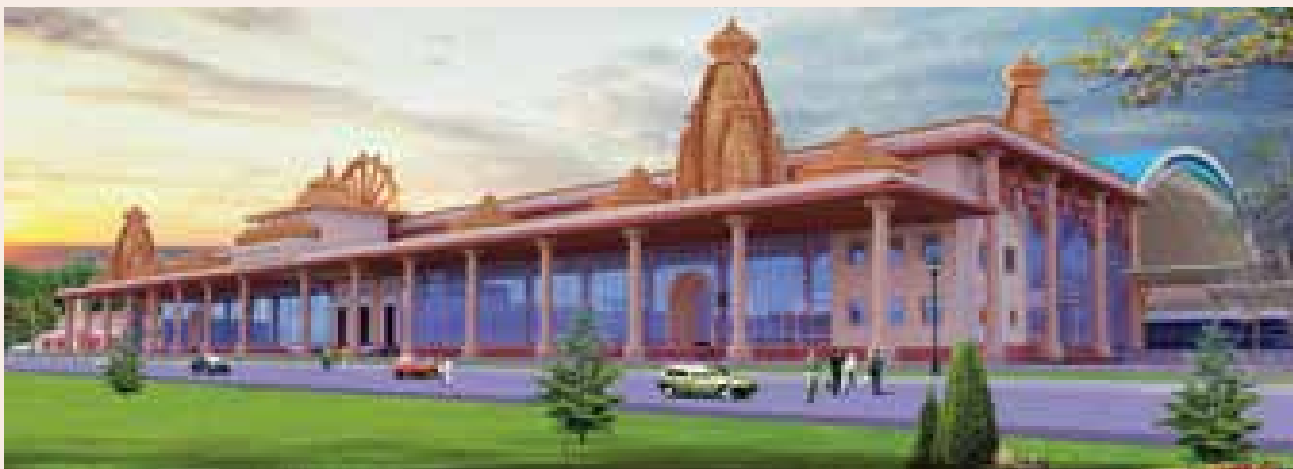
Railways' Capex for the year 2018-19 has been pegged at ₹ 1.48 trillion. A large part of proposed capex is towards capacity creation - 18000 kilometers of doubling, third and fourth line works and 5000 kilometers of gauge conversion. Railways, in order to reduce its energy bill, is moving towards optimal electrification of rail network. RITES may have business opportunities arising on implementation of these projects.

RITES, is also currently evaluating the opportunity to diversify its services into station development by acquiring a 25 per cent stake in Indian Railway Stations Development Corporation (IRSDC), which has a more than ₹ 1 trillion uplift plan for 600 stations. RITES is also playing an active role in achieving the Indian Railways ambitious export target of ₹ 4,000 crore during 2017-2020.

RITES continued to leverage its strengths in core infrastructure sectors i.e. transport and urban infrastructure, while simultaneously diversifying into a wider range of services viz. turnkey works of construction & upgrading / modernization of railway workshops and wet leasing of locomotives in domestic markets. RITES continued to attract



Honorable Minister for State for Railways unveiled the foundation stone at Ayodhya Railway station in a public meeting.



Redevelopment of Ayodhya Railway station

sizeable business both from the Indian Railways (IR) and the Non-IR clients.

Asian and African regions, are the key overseas markets of RITES, and are also likely to witness significant investments in the infrastructure sector in coming period. Given the growth of economies in Asia, rise in wealth and urbanization, significant investment in public transport infrastructure to relieve congestion in urban areas is expected.

OVERSEAS BUSINESS

Over the years, RITES has expanded its service offerings to address new market opportunities and macroeconomic trends arising in the infrastructure sectors. RITES expands its international operations by developing and offering/exporting various types of locomotives, rolling stock, railway equipment, spares etc.

In exports, RITES received the largest export order from Sri Lanka for supply of 6 DMUs & 10 Diesel Electric Locomotives while export of 18 MG locomotives to Myanmar was completed and locos

were successfully commissioned.

RITES has been appointed by the Government of Mauritius as a consultant for implementing light rail project in Mauritius and also to prepare a detailed project report on Trident port project.

RITES also undertook feasibility study for a new standard gauge railway line in Ghana and Project Management Consultancy for East Bank - East Coast road linkage project in Guyana (South America).



Administration Building at Integrated Check Post, Birgunj, Nepal

DOMESTIC BUSINESS

On domestic front, RITES is committed to development of transport and urban infrastructure and provide consultancy services to various clients from Ministries/Departments of Central Government, State Government and Private Corporate Houses etc.

RITES offerings in transport infrastructure consultancy and engineering services consist of conducting techno-economic feasibility studies and preparation of detailed project reports, design engineering activities, procurement assistance, project management activities, quality assurance, inspection, training, construction supervision, materials system management, transaction advisory and commissioning support including operation and maintenance.

RITES is executing projects on turnkey construction basis for Indian Railways e.g. construction of doubling of track between Gooty and Dharmavaram section, Annapur-Pendra Road third line, railway electrification of Sawaimadhopur-Jaipur-Ringas, Railway electrification of Vijaypur-Maksi section. Considering the extent of new investments in electrification and railway infrastructure, RITES expect to secure more such work.

During the year, work on Two High Speed Railway projects was carried out. First being feasibility study for Mumbai-Chennai route (1300km), which is part of proposed Diamond Quadrilateral network of HSR Corridors. Second project is Final Location Survey

and GT Investigations for Mumbai-Ahmedabad High Speed Railway Line for NHSRCL.

In transport planning field, RITES is associated with "Techno-Economic Feasibility Study for Development of Integrated Multimodal Logistic Hub (IMLH) at Nangal Chaudhary, "Audit of train operations of Allahabad Division of N.C. Railway", DPR for Bangalore suburban rail project. IR has also awarded project on preparation of National Railway Plan. RITES through its state-of-the-art machinery, equipment's and valuable softwares provides total consultancy for complete Geotechnical/ Geological/ Geophysical investigations.

RITES continued to undertake PMC work for Railway Electrification & S&T system of various clients e.g. NTPC, SCCL, SECL, MUNCL & RINL apart from main line electrification of IR.

RITES has successfully carried out corridor optimization project at very high altitude (5,370m) in Bilaspur-Manali-Leh sector.

RITES continued to adapt itself to new technologies by participating in technologically complex projects through Joint ventures, for example, RITES is carrying out the PMC for Western DFC by participating as a member of consortium led by Japanese firms.

In civil design area, consultancy services for several prestigious projects of national importance pertaining to tunnel and river engineering such as Jiribam-Tupul section in Manipur, river bridges across the rivers Gowthami, Vyantheya and Vasishtha were undertaken by RITES.



Aerial LiDAR data collection for High Speed Rail (Mumbai-Ahmedabad)



Engineering the design and construction of Six Lane Cable Stayed Bridge along with Approaches near Santra Market, Nagpur

In metro rail sector, RITES key engagements and achievements during the year were, providing General engineering consultancy services for the Nagpur, Pune, Ahmedabad, Delhi Metro Projects; and provided consultancy services for Preparation of Pre-feasibility reports for the Metro Projects in Kochi, Kanpur, Agra, Meerut, Varanasi, Thane, Gurugram, Gorakhpur and Chennai.

