

Coal Log India 2021

3rd Dec 2021, The Stadel, Kolkata

Coal Logistic & Supply Chain
International Conference & Expo



Theme : ONE BILLION TONNES - LOGISTICAL CHALLENGES

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Theme "One billion Tonnes - Logistical Challenges"

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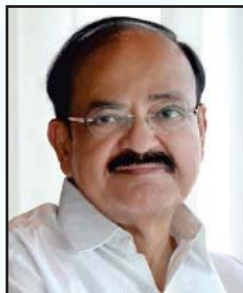
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भारत के उपराष्ट्रपति
VICE-PRESIDENT OF INDIA



Message

I am very happy to learn that the Indian Coal Forum, a think-tank consisting of leading experts on coal, is organizing an international seminar in Kolkata on 3rd December 2021. The theme of this one-day seminar, 'One Billion Tons- Logistical Challenges' is very timely and relevant as India aspires to attain the target of one billion ton coal production annually by the year 2025.

Coal forms the bedrock of our country's energy security and is likely to remain so in the foreseeable future. However, India, despite having huge coal reserves, still imports significant amount of power grade coal. This situation needs to change and we must make all possible efforts to bridge this gap between the demand and supply of domestically produced coal. In addition to increasing production, we also need to focus on strengthening and enhancing the Coal Evacuation Infrastructure within the country.

I am happy that the top professionals in the coal and transport sectors will be attending this Seminar to deliberate upon the issues pertaining to the production and transportation of coal.

I convey my best wishes to all the participants and wish the event all success.


(M. Venkaiah Naidu)

New Delhi
24th November, 2021.

प्रल्हाद जोशी
PRALHAD JOSHI
ಪ್ರಲ್ಹಾದ ಜೋಶಿ



संसदीय कार्य, कोयला एवं खान मंत्री
भारत सरकार
नई दिल्ली
MINISTER OF PARLIAMENTARY AFFAIRS,
COAL AND MINES
GOVERNMENT OF INDIA
NEW DELHI



Message

Coal is the lifeline of India's energy aspirations. It will continue to fuel our industries and drive our economy. Currently, we are producing a little more than 700 million tonnes coal per annum. This needs to be scaled up to a level of 1 billion tonne per annum.

I am happy to learn that Indian Coal Forum, a Think-Tank in the coal sector, is organising an International Seminar, 'Coal Log India-2021'. The theme of this seminar is topical in terms of where the coal sector is headed to in the coming years, 'One Billion Tons –Logistics Challenges'. I urge the industry to work on innovative transport modes and adoption of uncharted transport systems like Long Distance Conveyor System, transport of coal through waterways. This will help us realise the vision of producing 1 billion tonne coal production.

I am sure, professionals from the coal and logistics sector, who are attending this seminar will examine various possibilities in this regard and will come out with valuable recommendations. I wish the seminar a great success.


(PRALHAD JOSHI)

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सचिव

Dr. ANIL KUMAR JAIN, IAS
SECRETARY

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www.coal.gov.in

Message

I compliment Indian Coal Forum on its decision to organize a One Day International Seminar/Expo on the theme – “One Billion Tons logistical Challenges”.

The theme is very relevant in consideration the fact that Coal is and will continue to remain the Prime Energy Source and fuel for Power Generation for at least two more decades and the country will have to produce close to 2 Billion Tons by 2040.

While achieving this production level is a major challenge, a bigger challenge will have to be faced in reaching this coal to the End-Use plants economically and in an environment friendly manner.

Coal being a bulk commodity, Rail is the most logical transport system for it but in our country lot of coal is being moved by road. Unfortunately, this is neither scientific nor economical as much as this system of transport involves burning of high quality fuel-Diesel for transporting low quality fuel like coal.

The challenge before the country is to expand the Rail Connectivity in active coalfields and to lay new Rail lines in the developing and to-be-developed Coalfields. This is important since bulk of the additional coal production will have to be obtained from these Coalfields.

Simultaneously, the country also has to look at alternatives to Railways like the River system and the Sea route. While lot of Coal is being moved by sea route to Southern States, Riverine Transport potential has also to be harnessed. Areas like First-Mile –Connectivity from Pit-Head to Rail-head and again the last-mile-connectivity from the Rail head to the End-Use plants are low hanging fruits which requires immediate attention.

To this end Government of India as well as Coal India Ltd. have taken a path-breaking decision for investing as much as Rs.33 Thousand Crores on improvement of Coal Evacuation Infrastructure. Coal India has also formed Joint Venture Companies with IRCON and State Governments of Chhattisgarh and Odisha for construction of new Rail lines to serve the developing coalfields like Mand-Raigarh and IB Valley Coalfields.

I am sure the participants in the Seminar who will be drawn from among Coal and Transport Professionals will identify areas for improvement in transport infrastructure so that a Billion Tons of Coal to be produced by 2025 can be reached economically and efficiently to End-Use plants.

I wish the Seminar/Expo a great success.

Dated: 10.11.2021


(Dr. Anil Kumar Jain)



आर पी गुप्ता
R P Gupta



सत्यमेव जयते

सचिव
भारत सरकार
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
SECRETARY
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE



Message

I am pleased to note that Indian Coal Forum is organising a one- day International Seminar "Coal Log India-2021 with the theme, "One Billion Tons-Logistical Challenges". India is a developing country with only 1/3rd energy consumption on per capita basis as compared to world average. With the development, our energy needs are bound to increase. Of our conventional energy sources, we are deficient in hydrocarbon based fuels. However, coal which has been the main instrument of industrial revolution is abundantly available. It is also a versatile cheap source of energy.

However, coal along with hydrocarbon based fuels, is also a contributor to air pollution and greenhouse gases leading to global warming and climate change.

India had made great strides in increasing the power generation from renewable energy sources to reduce the carbon foot print to control global warming. India has also a very ambitious programme of enhancing renewable installed capacity to 450 GW by 2030. Renewable, at present, however, have some of the limitations – intermittent, fluctuating and infirm power. The use of renewable energy at a larger scale requires power storage technology which is costly at present.

The cost of renewable and storage technology, fortunately have been coming down rapidly. In spite of it, the ever growing energy need would keep coal based power plants in operation for couple of more decades. Dependency on coal would decrease only gradually and therefore, it becomes necessary and important that all efforts are made to utilize coal as efficiently as possible.

To meet the rising energy needs of the country, production of coal will increase to a level of 1 Billion Tons per annum by the year 2025. Coal transportation of one Billion tons from pit heads to the consumer is bound to have impact on Environment. For reducing this impact to the bare minimum, meticulous planning is needed by the various stakeholders/agencies involved in the logistics of coal supply chain.

I appreciate that the theme of the seminar "One Billion Tons – Logistical Challenges" is very topical and appropriate and I hope that all the stakeholders will put their heads together to work out the Road map for movement of one Billion tons of coal from pit head to the consumer in an economically and Environment friendly manner.

I wish all the success to the Seminar.

[R P Gupta]

New Delhi, the 20th October, 2021

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Office of General Manager
17, Netaji Subhas Road
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22nd November, 2021

Message


I feel extremely happy to learn that Indian Coal Forum, which is a Think-Tank devoted to the cause of Coal Mining in India, is organizing a One-Day International Seminar /Expo on the theme of "One Billion Tons-Logistical Challenges" at Kolkata on 3rd December 2021.

At the outset, I would like to compliment the organizers on selecting Kolkata as the venue of the Seminar. Given the fact that Kolkata happens to be the nerve centre controlling Coal Production, Rail Movement of Coal and Coal Business in general, its selection as the venue makes a very logical choice.

Irrespective of whatever is happening across the globe and in our Country, Coal will continue to remain the dominant Energy Source for us. We have huge Coal Resources primarily of Power Grade, which will last for almost a century and yet we are import-dependent for almost 250 Million Tons per annum. Presently, Government of India have taken historic policy decisions like opening of Coal Sector for Commercial Mining which will help in augmenting Coal Production to make the Country self-sufficient. I also compliment Coal India Ltd. for taking the massive challenge of increasing production to One Billion Tons by 2024-25. But the Country has also to gear itself up for an equally stiff challenge of transporting this Coal economically to the consumer. This calls for a very sustained effort jointly by Railways and Coal India Ltd. which have a long lasting relationship as these two sectors are completely interdependent on each other.

I am confident that the participants in the Seminar who will be drawn from among the top professionals in Coal and Transportation Sectors will exercise due diligence and craft out a road-map which would take Coal Production to One Billion Tons coupled with Railway's capacity for transporting this huge quantity of Coal in an economically, safe and environment-friendly manner.

I wish the Seminar/Expo all success.


(Arun Arora) 22/11/2021
General Manager

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प्रमोद अग्रवाल
अध्यक्ष-सह-प्रबंध निदेशक
Pramod Agrawal
Chairman-Cum-Managing Director



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A Govt. of India Enterprise
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Kolkata-700 156



Message

It is essential to have in place adequate coal evacuation infrastructure to transport increased quantities of coal in future when Coal India Limited would step up its output, commensurate with the demand. It becomes vital that a judicious balance is maintained between production expansion and requisite transport outlets to maintain seamless supply of coal.

Rail is the preferred mode of coal transportation and Coal India is aiming to strengthen its rail evacuation logistics and migrate away from the road movement, to the extent possible, primarily for environmental concerns. Presently rail accounts for 73% of coal movement including MGR, if loading from goods-sheds and washeries is also factored in then its share jumps even higher to 79%.

The company's rail infrastructure projects include laying railway lines, doubling and tripling the lines where required, constructing rail sidings and coal handling plants at mines with Rapid Loading Systems (RLS) under First Mile Connectivity projects. While these efforts increase the evacuation capacity, alternative evacuation modes also needs to be explored especially waterways where there is potential.

I appreciate the efforts of Indian Coal Forum for their initiative in organizing a topical and aptly contextual one day International Seminar/Expo at Kolkata on 3rd December 2021 on the theme "One Billion Tons Logistical Challenges".

With an august gathering of professionals and experts in the related field I am sure the seminar will identify improvement areas in coal evacuation infrastructure for practical implantation.

My Best Wishes for the success of the seminar.