In quality assurance, over the years RITES has been making steady progress and there has been an upward trend in revenue from the division. There has been significant digital application in Quality Assurance works like integration with Indian Railway's procurement and material management portals, system generated inspection certificates and digitization of invoicing of RITES fees.

RITES also operates and maintains railway system of domestic clients from the sectors of power, steel, cement, coal and port. RITES provides locomotives to the clients on lease basis. Presently, 45 locomotives have been leased to domestic non railway customers. Demand of shunting locomotives on lease by non-railway customers is growing day by day.

During the year, RITES airports business continued to maintain its momentum in growth by securing several esteemed projects and by acquiring projects of new clients, notably the consultancy project for

international airports at Bangalore and Hyderabad for Airports Economic and Regulatory Authority of India (AERA). RITES has successfully completed and handed over the Integrated Check Posts (ICPs) at Birgunj and Jogbani at Indo-Nepal Border and Petrapole at Bangladesh Border in West Bengal.

RITES also continued to provide consultancy services for projects in areas such as highways/ road transport/bridge survey; ports and water resources; passenger/ material ropeways as also for funicular railway projects; project management and design consultancy for development/expansion/ Upgradation of apex educational/institutional buildings; procurement for various government departments for international/national government funded projects; information technology services for software development, implementation support, etc.; financial/transaction advisory for various PPP projects, project appraisal for investment projects;

During the year, SAIL RITES joint venture on 50:50 basis (SRBWIPL) has shown significant improvement in its second year of operation. It has successfully completed the first order of rehabilitation of 400 wagons within the delivery period, duly adhering to cycle time & quality standards. In all, it completed manufacture of 303 new wagons and rehabilitation of 441 wagons. The JV has crossed the learning curve and is poised to take a quantum jump in physical/ financial performance in the year 2018-2019.



Trial Run for western dedicated freight corridor at Ateli-Phulera section

Customer Loyalty is evident at RITES as it secured several new projects from its existing clientele such as two new Independent Engineer works from Paradip Port Trust, Consultancy for several works in Bharatmala Pariyojana scheme from NHAI, construction & supervision management works for Khargone Thermal power plant from NTPC etc.

RITES has expanded its operations in emerging sectors and are currently undertaking projects in renewable energy, power procurement, railway electrification and modernization works as well as turnkey projects in up gradation and modernization of railway workshops through its subsidiary Railway Energy Management Company Limited (REMCL). REMCL, Joint Venture Company of RITES and Indian Railways has successfully implemented open access supply for Railways in 10 States, covering 55% of energy requirement resulting in the annual saving of over ₹ 2,000 crore to Indian Railways.

REVIEW OF BUSINESS UNITS/DIVISIONS

Major projects secured and executed during the year in foreign and domestic segments by various business units are covered below:

RAIL INFRASTRUCTURE DIVISION

Railway infrastructure division provides consultancy in transportation & economics, electrical engineering, signal & telecommunications, Project Management

consultancy for Dedicated Freight Corridor, track & survey, geo-technology, civil engineering design through conceptualization, design and project management of rail based transportation system. This division operates through a number of Strategic Business Units (SBU) at Corporate Office.

TRANSPORT & ECONOMICS UNIT

The unit provides services to carry out studies for integrated transportation systems, logistics management, inter-modal planning and containerized multimodal transport for all modes of transportation viz. Railways, Highways, Ports & Waterways etc. The unit has undertaken projects both in India and abroad for various government / multilateral funding agencies and other organizations.

Unit is presently carrying out "Techno-Economic Feasibility Study for Development of Integrated Multimodal Logistic Hub (IMLH) at Nangal Chaudhary in Haryana" by Delhi Mumbai Industrial Corridor Development Corporation, "Audit of train operations of Allahabad Division of N.C. Railway" by the Ministry of Railways, "Development of rail infrastructure facilities for handling 22 MTPA of traffic at JSW integrated steel plant at Vijaynagar" by JSW Steel Ltd., "Techno-Economic pre-feasibility study for improvement of Rail connectivity to Gopalpur Port (Odisha) and "Pre-Feasibility Study for steel freight corridor by Mecon Ltd.



Rail Infrastructure development work in Central Coal Field Limited Piparwar

During the year, the unit successfully completed the projects pertaining to detailed project report for Bangalore suburban rail project, Feasibility Study & DPR of Railway siding for 2x660 MW Chhabra Thermal Power Project, Distt. Baran and Feasibility Study & DPR of Railway siding at Suratgarh. The unit has been awarded various other important projects like "Consultancy services for Techno-Economic Feasibility Study for High Speed Rail Connectivity from Yesvantpur to Kempegowda International Airport, Bengaluru by Directorate of Urban Land Transport (DULT), Govt. of Karnataka, Consultancy Services for carrying out the work related to connectivity of coal transportation corridor for Odisha UMPP with Indian Railway System and other works related to coal transportation corridor by PFC Consultancy Ltd.

ELECTRICAL ENGINEERING UNIT

This unit provides Project Management Consultancy services, Quality Assurance and Surveillance Inspections in the field of Railway Electrification, Electric Substations, Building Electrification, Air Conditioning, Illumination systems, Installation of lifts; standby Power supply arrangement / DG sets, Rural Electrification etc.

Presently Electrical Engineering-SBU is executing PMC work of Railway Electrification of sidings for various clients e.g. TISCO, SAIL, NTPC, SCCL, BCCL, SECL, MUNCL & RINL. Electrical SBU in the current financial year shall carry out work of Railway Electrification of sidings at Nabinagar, Meza Road, Lara, Singreni, Kusmunda, Patherdih, and Main line electrification on SECR and SCR which shall be more 800Tkm, simultaneously this shall be the largest Railway Electrification work undertaken by the Electrical SBU so far.

Unit is presently doing Railway Electrification work of around 1200 Tkm. During the year, unit



Work in progress in SAIL Rourkela Steel Plant Railway Siding

has provided consultancy services to: DFCCIL for carrying PETS Survey for future corridors: North-South Corridor (Delhi-Chennai), East-West Corridor (Kolkata-Mumbai), East Corridor (Kharagpur-Vijaywada), Southern Corridor (Chennai-Goa) MRVC, Mumbai for Overhead Equipment (OHE), Detailed Design Engineering for MUTP phase-II works on Western & Central Railways Project Management Consultancy Services to SAIL, RINL, TISCO and NTPC for electrification of Rail Sidings. Grid connected rooftop solar energy work is being undertaken for Assam Rifles.

SIGNALLING & TELECOMMUNICATIONS UNIT

This unit provides Consultancy and Construction Management Services for Railways, Power Plants, Cement Plants, Steel Plants, Refineries, Port Trust, Coal Sectors etc. The scope of work range from concept to commissioning of the modern Signal & Telecommunication projects including post commissioning operation and maintenance

services. The service spectrum includes Planning, preparation of feasibility report, Detailed Project Report, Detailed Engineering, Project Management & Construction Supervision in the domain of Modern Railway Signalling System, Security Surveillance & Access Control Systems, Intelligent Highway Traffic Management Systems, Optical Fibre Communication Networks, Digital Radio Communication, Satellite Communication based networks. SCADA, Mobile Radio Communication etc.

During the year, the unit has completed PMC works of Tippler Yard at NTPC, Simhadri and two In-yards at MPPGCL, Khandwa. Project management consultancy works under execution include provision of Signalling & Telecommunication system in in-plant yards at NTPC (Mauda & Khargone), Tata Steel (Kalinganagar), Steel Plant (Rourkela & Koradi), CCL (Piparwar), RINL (Visakhapatnam), SECL (Junadih & Kumdanda), MUNPL (Meja) and SCCL (Singareni). This unit has also taken up signalling & telecommunication part of works of various railway projects for Third Line and Doubling works between Anuppur-Pendra Road Section & Gooty-Dharamavaram Section of SEC Railway undertaken by RITES respectively, including on EPC basis.

Works recently secured by this unit include PMC work for implementation of EACS system at ONGC, Annual Operation & Maintenance work at MPPGCL, Khandwa and PMC work for In-Plant yard at SECL, Junadih.

TRACK & SURVEY UNIT

Over the period of time this unit has gained vast experience on planning -Feasibility study, Preliminary Engineering-cum-Traffic Studies, Final Location Surveys, Detailed Project Reports and Detailed Engineering-of Railway infrastructure projects using latest state-of-the-art surveying and optimization technologies.

During the year, work on Two High Speed Railway projects was carried out. First being feasibility study for Mumbai-Chennai route (1300km), which is part of proposed Diamond Quadrilateral network of HSR Corridors, is nearing completion. Second project is Final Location Survey and GT Investigations for Mumbai-Ahmedabad High Speed Railway Line for NHRCL. In order to expedite field work for topographic data collection Airborne LiDAR surveying technology was used to facilitate the survey of the 508km corridor.



Validation of ground features for Bilaspur-Manali-Leh Broad Gauge Railway Line, at Debring

First phase (Corridor Optimization) of strategically important proposed Bilaspur-Manali-Leh Broad Gauge Railway Line, passing through huge hillocks and deep gorges of young Himalayas which encounters adverse climatic conditions for half of the year, was completed during the year. This 500 km long line will cross the Himalayan range at a height of 5,370m to cross Taglangla Pass, which is one of the highest point for a railway in the history of the world. This is a unique project due to poor geology, large number of tunnels and deep viaducts, land slide and avalanche prone terrain, under severe, sub-zero weather conditions.

Detailed Design Consultancy project for a standard gauge railway line has also been taken up for Afcons between Tema and Akosombo, in Ghana. Scope includes planning and design of alignment, yards, admin building, station buildings and circulating area on topographic maps developed using LiDAR Data collected through Drone; General Arrangement Drawings for bridges, culverts, ROBs, RUBs and cross drainage works; Detailed design of all structures; Planning and design of loco and wagon maintenance facilities; Planning and design of transport interchange terminals.

GEO TECHNOLOGY UNIT

The Unit imparts Consultancy services in Engineering Geology, Soil/Rock Mechanics, Foundation Engineering, Geophysical Survey, Ground Water and allied fields including diamond core drilling of exploratory bore holes, in-situ and laboratory tests etc. GT SBU has already carried out Geo-technical investigations for a number of prestigious projects in the country and has attained the singular status of being the only organization that provides total



Drilling work for inclined borehole in progress for the proposed tunnel of Pendlimarri-Rayachoti section (Phase-II)

consultancy for complete Geotechnical/Geological/Geophysical investigations.

The unit is also well equipped with latest state-of-the-art machinery, exploratory drilling equipment (capable of drilling through all type of geological formation up to a depth of 400 m. below natural ground level) and related software.

The Unit has completed GT investigation for the proposed two tunnels of Pendlimarri-Rayachoti section (Phase-II) for Kadapa-Bangalore new BG line of SC Rly. Geotechnical Investigation for DPR study for proposed Metro rail link project at Thane & works for Nagpur metro, Gurugram metro are in progress and GT investigations for the prestigious project of proposed dedicated freight eastern corridor for detailed design of 9 ROBs in between Mugalsarai & Sone Nagar section.

During the year the Unit secured a contract pertaining to 9 ROBs from Khurja to Bhaupur section by Eastern DFCCIL is in progress.

DEDICATED FREIGHT CORRIDOR - SPECIAL PROJECT UNIT

This Unit is providing Project Management Consultancy Services for the Construction of Double Line Electrified Railway track with Signalling and Telecommunication System and related infrastructure for Western Dedicated Freight Corridor (1477 KM) from Dadri to JNPT Mumbai as a member of consortiums led by Japanese companies.

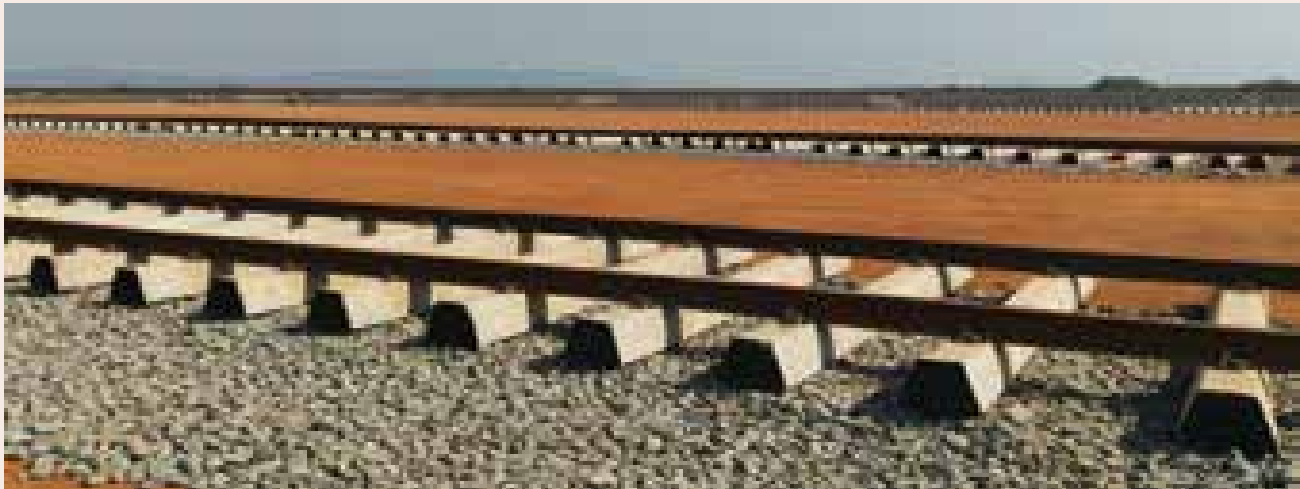
CIVIL ENGINEERING DESIGN UNIT

Unit provides engineering design services involving planning, design, bidding documents and designer support for Railway Bridges, Rail cum Road Bridges, Road Over/Under Bridges, Approach structures like Rail/Road viaducts, Suspension bridges, Cable Stayed & Extra Dose Bridges on various modes of operation including PPP, EPC etc. It also provides detailed design and construction supervision services for Rail/road tunnels. The services also include river engineering studies and design of river training works involving hydraulic model study.