(Pramod Agrawal)

Kolkata
02.11.2021

Michelle Manook

CEO

World Coal Association

**Message**

As the Chief Executive of the World Coal Association, I wish to convey my very best wishes for an effective, successful and productive Coal Log India 2021 Conference. The Coal Logistics and Supply Chain remains an integral part in ensuring the entire coal value chain works.

The WCA believes the entire coal industry can be a trusted partner through the energy transition and beyond, into a zero emissions future. We, collectively, have an opportunity to lead the transformation of our industry. We have transformed and innovated multiple times over the last 150 years and will continue to do so as we navigate and steer through uncertainty and overcome barriers, together.

The insights from Coal Log India 2021, I believe, can be a valuable addition to our global conversation, one which I hope will be spurred on by the World Coal Association's Evolving Coal strategy, a commitment to Responsible Coal Principles (based on the UN Sustainable Development Goals) for the new generation of like-minded coal players across the value chain to collaborate and create sustainable businesses, both commercially and environmentally.

Good luck for the event.

Michelle Manook

Sabyasachi Hajara

**Former CMD
Shipping Corporation of India**



Message

I am very happy to know that Indian Coal Forum is organizing One-Day International Seminar and Expo entitled One Billion Tons- Logistical Challenges on December 3, 2021. Coal is one of the most important commodities for seaborne transportation and continues to be one of the most important constituents in the energy basket for most of the countries. For India, it's by far the most important energy constituent and will remain so for decades ahead despite the thrust on renewables. Most of the industries today are knowledge based industries and sharing experience and expertise is very important for development of all these industries. I sincerely wish the seminar all the success in achieving this objective and wish all the participants benefit from attending the same.

God bless.

Sabyasachi Hajara

Abrahan Stephanos

President, Bengal Chamber of Commerce and Industry
MD, Tata Steel Downstream Products Ltd.



Message

It gives me great pleasure to know that the Indian Coal Forum is organizing an International Conference and Expo-'COAL LOG INDIA -2021' on 3rd December, 2021. I am happy that the forum has identified "One Billion Tons -Logistical Challenges' as the theme and I congratulate the Forum for this topic during the most appropriate times.

Self-reliance of India or Atma-Nirbhar Bharat is not possible without a strong mining and minerals sector. The Government has repeatedly talked about making India a five trillion dollar economy within the next few years and the Indian Government has categorically recognized the coal sector as a major contributor towards the goal of a \$5-trillion economy.

In the recent weeks, the shortage of coal and the possibility of large-scale power outages have been at the core of intense discussions in India. As of October 6, eighty percent of India's 135 coal-powered plants had less than eight days of supplies left and more than half of those had stocks worth two days or fewer. Excessive rainfall, international price rise, post Covid economic recovery, less production, transportation issues including freight rates and high consumption were cited as the reason for the coal shortage. Commensurate to the captive mines allocated to the end-user industries, the coal production today should have been at least 500 million tonnes per annum (mtpa). In reality, this has never exceeded 60 mtpa. The persistent shortage of coal production by privatised and captive mines force India to import around 200 million tonnes (mt) of coal. These factors also fuel over-expectations from Coal India.

On another note, today India is moving forward on the subject of climate change mitigation proactively. The path to lower emissions is more important than the target itself at this point.

There is a need for translating India's vision in a time bound manner. To address the challenges, the sector would need to have a critical look at the downstream issues, deal with up-stream influences affecting Logistics and Supply Chain problems in Coal Sector, transportation, Future roadmap, safety aspects and increased use of technology.

I am sure deliberations at the International Conference and Expo-'COAL LOG INDIA' will provide important inputs for Policy interventions in the coal sector and also generate more awareness and action points for all the stakeholders.

My best wishes,

Abrahan Stephanos

S.N. Tiwary**Director (Marketing)
Coal India Limited****Message**

I am immensely happy to learn that the Indian Coal Forum, a Think-Tank devoted to the cause of Coal Mining in India is organizing an international Conference and Expo-COAL LOG INDIA -2021 with the theme “One billion Tons-Logistical Challenges” on 3rd December, 2021 at Kolkata and a souvenir is being brought to commemorate this occasion.

The theme of the event is very much apt in the present context and in the perspective of Coal India Limited as the company is planning to produce 1 billion tons in the financial year 2024-25. The logistics for moving from the production point to the consumption point would be quite challenging. While Indian Railways being the most important logistics partner, in order to have a seamless evacuation system for the projected production, an action plan to enhance and strengthen the infrastructure of coal evacuation for existing, ongoing and future projects of subsidiary companies is in place. Rail infrastructure is being built both on 'Deposit Basis' as well as by forming SPVs with Rail PSUs and the concerned State Govt. CIL has also taken steps to upgrade the mechanized coal transportation and loading system under 'First Mile Connectivity' projects.

It is of great significance that apart from Rail Logistics, this august body is going to deliberate upon issues of developing eco-friendly transportation models like Long distance belt conveyor system, Slurry Pipelines and Riverine/Sea Transportation. With the participation of multiple stakeholders like Mining companies, Captive/commercial coal block operators, coal consumers, carriers, Regulators, electricity distribution and generation companies and many more, I am sure that deliberations would be contributing more effectively in order to achieve the ultimate goal. I convey my best wishes for the success of the Conference and publication of the souvenir.

S.N. Tiwary

Partha Sarathi Bhattacharyya

**Former Chairman Coal India Ltd. &
Currently on the Board of Several Companies**



Message

It gives me immense pleasure to know that Indian Coal Forum - a think tank on all aspects of coal from mining to usage, is organizing a one day International Seminar titled "Coal Log India 2021"

The logistics associated with movement of coal, post mining, to the despatch point and thereafter to the consumer through rail or road are challenging. The heterogeneity in the prevailing system from use of old equipment for loading coal into trucks or wagons on one hand to mechanized rapid loading system prevailing in the large opencast mines on the other, impact the rake turnaround time substantially. Optimization of transport resources and faster turnaround time are key requirements to provide energy security to a country aspiring for faster growth.

Experience like mitigating the recent coal shortage at the power plants exhibited the strength of close coordination and collaboration between Coal Companies and the Railways in thwarting a major crisis. The two together stood like an impregnable wall between light and darkness. The key take away from this episode is to extend the climate of collaboration from short term to the long term to empower the eco system deal with any such eventuality any time.

I wish the conference will throw up ideas to achieve such long term collaboration between the coal companies and Railways.

Partha Sarathi Bhattacharyya



Message

I am happy to note that Indian Coal Forum is organizing an International conference and Expo- Coal Log India-2021 with the theme "One Billion Tons-Logistical Challenges" on 3rd December 2021.

This event has been planned to bring together the multiple stake holders, public sectors & private sector mining companies, bulk coal consumers, coal carriers, State mining and mineral development departments, State Electricity Generation and Distribution Companies etc.

To be attended by Experts associated with the Industry, I am sure that there will be exchange of productive ideas, sharing of creative thoughts and opinions.

My best wishes and blessings are with "Coal Log India – 2021" for taking such initiative to organize a dedicated one-day international seminar on the above topic. I wish grand success in your endeavour.

A handwritten signature in blue ink, consisting of a series of loops and a long horizontal stroke at the end.

(Anil Kumar Jha)

Jindal Power Limited

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Registered Office Tamnar - 496 107, District Raigarh, Chhattisgarh



October 7, 2021



Message

Coal is the mainstay of India's energy needs and crucial for meeting India's ever growing energy requirements. It represents a major share of the input energy demand arising from almost all the core industry sectors in India.

Undoubtedly, Indian coal - available in abundance - is the primary contributor to the total power generation in the Country. Responsible production and consumption of coal is intrinsic to India meeting the aspirations and needs of the world's second largest population base. In this context, the arrival of new technology options and growth of energy efficient sectors such as Cement offer a value proposition for effective utilisation of coal. Fundamentally, coal remains relevant and essential for India to raise its per capita energy consumption at par with other countries.

Coal Log India-2021 is timely, touches upon the right set of questions and comprehensively aims to tackle key bottlenecks towards unlocking the full energy potential of the Country. I am glad to see that it brings a focussed group of policy planners, thought leaders, technology experts, solution providers and consumers to deliberate upon the present scenario and future strategy for the sector.

I trust that this Event would provide fresh insights and workable solutions to help the Country address some of the long standing challenges coming between energy security and sustainable economic growth. My best wishes to the Organisers and participants of the Event. We look forward to productive discussions and substantive outcomes at Coal Log India-2021.

Aparna Dutt Sharma
Secretary General
Cement Manufacturers' Association



INDIAN COAL FORUM

(Registered under Societies Registration Act 1860 - Regd No. S/30956 of 1997)

Alok Perti, IAS (Retd)

Chairman

Former Secretary, Ministry of Coal



Message

The Indian Coal Forum since its inception has been working as a Think-tank for Indian Coal Industry and has made significant contribution to the Industry in matters of Technology, Policies and Management.

Indian Coal Industry is today facing the twin challenges of ensuring adequate availability of Coal for meeting the Country's requirement and secondly containing the harmful impact on the environment of the use of Coal in Power Generation.

In the recent past, the Industry has undergone monumental changes - the most important among them being the opening of the sector for commercial mining. This reform is expected to enhance coal availability over the next few years leading to a significant reduction in import of coal, particularly power grade coal. To make this entire effort successful the most important factor is to have a cheap and efficient evacuation system which enables rapid transport of the coal to the user's door steps.

This Conference is designed to attract the attention of policymakers to the imperative necessity of augmenting the infrastructural facility for transportation of Coal. At present bulk of the transportation is being done by the Railways but with increased production the stress on the existing infrastructure will increase demanding additional investments to be made to meet this requirement. Railways will have to increase their penetration in the developing and to-be-developed Coalfields. Innovative systems like Long-Distance Conveyors and Slurry and Riverine Transport Systems would also have to be thought of and effectively utilized for reducing the burden on Railways.

I am confident that the Experts who will be participating in this Conference would put forth suggestions on the basis of which implementable recommendations can be made to the Government. These recommendations would immensely facilitate the Policymakers and Planners to prepare a Road-map for augmenting the Coal Logistics so that the increase in coal production gets translated into increased availability thereof at the Coal Consumption Centers.

I wish the Conference all success.

Alok Perti



INDIAN COAL FORUM

(Registered under Societies Registration Act 1860 - Regd No. S/30956 of 1997)

Dr. M. P. Narayanan

Co-Chairman

Former Chairman, Coal India Ltd



Message

Indian Coal Forum, right since it was launched in 1997, has been working on multi-dimensional improvements in Indian Coal Sector. In the past, it has contributed to adoption of new technologies and to improvement in Production, Productivity and Safety in the Indian Coal Mines.

Rightly now, when the Country is on the cusp of increasing its Coal Production to One Billion Tons a year, It has selected an appropriate theme of “One Billion Tons - Logistical-Challenges” which it has planned to organize at Kolkata on 3rd December 2021. I have remained closely associated with the preparations for the Seminar and have felt very happy to see the progress and also at the list of Speakers who will be gracing the Event.

I am confident that the deliberations at the Seminar will pave the way for drawal of implementable recommendations for improving the Coal-Logistics- particularly Railways and introduction of innovative transport systems like Long-Distance Belt Conveyors and Riverine Transport, so that the success achieved on production front by the Industry can be translated into adequate and timely availability of Coal at the consumers' door-steps.

I wish the Seminar all success and I am confident that its recommendations would receive due attention from the Planners & Policymakers.

Dr. M. P. Narayanan



S.K. Chowdhary

President
(Former Chairman-Coal India Ltd.)

Indian Coal Forum (Regd.)

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20.11.2021



Message

Indian Coal Forum conceptualized and launched in 1997 was designed to work as a Think-tank for identifying ways for bringing about improvements in various aspects of Coal Sector in India covering Technology, Management System, Production, Productivity and Safety, Logistics and various other issues related with Coal.

In the past, it has focussed on Production, Productivity and Safety but now that the country is on the threshold of augmenting coal production to One Billion Tons a year within 2-3 years to reduce its import-dependence for Coal, it has rightly focused on Coal Logistics.

Reason is obvious – increase in production would help the growth of national economy if Coal reaches the Consumers on time and at the lowest cost.

The Subject One-Day International Seminar/Expo with the theme "One Billion Tons - Logistical Challenges" which is being organized by Indian Coal Forum on 3rd December 21 at Kolkata will identify the areas wherein immediate improvement is needed for matching the logistics with production. No doubt, Rail is the optimal system for Coal Transportation and it will continue to remain so but it has to expand its foot-print in the coalfield areas particularly in the Developing and To-Be-Developed coalfields in a big way.

Coal producers will also have to play their role and this will consist in improvement in First-Mile Connectivity from the Pit-heads to the nearest Railway Sidings. It is also necessary to utilize the other possible systems like Long-Distance Conveyors, Slurry Transport and Transport through Rivers, to reduce the burden on Railways.

I am confident that the deliberations at the Seminar will go into these issues, identify the areas where improvement is required and will enable preparation of a Road-map therefor.


(S.K. Chowdhary)



INDIAN COAL FORUM

(Registered under Societies Registration Act 1860 - Regd No. S/30956 of 1997)

U. Kumar

Executive President

Former CMD, South Eastern Coalfields



Message

We, in Indian Coal forum have been striving to achieve the objectives which the Forum set before itself when it was launched in 1997. At every cross-road which the Indian Coal Industry has encountered in its journey, after its nationalization in 1971-73 and formation of Coal India Ltd in 1975 it has given its views, discussed these with appropriate Authorities and also highlighted them through Seminars/Workshops.

This Seminar on Coal Logistics with the theme “One Billion Tons- Logistical Challenges” is one such attempt to address a major challenge which Coal India in India will face in near future. Despite, huge Coal Resources, the Country remains import-dependent for almost 25% of its Coal requirement but thanks to a series of radical steps culminating in opening of the coal sector to commercial mining, it can be reasonably hoped that production issues will be resolved and the industry would achieve a production level of One Billion Tons within 2-3 years.

A related challenge however, has not received adequate attention and that is Coal Logistics. The existing transport infrastructure for coal including Railways is finding it difficult to transport even the existing production level of about 600 million tons from Coal India and about 100 million tons from other Producers. Effective steps have therefore to be planned and taken in time for the production level of One Billion Tons by Coal India alone in next 2-3 years.

This Seminar has been planned to focus attention on this subject. It has been designed to attract best Thinkers, Planners, System Designers, Coal Producers, Coal Consumers and Coal Transporters. The views expressed by the Specialists in different sectors are proposed to be synthesized into Implementable Recommendations which will be submitted to the Policy Makers and Planners with the hope that these receive due attention and these are implemented to ensure that the increased production reaches the consumers' door-steps on time and economically and in Eco-Friendly Manner.

I wish all success to this Event.

U. Kumar



INDIAN COAL FORUM

(Registered under Societies Registration Act 1860 - Regd No. S/30956 of 1997)

N N Gautam

Secretary General

Former Advisor (Projects), MoC



Message

It is very heartening to note that Indian Coal Forum, a National Think Tank, is organizing an International conference and Expo-Coal Log India-2021 with the theme “One Billion Tons-Logistical Challenges” on 3rd December 2021.

There is great Global concern over the world's efforts for not being enough to contain the global warming within the targeted limit. These issues were discussed by the countries of the world at COP 26 where our Honorable Prime Minister Shri Narendra Modi ji announced that India will achieve “Net Zero Carbon Emission” goal by the year 2070. Coal is major contributor to our energy needs and can not be done away with for some decades, not till at least 2050. During this period the coal demand and thus indigenous coal production is bound to increase. By 2024-25 we will be producing one billion tonnes of coal. The event has been planned to focus the stakeholder's attention to plan and make ready the required infrastructure to efficiently move one billion tonne of coal from production source to the consumer.

This event will bring together all the stake holders, both public & private sector mining companies, bulk coal consumers, coal carriers, State mining and mineral development departments, State Electricity Generation and Distribution Companies etc.

There will be exchange of productive ideas, sharing of creative thoughts and opinions, by experts and all the stakeholders in the Coal industry, Coal carriers, Transport equipment manufactures etc which will bring out a road map to be followed by all.

My best wishes for the grand success of “Coal Log India – 2021” a dedicated one-day international seminar on the above topic.

N N Gautam

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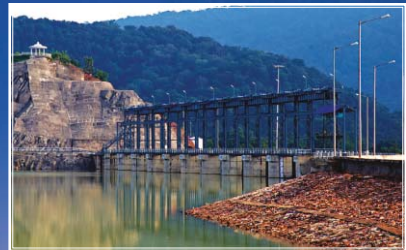
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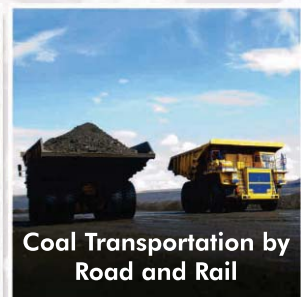
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Coal Log India 2021

Theme : One Billion Tonnes - Logistical Challenges

3rd December, 2021 • Kolkata

Coal in India

Coal is and has been the main stay of India's Energy Super structure in as much as it meets about 55% of Primary Energy needs of the Country and it fuels close to 75% of Power Generation. Apart from Power, Iron and Steel, Ferro Alloys, Aluminium, Cement, Refractories, Textiles and Chemical Industries are among the major users of Coal.

India's dependence on Coal is only logical since Coal is the only Fossil Fuel with which India is richly endowed - the Coal Resource being of the order of 350 billion tons. On the other hand Natural Gas and Petroleum resources are rather small. In matters of Coal however, our resource level of metallurgical coal is rather small and even the quality of whatever is available is not of a very high grade.

This being the situation, the Domestic Coal Industry should be producing enough coal for meeting its total requirement at least of Power Grade Coal. Unfortunately, this is not so and we are import-dependent for close to 250 million tons for Coal per annum – 50 million tons metallurgical and 250 million tons Power Grade.

Government of India have taken several path-breaking steps for improving this situations and the one as per which the Indian Coal Industry has been opened to Commercial mining is the most important. Hopefully, this will clear the path for India becoming self-sufficient in respect of power grade coal.

As a part of this programme, Coal India Ltd., the prime producer of coal has planned increase in production from the current about 600 million tons to 1 billion tons by 2023 which will amount to an increase of close to 400 million tons.

This will also take the country's production level to about 1150 million tons taking other producers into account.

Coal Logistics

Coal being a bulk-commodity, transportation cost is a very major element of the cost that consumer has to pay. Globally and also in India bulk of the Coal is transported by Rail including MGR Systems with Road transport being a distant second. In due course, long-distance Conveyor Systems, Slurry Pipelines Riverine and Sea Transport will also come into the picture.

Now, as it is, movement of Coal from pit-heads to the consumption points at current level of 700 million tons is proving to be difficult. Once, another 450 million tons is added with bulk of the increase of 450 million tons coming from under-developed and developing coalfields, the difficulties would increase and the entire effort and investment made for increasing production will go waste.

It is therefore time that a comprehensive view of the existing coal logistics is taken, weak links of today as well as of future are identified and corrective measures are taken to make the country ready for movement of 1150 million of coal economically, logically and in eco-friendly manner.

It is for this purpose that the One-Day International Seminar on Coal Logistics with the theme “One Billion Tons- Logistical Challenges” has been planned which will deliberate on the task before the Indian Coal Industry to eliminate the import of 200 million tons per annum of Power Grade Coal by increasing production and reaching the coal to the consumer's door-steps, expeditiously, economically and in an eco-friendly manner.

About Event – Coal Log 2021

With the theme “One Billion Tons – Logistical Challenges”, COAL LOG INDIA 2021, aims at addressing the current issues and priorities of the Coal & Mining Logistics and Supply Chain Sector in India. This event will be an exciting amalgam of a high caliber Conference Programme, New age logistics and supply chain solutions on display, recognizing the innovative Products and Services.

The Event has been planned to bring together multiple stakeholders-Mining Companies, Captive/ Commercial Coal Block Operators, Bulk Coal Consumers, Coal Carriers by Road, Sea, Rail etc, State Mining and Mineral Departments, State Electricity Generation and Distribution Companies, Solution providers and Regulators of Coal Industry, we will have close to 25 top -notch speakers who will deliberate not only the down-stream factors but also deal with up-stream influences affecting Logistic and Supply Chain problems in Coal Sector, Government Policies, Railways, Future Plans, Safety and Increased use of Technology.