Design and designer's association services during construction are being provided for "Rail cum Road Bridge over river Brahmaputra at Bogibeel near Dibrugarh, Assam" for NF Rly. This state of art bridge 4.94 Km long (1x33.4 m + 39x125 m + 33.4 m), declared as National Project, comprises of 125 m long fully welded composite steel truss spans being launched by innovative push launching technique. The bridge is at advance stage of completion.



New Jubilee Bridge, Kolkata



Permanent way work-NTPC, LARA

Rail / Road Bridges comprising of PSC, specialized steel, steel-concrete composite with single/continuous spans catering to forces due to LWR / CWR have been planned, designed & detailed to Euro norms for USBRL project in fragile and highly seismically sensitive Himalayan Region in J&K.

Recently undertaken projects by the Unit includes "Consultancy services for "GADs development for bridges on Mumbai-Ahmadabad High Speed Railway Line for JIC Consortium", "Detailed engineering including designer's support during construction of 35 ROB's on GZB-MGS section of Eastern Dedicated Freight Corridor for DFCCIL" and "Design/Drawing & Proof Checking of major bridges, Feasibility Study for rehabilitation of existing arch/slab bridges along with GAD for construction /extension of bridges for doubling of track for EC Rly.

Prestigious project of National Importance pertaining to Tunnel and River Engineering "Consultancy services for Jiribam - Tupul section of new railway line project in Manipur for NF Railway includes tunnel works such as "Detailed design consultancy and construction supervision for tunnels T-10 (3.3km), T-11(0.8km), T-11B(0.4km), T-11C(0.5km) and Tunnel T- 6K (0.60km) on" is in progress. DPR for construction of 3 important river bridges across rivers Gowthami (3.5 km long), Vyantheya (1.55 km long) and Vasishtha (1.3 km long) on proposed railway line from Kotipalli to Narsapur in Andhra Pradesh for SC Railway" and "Detailed Engineering for viaducts at 4 important locations for Maharashtra Metro Rail Corporation" are also under progress.

Another project: "River morphological analysis and

design of river training and bank protection works for UDRP for Govt. for Uttarakhand', "Instrumentation, monitoring and design of remedial works as per requirement for vulnerable locations for two monsoon seasons in Lumding -Silchar BG Rail Line for NF Railway" and "DPR for two tunnels on Kadappa- Rayachoti Section (Phase-II) for South Central Railway etc. are also under execution.

Recently completed Tunnel consultancy project by the Unit includes "Detailed engineering for 1.5km long Marugutti Tunnel on Bidar-Gulbarga New BG Line Project for SC Railway"; "Proof checking services for 8 ROB's on Hyderabad Metro for L&T Hyderabad Metro", "Hanging bridge (suspension type) near Rajrappa Mandir across river Bhairavi in Ramgarh District for Jharkhand Government, "New road rail link between Sagar Island and Kakdwip in West Bengal through an over bridge for NHIDCL" etc.

REGIONAL PROJECT OFFICES (RPOs)

North

This Regional Project Office provides consultancy services mainly in Haryana, Punjab, Rajasthan and other northern states of India. It provides consultancy services for preparation of detailed project reports (DPR), detailed engineering & project management services including planning and design for projects of flyovers, roads, railway sidings, inland containers depots, buildings etc. One important Railway project of construction of 3rd railway line in South East Central Railway has also been assigned to this SBU.

This unit has expertise, resources and technical competence to undertake projects from conceptual

stage to its completion & commissioning which includes preparation of DPR, Estimates, tendering, execution, budgetary management and quality assurance etc.

Major ongoing projects of this unit consists of construction of "Third line of Pendra Road - Anuppur section (50.10 km) of Bilaspur Division of South East Central Railway", Railway sidings to thermal power plants at Tanda for NTPC, Ghatampur for NUPPL & Khurja for THDC, RTRS Track Alignment and Maintenance at TBRL Ramgarh range Chandigarh etc.

Lucknow

This Regional Project Office is having projects in Uttar Pradesh, Madhya Pradesh and Bihar. The unit provides services from concept to commissioning viz, feasibility and detailed study, design & drawing and project management consultancy for projects in the field of rail infrastructure.

The RPO is involved in augmentation of rail infrastructure in almost all the NTPC Power Plants in Uttar Pradesh & Vindhyanagar, Rail connectivity for Nabinagar and Meja Thermal Power plant and feasibility studies & detailed project reports for various power plants of UPRVUNL/NTPC including a major project of Jawaharpur plant costing around ₹ 600 crore with a total RITES fee of around ₹ 70 crore. RPO is also providing their services for the connectivity of almost all the mines of Northern Coalfields Limited to Indian Railway.

Nagpur

This RPO covers Maharashtra, a part of Chhattisgarh and Madhya Pradesh and has executed major Project Management Consultancy assignments in the area of construction of Railway siding for MSRDC Nagpur, NTPC Mouda, CSPGCL Marwa and MSPGCL Chandrapur/ Koradi, SAIL Bhillai, SECR Bilaspur, CONCOR at Mihan Nagpur, PWD, WRD, CONCOR Naya Raipur and NTPC Inplant, Khargone.

Unit was awarded a major project by NTPC at Khargone in MP in the name of "Khargone Thermal Power Plant Project". Length of railway siding is approximately 37 Km. The value of the project ₹ 797.76 crore. The major ongoing project which is on completion stage is MSRDC's six lane cable stayed bridge. Another major project commissioned is CONCOR MIHAN and further additional work at same location has been awarded by CONCOR.

RPO SOUTH

This Unit covers southern part of India viz. Tamil Nadu, Karnataka, Andhra Pradesh, Telangana and Kerala and provides rail infrastructure related consultancy services, maintenance and project management services for building works.

During the year, this Unit developed 30000 sq. m. built up area in 28 acres for CDFD (Centre for DNA, Finger printing & Diagnostics) which include Admin building, Lab, Animal House, Internal Roads, Hostels, Residential blocks etc.



Flyover construction at Benz Circle on Vijaywada-Machilipatnam Section of NH-9 in Andhra Pradesh



Indian Institute of Management Rohtak inaugurated on 25th March, 2018 by Hon'ble Vice President of India



Project Management services- IIM Rohtak

Kolkata

This unit covers eastern part of India viz. West Bengal, Jharkhand, part of Bihar and the North East. It provides consultancy services for development of rail infrastructure of different industries, steel, power and mining sectors belonging to various clients in central/ state government departments and PSUs. This unit has diversified and developed expertise in infrastructure projects like water work projects of civil authorities, namely KMC, KEIP, KMDA.

The unit carried out a very difficult project pertaining to Piparwar Railway Siding of Central Coalfields Limited from Mc. Cluskiganj station of East Central Railway to Piparwar loading point for a length of 30.5 Km. The alignment passes through deep cutting along the jungles & undulated terrain. The siding is now operational & fully commissioned.

Apart from the conventional Railway Infrastructure work, SBU undertaken various diversified project like construction of intake jetty, raw water pump house, laying of pipeline under busy road through trench less technology, river front beautification work etc.

Housing directorate Govt. of West Bengal entrusted RITES Ltd to construction of seven nos Super/Multi speciality hospital in different districts of West Bengal under BRGF grand from GOI with a project cost of ₹ 460 crore on Turnkey Basis.