About Organizers

INDIAN COAL FORUM (ICF)

The event is being organized by INDIAN COAL FORUM which is a non-profit, non-Government Organization structured like a premier Think Tank in the country on issues relating to Coal, which was set-up and registered under Societies Registration Act 1860 in 1997 by a Group of Senior Coal Professionals with the objective of highlighting the every-increasing role of Coal in the growth of National economy as the prime source of Commercial Energy in the country and working towards achievement of long range national objectives in all aspects of planning, development, efficient production and utilization of coal including promotion of Environment-friendly clean coal technologies and mine safety.

Towards achievement of these objectives, the Forum has been inter-acting with the Indian Coal Industry both in Public and Private Sectors and with Coal producers, Coal consumers and Government agencies connected with Coal. It has also been organising Seminars, Conferences, Webinars and Workshops from time to time on topical issues concerning Coal.

Aims & Objectives of the Forum

The principal aims and objectives of ICF are as follows:

- To act as 'National Think Tank' of all aspects of Coal Industry.
- To serve as 'Voice' of Coal at National and International forums on issues related to Indian Coal Industry.

- To make suggestions in framing of India's Coal Policy within legal framework and Coal Development Plans.
- To act as facilitator for the Public and Private Sector Coal Companies, Government of India, State Governments and other Agencies for working together for achieving long range objectives in all aspects of Planning, Development, Safety, Efficient Production and Utilization of Coal including promotion of environmental friendly clean coal technologies.
- To remain in regular touch with The Coal and Associated Industries, Technical and Research Institutes, Management Development and Statutory Organisations and Trade Unions for exchange of ideas, collection and dissemination of information for mutual benefit and for improvement in the curriculum of educational institutions to match the needs of the Coal Industry.
- To collaborate with national bodies like MGMI, TERI, CIMFR, CII, FICCI, ASSOCHAM etc and International bodies like World Coal Institute, UNDP, World Bank, Asian Development Bank, UNIDO, World Energy Council, Professional Bodies with similar objectives in all major Coal producing countries and NRIs to help the Indian Coal Industry.
- To further dedication, fellow- feeling and professionalism amongst all people connected with Coal Industry by promoting ethical vision, to inculcate system development with emphasis on value based approach.

Dilemma

Today, Indian Coal Industry is passing through critical times. On the one hand Coal has been declared as the prime culprit responsible for producing Green House gases leading to Global Warming and on the other dependence of India on Coal is increasing as the Primary Energy Source and the Fuel for more than 75% of Power Generation. The contradiction becomes more glaring when viewed against the background of India's commitment at Paris Conference to cut down the Energy Intensity per unit of GDP by 30-35% over the 2005 level.

At the recently concluded Glasgow Conference on Climate, It was with great difficulty that India could manage to dilute the Resolution for total “phasing out” of Coal by substituting this with “phasing down” of Coal.

But at the same time India has made commitments that :

- a) 55% of its Power will be from Renewables
- b) Renewables Capacity will be increased to 500 GW by 2030
- c) Energy Intensity per unit of GDP will brought down to 45% over 2005 level.
- d) India would achieve Net Zero emission by 2070
- e) India will reduce emission by 1 Billion Tons per year by 2030.

The other side of the picture is that the Country has Resources and a very vibrant Coal Industry qualified technical man-power and is capable of augmenting coal production to make the country self-

sufficient and for as long as one can see - at least till 2050, Coal will continue to be the prime fuel for Power Generation.

We therefore have a dual challenge :

- Greening of coal production and utilization so that Paris and Glasgow commitments can be honoured.
- Establishing Indian Coal Industry as a positive contributor towards growth in Forest Cover in the Country.
- Clearing the name of the Coal Industry as a destroyer of productive land resource
- R&D efforts towards generating Metallurgical Coal from Non-coking Coal.
- Exploitation of CBM resources in the Indian Coal Deposits
- Improving the safety status in Indian Coal Mines simultaneously increasing the Coal Production to make the Country self-sufficient.

The deliberations at the Seminar will focus on ways and means of increasing production and reaching the Coal to the Consumers expeditiously and economically with Environment and Sustainability being factored in all activities relating there to.

BUSINESS MEDIA LINKS (BML)

BML is a growth-driven Company (part of Indus Exposium Group) which conceptualizes and organize Conferences, Meetings and Exhibitions. BML offers the highest level of Services with the Core Team of Company having over 2 decades of experience working on these activities with 100 + Trade Shows across the world.

PROGRAMME

8.30 - 9.30 hrs	: Registration
<i>Compere & Coordinator</i>	: Shri N N Gautam , Secy General - ICF & Former Advisor (Projects), Ministry of Coal
9.30 - 11.00 hrs	: Inaugural Session
<i>Welcome Speech</i>	: Shri Alok Perti , Chairman - ICF & Former Secretary (Coal)
<i>Introduction of Theme</i>	: Shri S N Tiwary , Director (Marketing), Coal India Ltd.
<i>Remarks</i>	: Dr. M P Narayanan , Co-Chairman - ICF & Former Chairman, Coal India Ltd.
<i>Guest of Honour</i>	: Mr. Abraham Stephanos , President, Bengal Chamber of Commerce & Industry & MD, Tata Steel Downstream Products Ltd.
<i>Chief Guest</i>	: Shri Arun Arora , General Manager, Eastern Railways
<i>Vote of Thanks</i>	: Shri U. Kumar , Executive President - ICF
11.00 - 11.30 hrs	: Tea Break
11.30 -13.30 hrs	: Technical Session - 1 <i>Theme: Policy Framework</i>
<i>Coordinator</i>	: Shri M N Jha , Treasurer- ICF & Former CMD, SECL & CMPDI
<i>Chairman</i>	: Shri P K Sinha , CMD, MCL & NCL
<i>Co-Chairman</i>	: Shri Subir Das , Former Director, NLC India
<i>Speakers</i>	<ul style="list-style-type: none"> • Shri S S Gehlot, Former Addl. Member (Marketing & BD), Railway Board • Shri Binay Dayal, Director (T), Coal India Ltd. • Shri Peeyush Kumar, Chief Manager, Ministry of Coal, Govt. of India • Shri V K Arora, Chief Mentor, KCT Group
	<i>Q & A</i>
13.30 - 14.30 hrs	: Networking Lunch

14.30 -16.30 hrs	: Technical Session - 2 <i>Theme : Opportunities & Implementation</i>
<i>Coordinator</i>	: Shri P R Mandal , GC Member - ICF & Former Advisor, Ministry of Coal
<i>Chairman</i>	: Shri P S Mishra , CMD, ECL
<i>Co- Chairman</i>	: Shri Arun Kumar Shukla , CMD, Hindustan Copper Ltd.
<i>Speakers</i>	<ul style="list-style-type: none"> • Shri S Samanta, MD, S. K. Samanta & Co. • Shri Ghanshyam Singh, President- Logistics, JSPL • Shri Sabyasachi Hajara, Former Chairman, Shipping Corporation of India • Shri Pankaj Satija, Chief Regulatory Affairs, Tata Steel
	<i>Q & A</i>
16.30 - 17.00 hrs	: Tea Break
17.00 - 18.30 hrs	: Panel Discussion <i>Coal Transportation in India - Challenges & Solutions</i>
<i>Coordinator</i>	: Shri S K Grover , GC Member - ICF & Former GM (Fuel Mgmt), NTPC
<i>Moderator</i>	: Shri Partha S Bhattacharyya , Former CMD, Coal India Ltd.
<i>Panelists</i>	<ul style="list-style-type: none"> • Shri Anil Kumar Jha, Chairman, Jindal Power & Former CMD, Coal India Ltd. • Shri Manoj Kumar, CMD, WCL • Shri P M Prasad, CMD, CCL & BCCL • Prof S Banerjee, Former Director, Indian School of Mines • Shri T K Nag, Former CMD, NCL • Ms Nandini Chakraborty, MD, Mine Line Pvt. Ltd.
18.30 - 18.40 hrs	: Event Closing Remarks by Shri P S Upadhyaya , GC Member - ICF & Former Director (T), NMDC
18.45 - 20.00 hrs	: Networking Cocktail Evening

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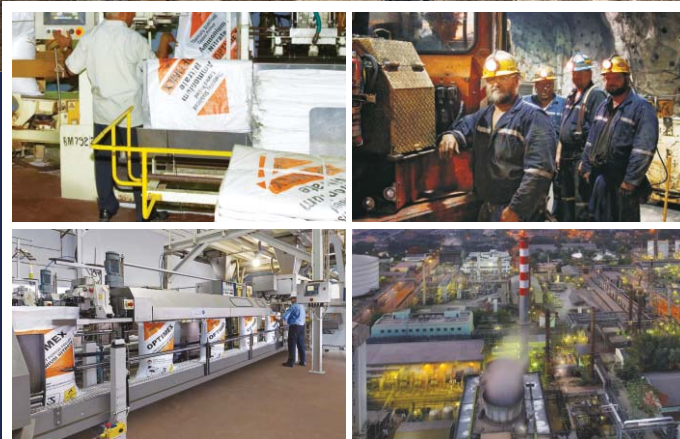
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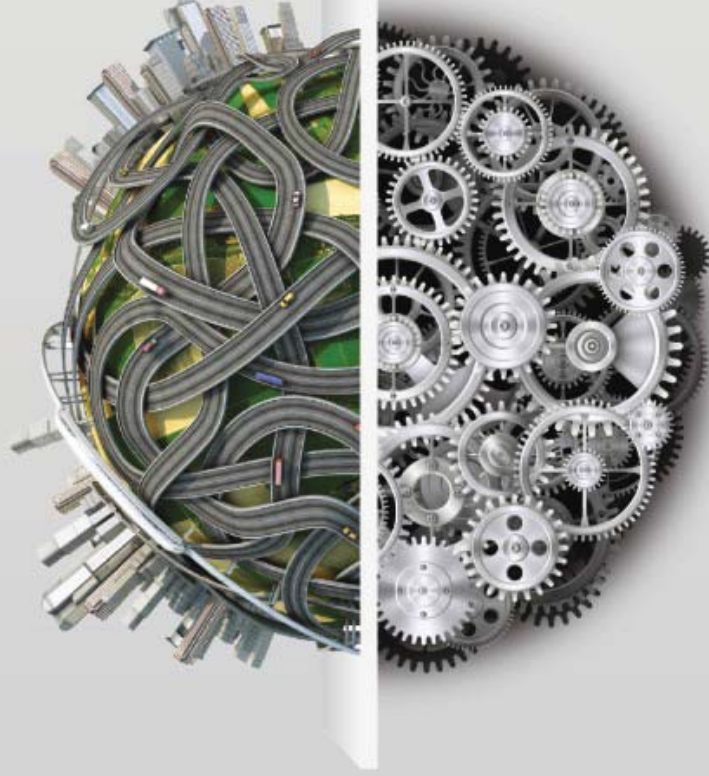
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Industry Article

Coal Logistics - An overview

Coal will continue to be an important source of energy in shaping a secure and sustainable energy future for all in India due to its cost competitiveness which is driven primarily by low production cost and availability across the country in abundance. This is likely to continue in decades to come. Even incorporating cost declines in renewable technologies, coal is expected to remain the most cost-effective option for meeting electricity demand growth in India. It is interesting to note that 50% of capacity addition in Thermal power over the last 5 years in India & the coal plants under construction are of sub-critical configuration, knowing well that supercritical and ultra-supercritical have an advantage of significant higher fuel-efficiency and lower emission rates. Such blend of technologies will ultimately result into more numbers of sub-critical power plants and will in-turn lead to higher coal demands.

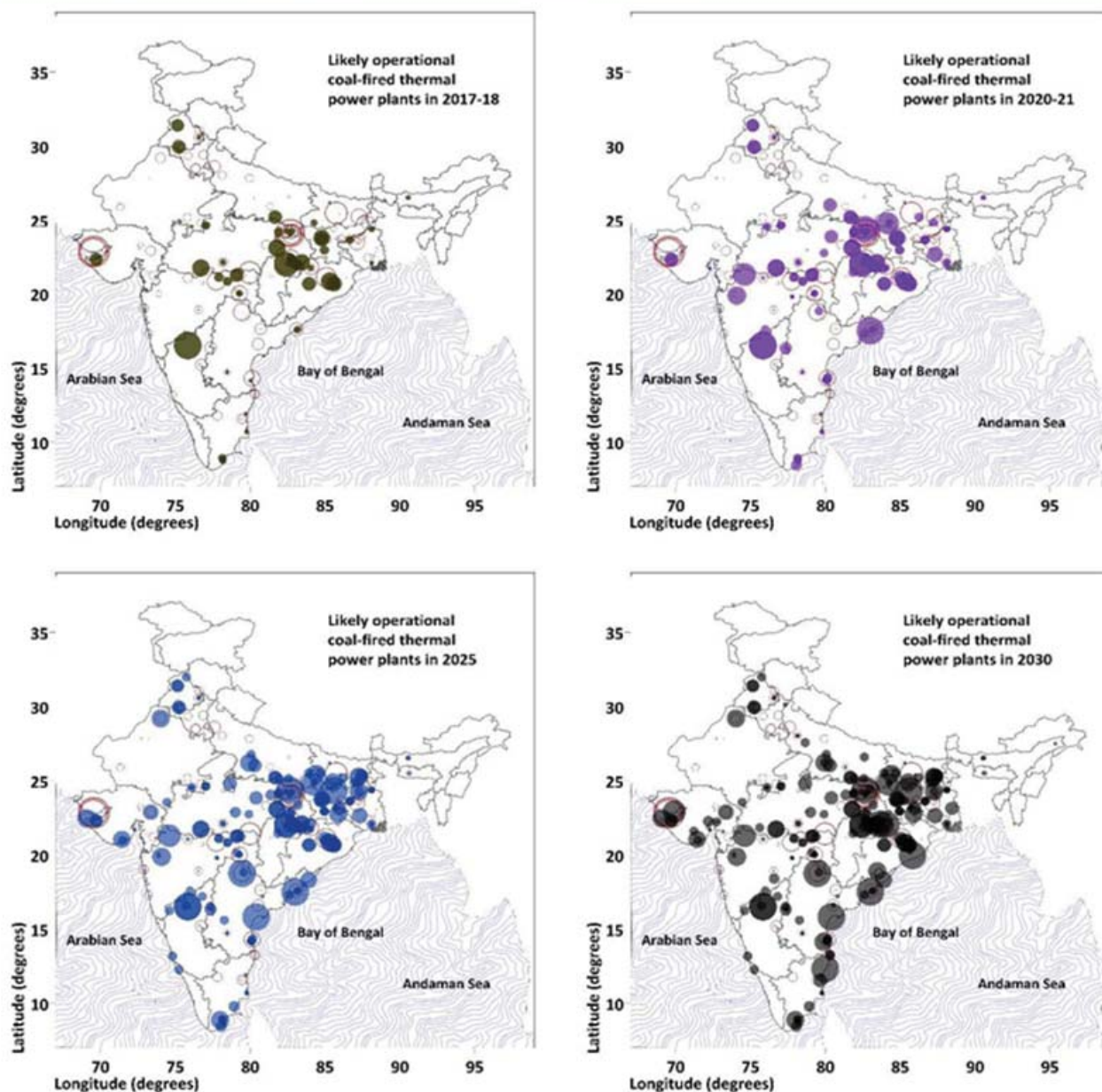
India is currently the world's third largest energy consumer, this position will be consolidated over the coming years driven by economic development, urbanisation, improved electricity access and an expanding manufacturing base. Over the next 25 years, electricity demand in India is forecast to grow at over 4% per annum. Under its New Policies Scenario, the IEA estimates that installed coal capacity will reach almost 500 GW by 2040 (more than three times the 2012 installed capacity). Indeed, the IEA forecasts that by 2040 India's energy consumption will be more than OECD Europe combined, and rapidly approaching that of the United States. The next few decades will witness India's economic growth mostly fuelled by coal despite large capacity additions under renewables. India currently has approximately 205 gigawatts (GW) of coal-fired electricity generation capacity, this will soon be augmented by 113 GW of new coal-fired capacity currently under construction fuelling coal demand in decades to come. The current PLFs of installed capacities which are in the range of about 55% may rise to 85% on an average due to increased power demand and this will alone need about 250-300 Million tonne of additional coal.

As far as development of new power plants & concentration of thermal capacities are concerned, Indian Railways will have a new challenge to move coal towards eastern part of India considering capacity additions by 2030.

Transition implications on Railways worse than on CIL

In a bid to give a fillip to "Atma-Nirbhar Bharat" program, Government of India has drafted plans to ramp up coal production and coal evacuation to supply coal to various power plants and other coal consumers in sustainable manner. Smooth evacuation of Coal is very crucial for sustaining Coal production and meeting demand of consumers. In India, majority of coal tonnages move by Railway followed by Road, Merry-go-round (MGR) systems and Belt conveyors/CCPCs. Some quantities are

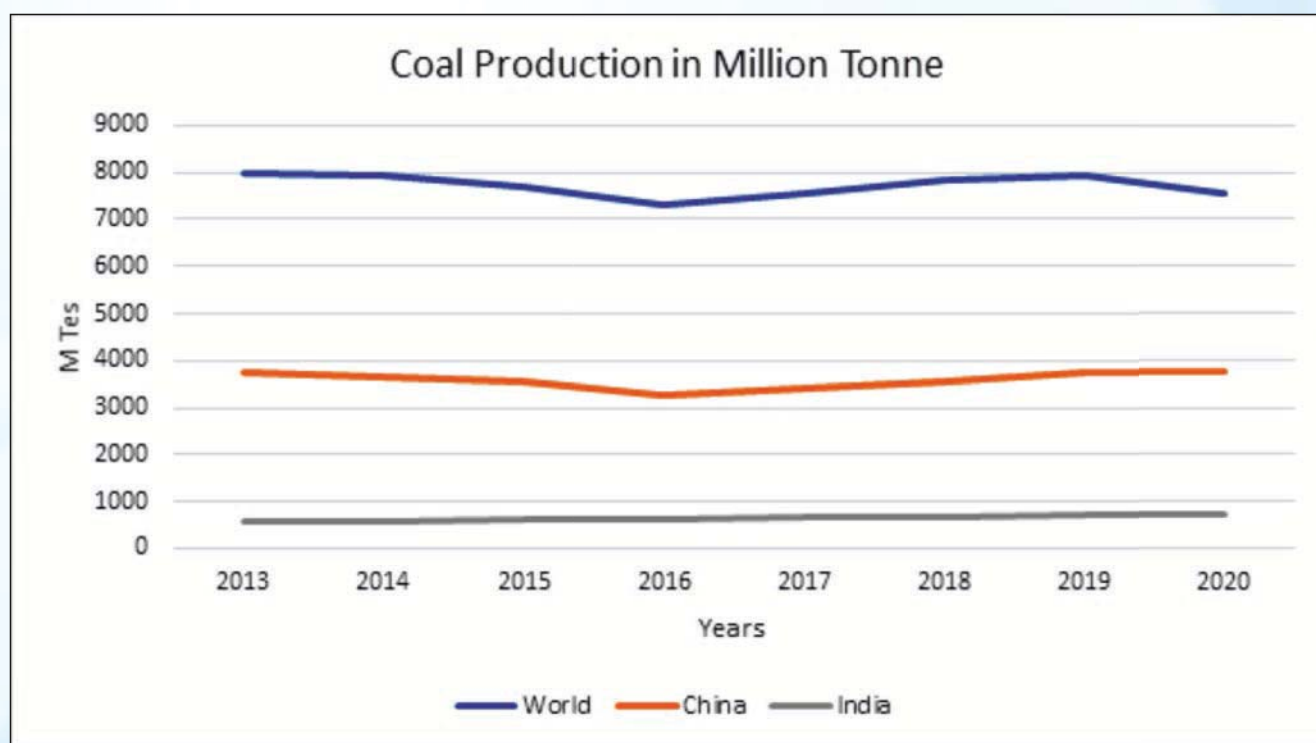
Figure 8: Proposed locations of the coal-fired TPPs in India through 2030. The brown circles represent the TPPs operational in 2014 (details in Figure 6) and the second colour in each map represents all the new plants and expansions expected after 2014 and likely to be operational in the representative year. The largest circle is 4620MW. Note that many of these circles are overlapping due their close proximity to other TPPs



being tried through In-land Water transport systems which are predominantly in the eastern part of India over Ganges waters. About 60% of coal is evacuated from mine by Indian Railway network supported with Pit top Rapid loading system/Silo and Wharfwall sidings.