Bhubaneswar

This RPO covers South-Eastern part of India viz. Odisha and also part of Andhra Pradesh. The unit is generally involved in developing Rail Infrastructure for different industries, like Steel, Aluminum, Ports, Power and Mining Sectors and serves major Clients like NALCO, MCL, RINL, SAIL, CONCOR, Visakhapatnam Port Trust (VPT), Paradip Port Trust (PPT) and Tata Steel etc. It has diversified and

developed expertise in execution of transportation infrastructure like Rail and Road infrastructures. It has also got total in-house expertise in preparation of FSR & DPR for Rail Transportation Infrastructure Projects.

Raigarh

This RPO caters to the needs of Chhattisgarh and Odisha region. During the last two years after inception, this RPO has completed DPR works and tendering activities involved in two mega projects (i) Preparation of DPR & Construction Management services for NTPC-Lara, near Raigarh for double line MGR of 67km costing ₹ 1800 crore. (ii) Provide services as owner Engineers for OPGC MGR at Banharpalli for single line MGR of 45km costing ₹ 1100 crore within schedule & construction is in full swing.

BUILDING AND AIRPORT DIVISION

This division has two strategic business units namely construction project management unit, airport unit and architecture and planning unit.

CONSTRUCTION PROJECT MANAGEMENT UNIT

The Unit renders Project Management Consultancy and Third Party Quality Inspection, Assurance & Audit Services to various Clients and has been successfully executing various prestigious Institutional, Commercial and Residential Buildings and Infrastructure projects for Central / State Govt. Organization, PSU's, Universities, Institutions of National Importance, Autonomous Bodies, Private Sector etc. at various locations in India and abroad.

The Unit has expertise, Resources and Technical Competence to undertake Projects from Conceptual stage to its completion & commissioning which includes preparation of Estimates, tendering,



New campus constructed by RITES Ltd for Central University of Kerala at Kasargod, Kerala.

execution, budgetary management, quality assurance etc. Besides Project Management Consultancy services, CP division also carries out Third Party Inspection, Technical Audit, Quality Surveillance of Building Works.

The major works under execution for Project Management consultancy services are yard remodelling work at Varanasi & Ayodhya, establishment of academic complex for Universities such as J.N.U. at Delhi, Delhi University (North & South Campus), Central University at Pondicherry, Central University of south Bihar at Gaya, Central University of Kerala, Central University of Karnataka at Gulbarga, University of Allahabad, NIT Meghalaya Campus at Sohra / Shillong. The unit is also providing Project Management consultancy services for Construction of Marketing Development cum Business park (MDBP) for NSIC at New Delhi, Construction of 1200 seated Auditorium / convention centre at National Agriculture science centre (Indian Council of Agriculture Research) at New Delhi, Construction of Unified Academic Campus of Bose Institute Kolkata, Construction of National Agri Food Bio Technology Institute at Mohali. The unit is also providing Project Management consultancy services for Police stations & residential quarters for Delhi Police, Setting up of School buildings, hostels & other infra Structures of Navodaya Vidyalaya Samiti (NVS) at various locations in India. The unit is also providing construction supervision for multi modal

logistic parks at Kathuwas (Rajasthan) and Pant Nagar (Uttarakhand) in addition to various container depots of CONCOR in India.

Besides, the Unit also provides third party Inspection for Building and Infrastructure works related to Greater NOIDA, GDA, YIEDA, HPDA, USIDC, SAPMB, HUDA, DDA, Delhi Jal Board, Border Fencing and Roads to Ministry of Home Affairs.

AIRPORT UNIT

This unit offers specialized consultancy services in the area of planning, design and construction management of Airports infrastructure and Integrated Check Posts along borders.

During the year 2017-18, Airports Division continued to maintain the growth by securing project management consultancy for prestigious projects for development of airport infrastructure. Airports Division found a new clientele in Airports Economic Regulatory Authority of India (AERA) by securing the important assignments of analysis of capital expenditure for expansion of international airports at Bangalore and Hyderabad. The division also secured consultancy services for expansion/modification of existing Land Customs Station into Integrated Check Post at Sutrakandi, Assam.

During the year, the studies for development of airports at Bhogapuram, Dagadharti, Oravakallu,

Kothagudem, Shimoga, Malda and Balurghat, project management for development of runway at Kanpur were completed successfully. Evaluation of PCN for runway at Balurghat Airport was also completed.

Consultancy services for development of greenfield international airport at Bhiwadi, Project Management consultancy for development of airports at Chitrakoot and Kushinagar in the State of Uttar Pradesh are in progress. Other ongoing assignments also include PMC for development of Integrated Check Posts at Birgunj, Jogbani, Biratnagar along Indo-Nepal border, Dawki along Indo-Bangladesh border and Moreh along Indo-Myanmar border. Detailed Engineering for construction of ICP at Sonauli and Rupediah are also in progress.

TRANSPORT INFRASTRUCTURE DIVISION

This division has two strategic business units namely Port & Water Resource (PWR) & Highways.

PORTS AND WATER RESOURCES UNIT

This unit provides consultancy services for Ports and Harbours, Water Resources Engineering and Inland Water Transport (IWT). Presently, this unit is providing two Independent Engineer services for development of deep draft Iron ore berth and clean cargo berth to Paradip Port Trust. On the basis of the services rendered by this unit to Paradip Port Trust,

they have awarded two more Independent Engineer Services works – development of deep draft coal berth on BOT basis & mechanization of three berths and revision of DPR for capital dredging to this unit. This unit is also handling the prestigious consultancy project of Preparation of Detailed Project Report for Project Trident for Government of Mauritius. Apart from these projects this unit is also preparing the Detailed Project Report for the work of Development of IWT Terminals within AP State in NW-4 along the banks of River Krishna and Navigational studies in River Khawthlangtuipui - Tuichawng in Lunglei District of Mizoram.

HIGHWAYS UNIT

This unit provides comprehensive road transport consultancy as well as project management services covering all aspects of highways viz. expressways, national highways, state highways and rural roads including bridges/viaducts and tunnels in relation to conceptual and detailed design, construction supervision, operation and maintenance, planning/management of networks, improvement/up-gradation, safety audits etc. It is well equipped to carry out a variety of services viz. survey, investigation, traffic studies, feasibility studies and preliminary project reports, detailed project reports, construction supervision, independent engineer, project advisory, external technical



Operational Hill Section of National Highway No. 37 in Assam



Development of Trident Port, Mauritius

audits and authority's engineer etc. The unit is pioneer in conducting safety audit of expressways and highways during design, construction and maintenance stages. The unit has been providing services since mid-eighties in India and abroad namely Afghanistan, Bangladesh, Botswana, Bhutan, Cameroon, Ethiopia, Ghana, Guyana, Malaysia, Mozambique, Myanmar, Nepal, Tanzania, Uganda, United Arab Emirates and Zambia.

During the year, the unit provided overseas consultancy services for pre-contract services and construction supervision of Tshesebe to Masungaroad in Botswana and DPR of East Bank-East Coast road linkage project, Georgetown in Guyana. In India, the unit undertook NHAI funded consultancy services for feasibility study and DPR of selected roads for NH connectivity to Backward, Religious & Tourist (BRT) places under Bharat Mala scheme in West Bengal; project management including feasibility study and DPR of selected roads for up-gradation to 2/4 lane NH configuration under Bharat Mala scheme in Gujarat, West Bengal, Punjab & Haryana; DPR of state roads in Himachal Pradesh; DPR of Mogra-Kampa-Barojaguli Highway in the Hooghly and Nadia districts of West Bengal including a State-of-Art Extra-dosed cable stayed bridge over river Ganga; DPR for construction of traffic dispersal system along Kona Expressway; collection and

analysis of bridges on NHs in Rajasthan and Andhra Pradesh; external technical audit of civil works of Agra- Lucknow expressway; authority's engineer for supervision of four Laning of Vijaywada to Machlipatnam section (NH-9) in Andhra Pradesh and four laning of Baharagora to Singhara section (NH-6) in Odisha; Construction Supervision for two ROBs including Service Road on Bandel - Katwa broad gauge rail line and Khejuria in West Bengal etc.

URBAN INFRASTRUCTURE DIVISION

This Division has five strategic business units namely: Urban Transport, Urban Transport (General Consultancy), Urban Engineering, Regional Project Office, Ahmedabad and Urban Infrastructure, Mumbai. Brief about these strategic business units is given below:

URBAN TRANSPORT UNIT

This unit provides Comprehensive Consultancy services in planning of urban and regional transport studies and development of transport sector master plans, traffic engineering/ management, transport demand modeling, traffic & transportation plans, bus system planning/ operation, planning & design of rail- based mass rapid transit system, Station & Inter-modal Integration Planning, Transit Oriented Development Studies etc.



Independent Quality Monitor Jaipur-Metro

The unit is presently working on DPRs of Rail Based Mass Transit Systems for Gorakhpur, Allahabad, Chennai, Vijayawada, Jammu, Thane, Srinagar, Kolkata, Nagpur & Mumbai. Comprehensive Mobility Plans for Gorakhpur and Varanasi; Public Transport Master Plan for Kolkata; Station and Multi-modal Integration Planning for High Speed Rail (Ahmadabad - Mumbai) Corridor, CSTM-Panvel & Panvel Virar Rail Corridors; Transit Oriented Development Planning for Panvel-Virar Rail Corridor; Standing Consultancy for Patna Metro.

The unit has recently completed DPR for Rail Based Mass Rapid Transit System in the cities of Kanpur, Agra, Meerut, Kochi, Kolkata, Mumbai and Ahmedabad - Dholera, Traffic Demand Estimates for Bhiwadi Airport, Road Safety Audit of Barapullah Elevated Road Ph II.

URBAN TRANSPORT (GENERAL CONSULTANCY)

This unit provides comprehensive consultancy services in all aspects of urban transport: i.e Planning of Integrated Multi-Modal Public Transit Network; Design, Engineering and Project Management of infrastructure; O&M management of Public Transit Systems. The systems include high, medium and light capacity mass rapid rail transit (RRT) and bus rapid transit (BRT) systems. Regional transport

studies are undertaken for optimal use of available infrastructure and phased augmentation of facilities for medium and long term.

This Unit has made major inroads into international Metro Consultancy with the award of assignment for Supervision of Metro Express line at Mauritius. Interim Consultancy for NMRCL in priority section for preparation of GAD & DDC services for redesign of composite girders, Proof Checking for Consultancy for N-S Viaduct Alignment Crossing over Sabarmati Railway Yard for MEGA .

In addition to above, the unit has been involved in following works during the year: General Consultancy for Delhi Metro Phase-III, General Engineering Consultancy of Ahmedabad Metro, General Consultancy for Nagpur Metro Rail Project for NMRCL, Detailed design of Power supply & distribution system, 750 V d.c; Consultancy for Independent Quality Monitoring agency for the work of Metro for NOIDA-Greater Noida Corridor.

URBAN ENGINEERING UNIT

The Environmental Engineering unit has in its core staff highly qualified and experienced personnel having specialization in the fields of Environmental Impact Assessment, Environmental Management Plan, Social Impact Assessment, design of water

supply, sewerage and drainage systems, solid waste management, ecology and biodiversity.

The unit is NABET accredited for EIA study of Airport, Ropeway, Water Resources, Building Construction, Area Development (Township etc), transportation (Highways, Railways, Metro etc) and Solid Waste management.

Ongoing projects of the SBU are EIA and SIA study for Gurugram Metro (Huda City Centre to Rly Station), Interim Consultancy of CSTM-Panvel Railway Line, River Morphology, Thane Metro, Nagpur Metro Phase II, 5 Nos of Ropeways in Bihar.

The projects completed during the year include EIA and SIA Study of Greater Noida Heliport, Jammu Metro, Sri Nagar Metro, Pune Metro, Allahabad Metro, Extension to East West Corridor of Calcutta Metro, Agra Metro, Meerut Metro, Tehri Ropeway and Rohtang Ropeway.

REGIONAL PROJECT OFFICE - AHMEDABAD

This RPO covers Gujarat and neighboring states such as Rajasthan, Madhya Pradesh and parts of Maharashtra for providing services to Central Government departments, PSUs and Private Sector. This RPO deals in sectors of Railway Sidings, PFT's, Building Works and Third Party Inspection of Railway Crossing works (ROBs/RUBs/Box pushing/Pipe pushing) and other Engineering projects. Services provided by RPO Ahmedabad includes Feasibility study, DPR, Project Management consultancy, Design and Estimation of Rail siding works, building works, bridge works etc.

The Unit has recently been awarded a very prestigious project for shifting of Railway infrastructure and utilities in connection with High Speed Rail Project from Ahmedabad to Mumbai by NHRCL on Turnkey basis. Total Project cost is more than ₹ 500 crore. Major utilities includes shifting of CONCOR depot, WR Engineering workshop, Stores Depot, CPOH, Staff quarters and other misc. buildings and structures to new locations. Other major projects are PFT Varnama, MMLP at ICD Khodiyar, RTH Swarupganj, Rajasthan for M/s CONCOR, EACS for ONGC and many projects of Third party inspection works for ROBs/RUBs/Box pushing/Pipe pushing and other non-railway client works in Gujarat region.

URBAN INFRASTRUCTURE - MUMBAI

This unit is executing consultancy projects in and around Mumbai area and is providing project management consultancy services to prestigious client like CONCOR, IPRCL, MRVC, CIDCO, MIDC, MMRDA and BPCL. The unit is also providing detail engineering for line capacity works in Central and Western railway viz. 5th and 6th line of BCT - BVI in Western Railway, 5th and 6th line of CST-KURLA in central Railway, 3rd line between Nagpur-Sewagram and Kalyan-Kasara section of Central railway.

This unit provided PMC services to CONCOR for construction of Multi Modal Logistic Park at Balli, Goa, which has been commissioned during the year. A major work of Subway under busy Suburban Railway tracks was completed under supervision of RITES near Bhayander, in Thane Maharashtra. The unit is also providing project management consultancy services for railway crossing works for construction of metro lines, ROB/RUB, subway to local civic bodies like CIDCO, MMRDA, MBMC and MIDC.