Table-1

Coal Production			
Year	World	China	India
	Million Tonne	Million Tonne	Million Tonne
2013	7976.178	3748.53	556.402
2014	7939.365	3645.167	565.765
2015	7698.687	3548.565	609.179
2016	7293.019	3263.207	639.234
2017	7544.796	3391.194	657.868
2018	7827.227	3574.788	675.4
2019	7960.009	3724.197	728.718
2020	7575.356	3764.434	730.873



Graph-1

Coal Evacuation:

Coal Production in India is projected to reach 1.25 billion tonnes in next 4/5 years from present level production of 730.873 Mt (2020). Major increase in production will come from coalfields of Hasdeo Arand, Korba, Mand Raigarh, IB valley, Talcher and North Karanpura under command area of SECL, MCL and CCL respectively. Coal evacuation is going to be the biggest challenge for handling augmented coal production from these coalfields and feeding uninterrupted coal supply to end use destinations located across India.

Focussed approach for Augmenting Coal evacuation arrangements:

It has been experienced in the past that coal evacuation arrangements are not developed concurrently with development of mine resulting into huge built-up of pit head coal stocks due to dispatch bottlenecks. It is therefore suggested to have focussed approach for development of coal evacuation infrastructure such as:

- a) Pit top Coal Loading infrastructure-Silos/ Rapid Loading System (RLS).
- b) Development of Connecting Railway Siding taking-off from Indian Railway Network to Pit top local loading facilities (known as First Mile Connectivity).
- c) Augmentation of existing railway line and development new rail lines on JV/PP mode.
- d) Indian Railway should plan to study the Railway infrastructure deficiencies and its corrections.
- e) Utilisation of existing coal dispatch infrastructures through modernisation and use of technology.
- f) Construction of Conveyor belts from pit top to nearby sidings wherever possible.
- g) Connecting coal projects to the End Use Plants by installing environment-friendly Cross Country Pipe Conveyors (CCPC)
- h) Gradually using the potential of our river systems for adding more capacities under In-land Water Transport;
- i) Avoid road transport as far as possible as it is neither cost effective nor good for environment and governance and above all
- j) Open construction, operation, and maintenance of coal logistics infrastructures for private sector which includes coal loading system at pit top and rail connection with Indian Railway network.

Railways (including Rail-cum-Sea)	55%
Road	26%
MGR	17%
Belt Conveyors/Ropeways	2%

Need for Rationalisation of Coal Movement:

It was realised off late that India has lot of unnecessary criss cross movement of coal by rail due to coal linkages granted by the Govt to various Power Stations from different coalfield without due regard to logical & rational coal movement. It was assigned based on the coal availability scenario at various subsidiaries at the time of FSA allocation by Long Term Standing Linkage Committees. The broad description of this important issue are as follows:

- Earlier FSAs were granted based on the recommendations of Standing Linkage Committee (Long Term) and these recommendations were based on the coal availability scenario, location of the plant, mode of transport, etc.
- In US, South Africa & Australia, the Coal Based Power Stations are mostly around Coalfields; e.g. Powder River Basin which supplies about 400Mt of thermal coal to nearby power stations by Rail Network thus avoiding criss-cross movement]
- About 78000 MW capacity were linked in such a way, but in many cases the FSAs were granted from distant mines which has resulted into criss-cross movement.
- Alone from MCL, about 38 Million tonne of coal is moving to distantly placed plants by rail-cum-sea and all rail routes.
- Few coastal based plants are receiving coal from CIL subsidiaries
- In 2015, MOC has brought a Coal Swapping & Linkage Rationalisation Policy only for PSUs restricted for Power Sector only and a comprehensive study was conducted by KPMG
- Due to increase in coal demand in the country and reduced growth of CIL production, it has become highly imperative to evolve ideas to make coal swapping a success so that enough coal is available in the hinterland for the starved coal based plants
- Wherever necessary imported coal may be made available for coastal based plants thereby removing their dependence on CIL coal.
- The efforts will also result into drastic reduction of imported coal moving in the hinterlands
- With the recently constituted Task Force on Coal Swapping, we are hopeful that new policy, under their guidance, will be of immense help to the industry to increase coal availability and reduction of transport cost.
- The New Policy will address all Sectors viz. Power and Non Regulated Sector (NRS), PSU and Private Sectors as well as between domestic and imported coal.
- As per the study carried out by ICRA Limited, for every 100 kms reduction in distance for transportation of coal, the landed cost of coal is estimated to decline by 5-8 paise per 1000 Kcal.
- With swapping of coal using imported coal, plants located on coasts which were earlier receiving FSA coal from far-off coalfields at 75% materialisation (in fact @ 65% materialisation due to prevalent grade slippages), can receive 100% coal at 85% Capacity Utilisation

- For road mode transportation, the biggest benefit, apart from transport cost saving, would be the drastic reduction in road traffic & congestion and would be a welcome move from environmental point of view
- It was estimated by KPMG that Total Savings in terms of transportation cost is likely to be in the range of Rs. 4,500-6,000 Cr annually and Average transportation distance will reduce from 597Kms to 416Kms. There is a sharp fall in the number of TPPs getting coal from distances greater than 750Kms.

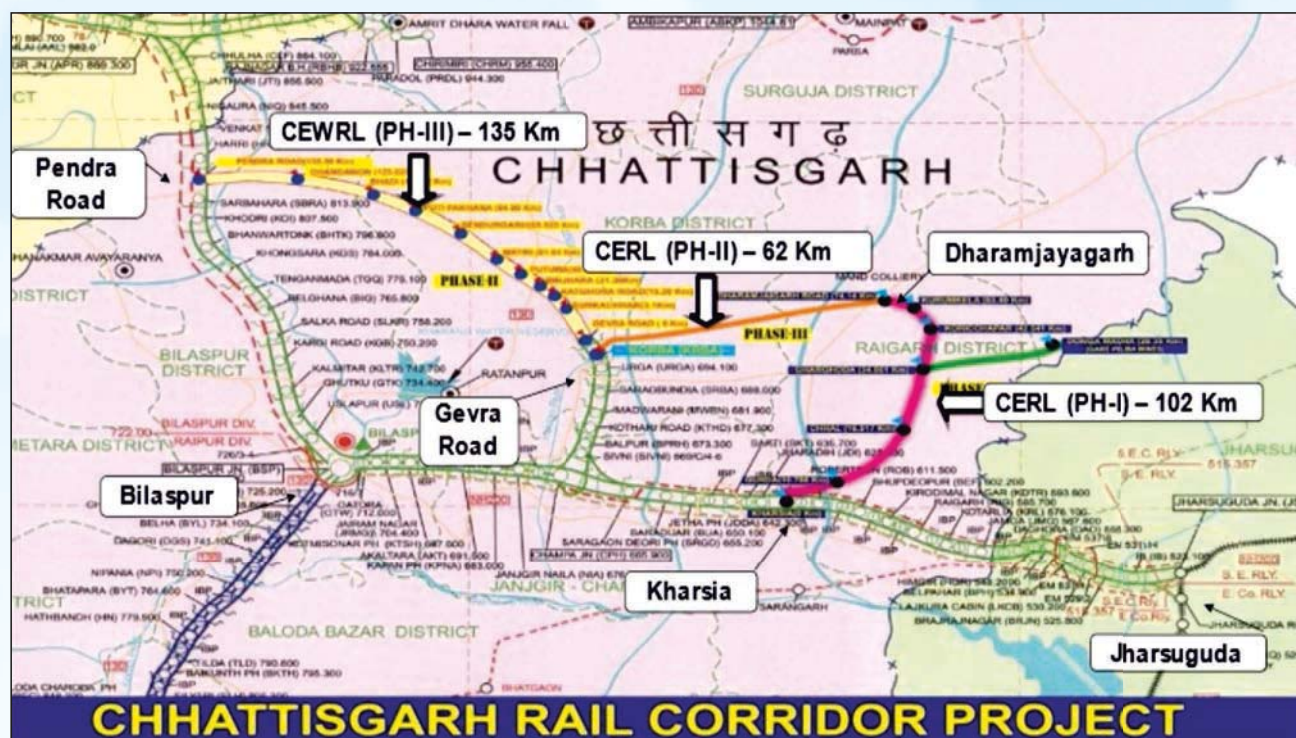
Major Achievements Through Rationalization of Coal Movement:

- CIL has rationalized sources of coal supplies to thermal plants of PSUs to the tune of 30.46 Million tonne
- This has resulted into Annual Savings of 3354 crore (As per Minister's Statement given in the Parliament)
- An Inter-Ministerial Task Force was constituted comprising of members from concerned Ministries which recommended 19 power stations for linkage Rationalization
- An agreement was signed between Gujarat State Electricity Corporation (GSECL) and NTPC for swapping of 1 MT of domestic coal with imported coal
- It has also been decided that power plants located within 40 km from pit-head shall construct MGR (merry-go-round) within three years (up to April 1, 2021) and those within 20km shall transport coal by Cross Country Pipe Conveyors

In view of above, MOC/CIL has evolved a methodology to rationalize the coal movement across the country and allowed swapping of linkages among power & non-power sectors consuming domestic coal and even with imported coal subject to certain guidelines.

Coal evacuation Outlook- Major Projects:

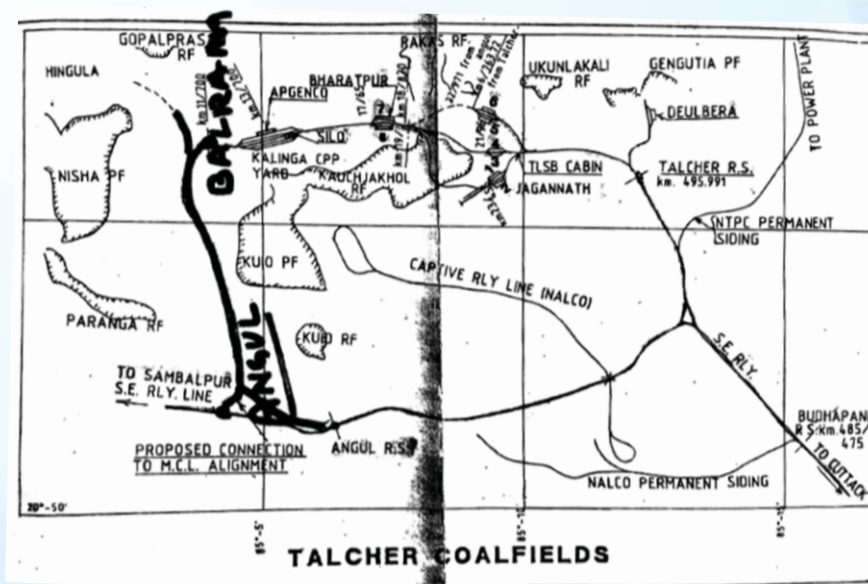
1. Chhattisgarh East Railway Limited (CERL) - Chhattisgarh East Rail Limited (CERL), a JV company formed by SECL, IRCON and the State Government of Chhattisgarh with shareholding of 64%, 26% and 10% respectively is executing the construction of East Rail Corridor, in two phases:
 - Phase-I : Kharsia- Dharamjaigarh with spur to Gare - Palma and three feeder lines of about 102Km. at an estimated cost of ₹3055 Crores. Kharsia Korichapar (0-45 Km) section commissioned on 12.10.2019.
 - Phase-II : Dharamjaigarh - Korba with a length of about 62.5 Km at an estimated cost of ₹1686.22 Cr.
2. Chhattisgarh East West Rail Limited (CEWRL), a JV company formed by SECL, IRCON and the State Government of Chhattisgarh, with shareholding of 64%, 26% and 10% respectively is executing the construction of East-West Rail Corridor (Gevra Road to Pendra) via Dipka,



Katghora, Sindurgarh and Pasan with a length of about 135 KM and Feeder lines of about 35 Km at an estimated project cost of ₹4970.11 Crores. The project is expected to be completed by March 2023.

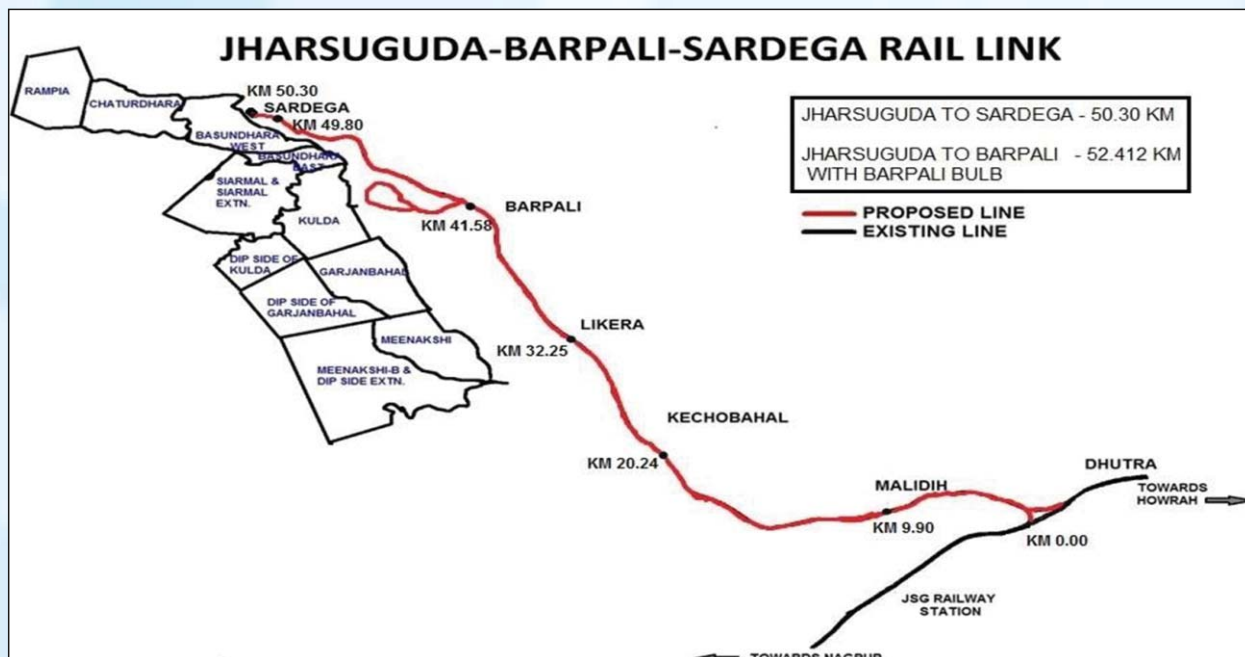
- Mahanadi Coal Railway Limited (MCRL), a JV company formed by MCL, IRCON and the State Government of Odisha is executing the construction of railway infrastructure projects in the Talcher coalfield of MCL, to cater to the evacuation of coal, in two phases:

- Phase-I (Inner Corridor): Angul-Balram-Jharpada-Tentuloi link at Talcher Coalfield of MCL with a length of 69.10 KM (which consists of the Jharpada-Kalinga-Angul link of 14.22 KM length) with an estimated cost of ₹ 1700 Cr (excluding the cost of land).



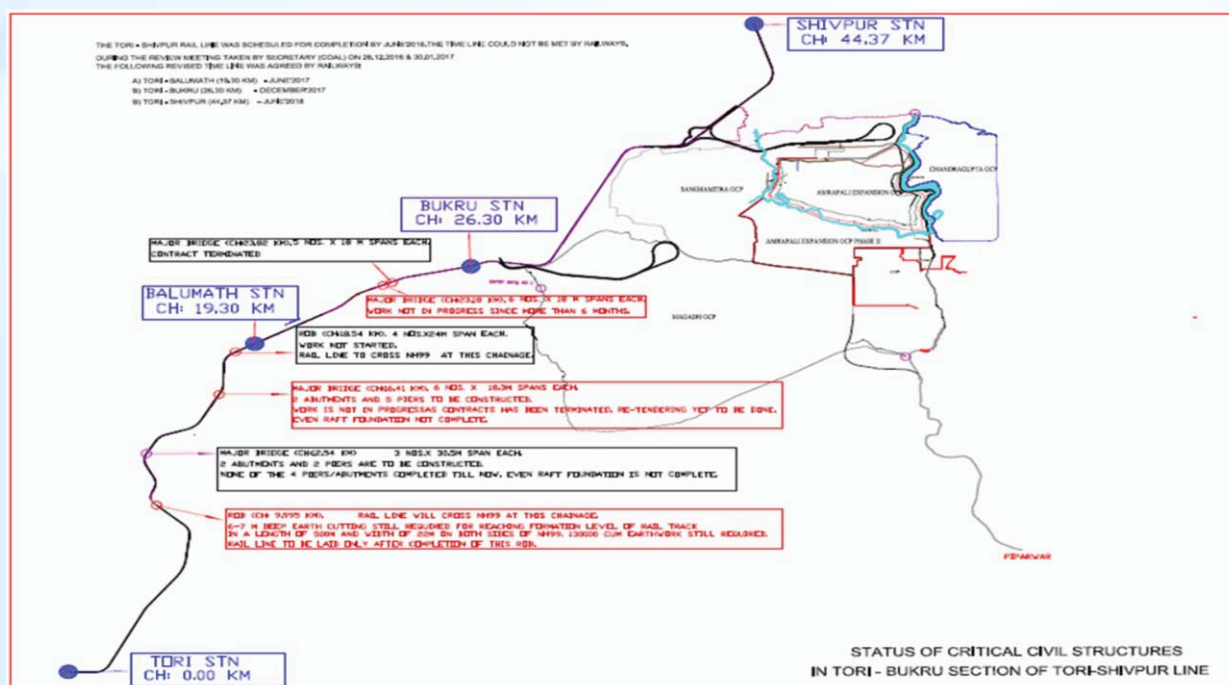
- Phase-II (Outer Corridor): Tentuloi-Budhapunk of approximately 136 KM length.

4. MCL -Jharsuguda - Barpali - Sardega Rail Corridor for coal transportation-50.30 km length of a single line project with auto signaling system from Jharsuguda to Sardega via Barpali being constructed in the Ib Valley, Odisha. The ambitious rail line project will enable evacuation of enhanced quantity of coal from Mahanadi Coal Limited's mines.



5. Tori-Shivpur- Kathotia Rail line in Central Coalfields Command area:

Phase-1 - Tori- Shivpur rail line- 44.37 Km - Completed -serving operational mines of CCL-Magadh & Amrapali OCP.



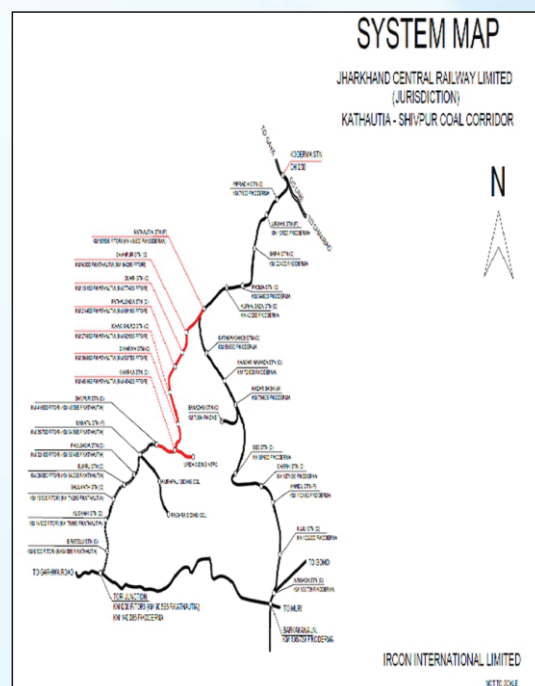
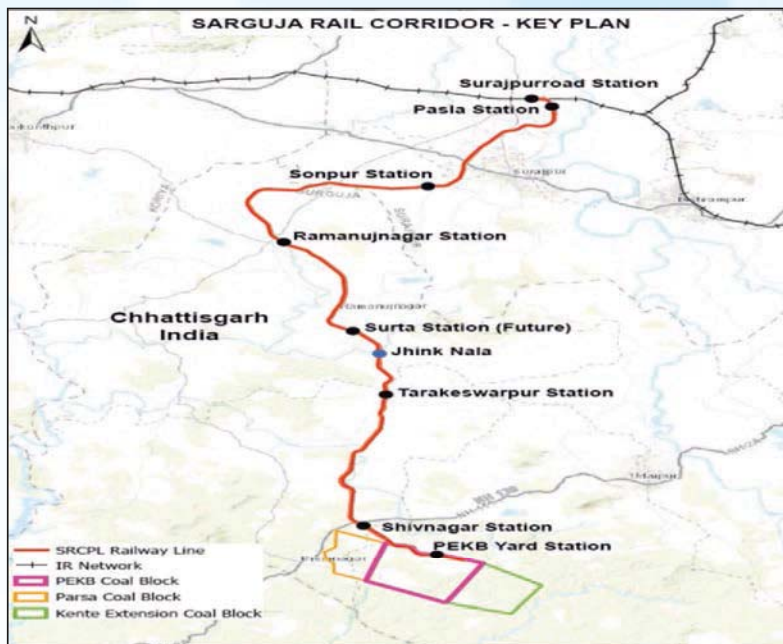
Phase-II- Shivpur- Kathotia - 49 Km- A joint venture company named Jharkhand Central Railway Limited (JCRL) is formed between Central Coalfields Limited, IRCON International Limited and Govt. of Jharkhand with shareholding of 64%, 26% and 10% respectively. Work in this section is likely to be started from Dec 2021 with total project cost of about Rs. 1800Cr.