EXPOTECH DIVISION

The division offers integrated export packages for rolling stock including leasing, rehabilitation, maintenance and spare part support. It also renders technical consultancy services for establishment of new and modernization of Workshop, facility planning for rolling stock maintenance, training and technology transfer.

During the year, the division has successfully executed projects of supply of 18 nos. new YDM 4 Meter Gauge Locomotives fitted with microprocessor to Myanmar. These Locomotives



M-10 Class Loco for Sri Lanka Railways

have several modern features built in as prevalent in contemporary Locomotives of other countries.

The project of Locomotives leasing and maintenance of locomotives in Mozambique has successfully completed in August, 2017. These locomotives have provided excellent service to the clients for the last nine years. After completion of locomotives leasing project in Mozambique, RITES has concluded an agreement with CFM/ Mozambique and these in-services Locomotives were sold to them in-situ. RITES has entered into a separate contract and under which it is currently providing expert service for maintenance of these Locomotives to CFM/ Mozambique.

During the year, RITES has successfully provided warranty services for state of art LHB BG passenger coaches supplied to Bangladesh. It also provided warranty services to Locomotives supplied to Senegal.

After successful completion of milestone project of supply of twenty six BG diesel electric locomotives to Bangladesh Railway, warranty for remaining 10 nos. locomotives was completed in June, 2017.

RITES has secured two major contracts from Sri Lanka Railway for supply 10 Broad Gauge diesel electric locomotives and 6 Broad Gauge diesel multiple unit train (DMU) sets. Each diesel multiple unit (DMU) train set is consisting of thirteen passenger carrying coaches. Manufacturing of Diesel electric locomotives and Diesel multiple unit train (DMU) have started at Diesel Locomotive works Varanasi and ICF, Chennai respectively.

QUALITY ASSURANCE DIVISION

The division renders third party inspection and vendor assessment services in India and abroad to various clients in the Government, Public and Private sectors. In India, the laboratory testing services are also provided by the division. This division has regional offices at Delhi, Chennai, Kolkata, Mumbai & Bhilai with 47 sub-regional offices spread over prominent locations across India.

The division is providing third party inspection services at conversion and wet leasing agents to Steel Authority of India Ltd. for inspection of long products, slabs and coils. In addition, the division has been undertaking inspection of machinery & plant, wheels, axles, wheel sets, pistons and piston rings and other components of railway rolling



Inspection of DEMU/DPC Coaches at ICF Chennai

stock in various countries namely USA, Switzerland, China, Denmark, Finland, Germany, Sweden, Italy, Russia, Ukraine etc. on behalf of Indian Railways, Container Corporation of India and a number of wagon manufacturers.

As a part of Digital India Initiative, Mobile application has been developed for getting real time information on inspection status of the assignment and System generated Inspection Certificates are also being issued. E-office is being progressively adopted in the Regional Inspection offices. Further, e-learning modules with online assessment have been developed and implemented in the division for standardizing the training of the Engineers and rationalizing the training period.

RITES has been awarded ISO/IEC 17020:2012 accreditation for various NABCB Scope Sectors including fabricated metal products, railway transport equipments (rolling stock-wagons, coaches, wheels & axles) and pulp, paper & paper products. The laboratories at Eastern & Western regions are accredited to ISO/IEC 17025:2005.

The division has extensive consultancy experience for achieving certification as per QMS (ISO 9001), FSMS (ISO 22000), OHSAS 18001, service quality management system (IS 15700) for various prestigious PSUs/ state government organizations.

RITES, through its experts, is represented in various Standard Formulation Committees of Bureau of Indian Standards as well as holds Board Membership of Quality Council of India (QCI)/ NABCB to enhance its contribution to quality movement at the national level.

TECHNICAL SERVICES DIVISION

This division has three strategic business units namely rolling stock design unit, material system



Frameless Tank Wagon for Indian Railways



BITES is doing M24 schedule of client locomotive at NTPC Sipat

management unit and workshop & ropeway unit.

ROLLING STOCK DESIGN UNIT

This unit specializes in design and development of railway rolling stocks using the state-of-the-art hardware and specialized design software for 3D solid modeling, finite element modeling, static and dynamic structural analysis, non-linear crash analysis and vehicle dynamics simulation. It also markets rolling stock designs and offers technical support to rolling stock manufacturers. It has also diversified to offer expert technical services in setting of the state-of-the-art R&D facilities, test centers and modern coaching/freight car depots on turnkey basis. As part of diversification, bid process management and project management for setting up of Waste to energy plants have also been added to service spectrum.

Some of the major achievements of this unit include design of crashworthy coaches for the Indian Railways (IR); highly successful container flat wagon with speed potential of 100 kmph freight operation; Clinker wagon; BFAT wagon for the MoD; Food grain wagon and Frameless tank wagon for petroleum products.

Some of the major projects in hand include: Design and Development of special van for carrying milk at higher speed, Consultancy study consisting of preparation of technical specification for induction of high speed broad gauge Self Propelled Accident Relief Train (SPART) on IR system, Setting up of Design, Development and testing centre at RWF, Bangalore, Setting up of Waste to energy plants for IR, Fatigue Testing of Metro bogies at BEML.

MATERIALS SYSTEM MANAGEMENT UNIT

The Unit has been providing comprehensive Procurement & Logistics Management Consultancy Services in compliance with the Guidelines & Procedures of International Funding Organisations (IFOs) and GFR of Govt. of India. The Core Competence of the Unit to perform a range of services include: In-depth knowledge of procurement policies & procedures of Government of India, bilateral/multilateral funding agencies, Railways & DGS&D, expertise in various fields of Material Management and use of state-of-art technology and resources to ensure customer satisfaction and best value for money duly adopting ISO based Quality Management Systems. Major Procurement Consultancy contracts include NACO under Ministry of Health and Family Welfare, Government of India and the MPRNL project of the Ministry of Agriculture.

Procurements have been processed by the Unit for National AIDS Control Organisation (NACO), Ministry of Health & Family Welfare (MOHF&W), Government of India and MPRNL Project, Ministry of Agriculture, Govt. of India. The Contract Management of on-going contracts have been undertaken during this year which includes inspection & testing of Drugs/ Equipments, Monitoring of Supplies, Co-ordination with consignees spread all over the country, Processing of Suppliers Bills for payment & legal issues and reconciliation of funds with MOH&FW.

WORKSHOP & ROPEWAY UNIT

The Ropeway unit provides a wide spectrum of consultancy services ranging from techno-economic feasibility studies, detailed project reports and



Funicular railway system at Nashik, Maharashtra

project management services for passenger / material ropeways as also for funicular railway projects. During the year, the Unit provided project management services for passenger ropeways at Namchi, Sikkim; Jammu, J&K; Rajgir & Banka, Bihar; Sholingur & Ayyarmalai, Tamilnadu; Guwahati, Assam; Bhongir, Telengana and Shri Mata Vaishno Devi (SMVD) shrine, J&K besides a material ropeway for Shri Mata Vaishno Devi (SMVD) shrine, J&K. The Ropeways unit also prepared Techno-economic Feasibility Report for passenger ropeway at Pelling, Sikkim and Kudargarh, Chhatisgarh. During the year, funicular railway system was commissioned successfully at Nashik, Maharashtra.

The Workshop unit provides consultancy services for setting up / upgradation of railway / non-railway industrial units including workshops / production units including preparation of techno-economic feasibility reports, detailed project reports and providing project management consultancy services. During the year, the unit provided technical consultancy services for upgradation of facilities at Loco and Wagon workshop, Ajmer, NWR; C&W workshop, Jodhpur, NWR and Lower Parel workshop, WR, Undertaken setting up of Wagon POH facilities at Bikaner workshop, NWR; augmentation of Wagon POH facilities at Kurduwadi workshop, CR; setting up of Wagon POH factory at Dalmianagar, ECR and setting up of facilities for refurbishment of LHB coaches at New Bongaigaon, NFR and completed Phase-1 & Phase-2 of Improvement works at National Rail Museum, Chanakyapuri, New Delhi and at Rewari Steam Centre, Rewari, NR. The unit also successfully undertook renovation, transportation and installation of old steam locomotives for Safari parks at Lucknow & Etawah, U.P.

RAILWAY EQUIPMENT SERVICES UNIT

The division is leading service provider for complete one stop solution in respect of operations and maintenance of Railway siding for non-railway customers in power, steel, mining, cement & port sector. The division has secured new and repeat



Loco leasing to SAIL mines Bolani (Odisha)

work orders from a number of clients in the recent past, some of the prominent being NTPCs, L&T, Visakhapatnam Port Trust, Dhamra Port Trust, Paradip Port Trust, Tata steel, DVC, etc. for loco leasing, operation of their railway systems, maintenance of rolling stock & track etc.

There is growing demand towards of shunting locomotives on wet lease including operation and maintenance from domestic Non-Railway customers. So far 40 locomotives have been leased out in the span last 8 years.

In addition to above, the Unit is also engaged in maintenance of over 120 diesel locomotives & 1200 wagons owned by customers like NTPC, NSPCL, WBPDC, SAIL & APCPL, besides, operating and maintenance of track of some of the clients. RITES is also providing service of conducting higher schedule - M24 of client locos to NTPC Sipat etc.

FINANCIAL SERVICES DIVISION

Privatization and Concessions Unit and Information Technology Unit are covered under this division.

PRIVATISATION AND CONCESSIONS UNIT

This unit provides transaction advisory services for various public private partnership projects in infrastructure sector, project appraisal for the investment project, legal advisory for institutional framework and procurement contracts.

In railway sector, unit continued to provide financial advisory services for development of Bhuj Naliya Vayor rail connectivity project. Unit also provided legal consultancy services during setting up an electric locomotive manufacturing unit at Madhepura (Bihar) and setting up Electric Train Factory at Kancharapara for IR.

Beside the above, unit is currently undertaking assignment for providing of Advisory Services through management consultant for setting up National Rail Transport university. Unit is also undertaking assignment for providing of Strategic Advisory Services through management consultant for Transformation Initiatives of IR. During the year unit also provided advisory services to DFCCIL for its project of Dankuni Gomoh project of 282 km to be developed on PPP format.

Unit continued to provide consultancy services to various clients/ in house for infrastructure sectors



Passenger Ropeway systems - Mata Vaishno Devi

such as ports, urban infra, urban transport, etc.

During the year unit secured an assignment of advisory services for selection of Service Provider to Manufacture, Supply and Maintain Top Loading and Bottom Discharge Wagons for transportation of bulk food grains for FCI.

INFORMATION TECHNOLOGY UNIT

Information technology unit offers consultancy services to Railway, Non-Railway Government and Public Sector organizations in the field of web based technologies, Feasibility study, System Analysis, System Design, Software Development, Implementation support, Identification of Hardware & System Software requirements, user training and software conversion/porting of Computerised Commercial Applications particularly in the areas of Company accounting, payroll, materials management, workshop management etc. the major on-going projects include; centralized apportionment of Indian Railway earnings for passenger from various zones of Indian Railways; development of budget module for preparation of fund management system, Govt. of Tripura; etc. unit also provides annual maintenance support for various application software for clients like Ministry of Railways, IRCON, Govt. of Tripura etc.



Trainees from Sri Lanka Railways at Golden Rock Diesel Loco Shed Ponnmalai

This unit is actively involved in implementation of SAP ERP in the organization to support its business operations, enhance its core capabilities to gain competitive advantage in market. IT unit has its own state of art data centre equipped with high end blade servers, network equipments, modern surveillance system, fire detection, fire suppression etc. in order to secure the data a Disaster Recovery facility for its state of art SAP data centre has been established. The unit also supports the in-house needs of RITES by providing services for hardware procurement, access to internet and corporate e-mail services, etc. E-procurement has been successfully implemented in RITES. RITES is also in the process of migrating to Government e-Procurement System of Nic (GePNIC) under Central Public Procurement Portal (CPPP). Information security management System (ISMS) 27001 has been documented and implemented in few identified activities of the organization.

This unit is empanelled with national e-Governance division to undertake integration of different application with e-Governance system (under Digital India).

HRD AND TRAINING UNIT

RITES being a knowledge based company, puts lot of emphasis on talent acquisition, talent engagement, welfare schemes, learning and development of its human resources. RITES has a mixed bag of experienced professionals and fresh GETs/MTs. Commensurate with the emerging needs of growing business, Intake of experienced professionals on deputation from Railways, other Govt. departments and PSU is also strategic requirement of the company. RITES puts

lot of emphasis on the development and career progression of employees. During the financial year 2017-18, in-house training programmes across levels of employees were organized. Professional programmes, workshops and seminars organized by reputed and prestigious institutes/agencies were carefully identified in line with business needs of RITES and suitable officers were nominated for such programmes. Employees wellness programmes like yoga, meditation and mind control were the other trainings organized during the year.

Transparency in the process and ease of operations is one of the objectives of the HRD function. This year Electronic Performance Management System has been introduced, which enables paperless and transparent on-line process to fill the APARs. The system has been developed with an objective to complete the APAR filing process with quality and defined time limits. This process is already linked to variable payments i.e. Performance Related Pay.

RITES is focused on the improvement of policies and procedures so as to enable its employees for better coordination for their welfare as well as to empower them for more accountability and responsibility to function in their roles. Endorsing the need of digitization of records in the country and to ensure business continuity, RITES has implemented Digitization of Records in the HR wing. Personnel records of employees, policy files etc have been kept in digital format. The internal systems are being revised in accordance with ISO requirements. For keeping healthy employee-employer relationship, online grievance portal system has been developed and timelines for settlement of grievances along with accountability of officers has been fixed.

RITES has adequate and robust schemes in place for welfare of the employees. Subsidized canteen facility, health cover, medical scheme, Post Retirement Medical Scheme, Post Retirement Pension Scheme, periodic health checkups at regular intervals, allowances, provision of company and self-lease for residential accommodation etc are in place for betterment of the staff.

To recognize the outstanding contribution of employees in their working, a "Reward & Recognition" scheme to choose from "Employee of the Quarter" is in place and given to 2-employees for each quarterly period: one in executive & one in non-executive cadre.