6. Sarguja Rail Corridor Pvt. Ltd.: This is first private sector FMC of about 75Km length connecting railway network at Surajpur station to Parsa East Kanta Basen (PEKB) mine in Hasdeo Arand Coalfield of Chhattisgarh State.

Prospects for producing 1 billion tonne of coal by 2025-26 have improved with announcement of a spend of Rs 50,000 crore by Govt. of India to upgrade coal evacuation infrastructure. It is understood that as much as 290 MT of coal could not be produced due to lack of evacuation infrastructure in the country.

This gap has been substituted through import. The move to create better evacuation infrastructure is part of the government's target of producing 1 billion tonne of coal by 2025-26 - 730 MT was produced in FY20. In fact, the 1-bn-tn target was to be reached by 2020 and was pushed back only because of lack of infrastructure to evacuate such a quantity of the coal. As is known, coal cannot be stocked at pitheads in large volumes owing to the fire hazard.

While the overall spend of Rs 50,000 crore would go into the development of coal handling plants, ports and strengthening of the transportation chain, building of conveyor belts and merry-go-round facilities which carry at least 21% of the mined coal directly from pitheads to power plants is a vital component of the agenda. Building rapid loading systems, developing siding connectivity, linking silos to railheads and creating rail links for coastal shipping constitute other heads of investment. "The proposed investments will include Rs 18,000 crore worth of investments in mechanised transfer of coal (conveyor belts) from mines to railway sidings.



Abstracts

Logistical Challenges for Moving one Billion MT

— V K Arora

Chief Mentor, KCT Group

1. CIL is getting ready to reach its production target of 1000 M.T. by 2023-24, simultaneously SCCL and captive coal blocks would also jack up their production to make a total availability of 1400-1500 MMT.
2. Carrying of this coal by –
 - a) Road
 - b) Rail
 - c) Rail cum sea cum rail

is a logistical challenge. All agencies are making huge investments to ensure that additional quantities are able to reach the consumers.

3. Railways will be taking bulk of the load. Commissioning of 2 Dedicated Freight Corridors will be a game changer.
 - a) Western Freight Corridor from JNPT to Tughlakabad
 - b) Eastern Freight Corridor from Dankuni to Ludhiana

These corridors operating on latest technologies would enable each rake to carry 14000 MT in place of existing 4000 MT at a lower cost.

Consumers are under stress as cost of transportation by rail is very high. 31% of the freight cost is being used to offset its social obligations of subsidizing passenger fares.

4. Road transportation is now carrying 65% of all goods and 85% of passenger traffic. Huge investment is being made in constructing roads to take away part of the goods traffic from rail but road transportation is definitely not the most efficient mode of transport for coal.
5. Consumers in South will continue to depend on Rail cum Sea cum Rail for transport of coal from the mines of MCL to the Ports of Paradip and Dhamra and loading into ships and taking it to the southern ports for onwards transport to the power plants.

Higher cost of handling at Indian Ports is a deterrent to take recourse to larger quantities.

6. Use of waterways, as a means of transporting coal has to be encouraged as water transportation is the cheapest mode of transportation. There are tremendous opportunities to make use of the major rivers to transport coal and other goods traffic by developing the infra structure. Same way as canals are being used in Europe and USA.
7. Different modes of transport have to be married in a seamless network to drive the lowest cost.

Logistics in Coal Sector : Policy Perspective

– Peeyush Kumar
Chief Manager, Ministry of Coal & CLUVPL

Coal is the primary source of energy that India has in abundance and it will remain the primary fuel that drives the Indian economy by providing a reliable energy source as there is a scarcity of other fossil fuel energy sources in the country. The evacuation of the coal from the mines and the transportation to the power plants and other industrial end users is a difficult task and needs a lot of maintenance for the infrastructure and fund required for that is also high.

The tasks related to the infrastructure for the coal evacuation can be classified into two main categories:

- I. Augmentation of the existing infrastructures
- II. Creation of new infrastructures

I. Augmentation of the existing infrastructures

For the cost-effective planning and development of infrastructures for coal evacuation the augmentation of the existing infrastructures is an important step. Some important components for the multi-modal transportation of coal from the source to the end use plants envisaged are:

1. **First and Last Mile Connectivity:** Coal movement from pithead to despatch point is involved with first mile connectivity and the last mile connectivity includes transportation from receiving points to the end use plant. The following are some modes of transportation:
 - a. **Conveyor Belt:** conveyor can be one of the most preferable mode of transportation depending on the volume of the Coal and distance where the end use plant or processing plant is in the surrounding area of the mine.
 - b. **Road:** To reach every nook and corner of the country, the road infrastructure needs to be synchronized with the railway / port / waterway's infrastructure.
2. **Trunk Mile Connectivity:** A trunk line is a circuit connecting the main railway line either through dispatch point or directly the mine where railway siding is starting from the mine itself.
 - a. **Railway Lines:** A document Vision 2024 has been issued by the Railways with a view to build capacity to transport 2024 MTPA by the year 2024. which categories the ongoing projects in Super critical, critical and projects required for coal movement.
 - b. **Availability of Wagon:** It has been observed that availability of wagons remains a constant constraint in efficient evacuation of Coal from mine to the end use plants. To meet the rise in demand post launch of Dedicated Freight Corridor (DFCs), in April 2018, Indian Railways launched the General-Purpose Wagon Investment Scheme (GWPIIS).
 - c. **Coastal Shipping:** This mode of transport is environmentally friendly and has lower transportation costs. The major load port for coal traffic travelling down the coast is Paradip

Port, with ports in Vizag and Haldia serving as secondary load ports for originating coastal cargo.

- d. **Inland Waterways:** A total of 111 waterways have been notified under the National Waterways Act of 2016.

II. Creation of new infrastructures

Potential projects can be taken up for the development of infrastructures in the newly developing coalfields like Ib Valley, Talcher, Birbhum and Rajmahal Coalfields, NK Coalfields and Singrauli Coalfields.

In the past, apart from Ministry of Railways funded projects and projects taken up on deposit basis from the funds available with coal companies, Coal India had formed various SPVs with State Government and IRCON for the purpose of construction of Railway lines in Chhattisgarh, Odisha and Jharkhand. Similarly, Rail Vikas Nigam Limited (RVNL) has also planned a SPV in Pachwara Coalfields along with WBPDC, PSPCL and NUPPL. This SPVs with the support of MoR in terms of inflated mileage are expected to earn profit and can be self-sustaining.

For the preparation of list of possible railway projects, it has been planned in such a way that coal blocks sidings should have common rail serving station, total quantity of Coal to be handled should not exceed 12 MTPA so as to ensure 25 train moves per day. This need to be further validated with detailed analysis. It should also be ensured that projects identified should not need significant acquisition of land.

Accordingly, in a recent study undertaken in Ministry of Coal, following potential projects has been identified:

- **Singrauli Coalfield:** Bandha coal block of EMMIL, 5.6 MTPA, serving station Deoragam on WCR. To be combined with Amelia coal block of THDC, 5.6 MTPA, serving station Deoragam on WCR.
- **Talcher Coalfield:** Radhikapur East of EMMIL, 5 MTPA, serving station is Tentuloi on yet to be commissioned inner corridor. To be combined with Radhikapur West of Vedanta Limited, 6 MTPA, serving station is Tentuloi on yet to be commissioned inner corridor.
- **North Karanpura coalfield of CCL:** Badam Coal block of NTPC, 3 MTPA, serving station Bes, to be combined with Gondulpara coal block of Adani Enterprise, 4 MTPA

To conclude, railway Line capacity is adequately addressed up to FY26. Ministry of Coal and Ministry of Railways are jointly monitoring identified 14 railway projects. Further, Railways have also identified network upgrades in the National Rail Plan. There is potential for greater use of coastal shipping in the movement of domestic Coal specially from MCL to west coast. Option to lease wagons to IR needs to be explored to ease out wagon shortage issue. The potential of Common Use infrastructure, especially in first mile connectivity to trunklines, will be helpful to block allottees and as such SPV or other options needs to be explored for taking up such lines.

Coal Transportation in India

— Pankaj Satija

Chief - Regulatory Affairs, Tata Steel

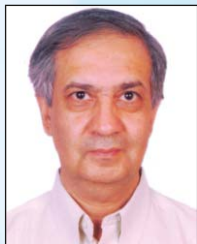
Coal and Railways in India are heavily interdependent. Coal contributes 48 percent of Indian Railways' (IR) freight revenues (as per IR Annual Report FY20) and has an even higher share in its profits. IR's business model is based on passengers underpaying and freight overpaying. Raising coal freight rates disproportionately compared to its distance and volume has led to higher cost of coal delivered and therefore to higher electricity costs for consumers across India. This is unsustainable.

Indian Railways' freight rates are based on a "class system". It has 25 groups of commodities that cover almost all the commodities carried and has 16 freight rate classes (Indian Railway Conference Association, 2015). Class 100 is anchored as the break-even class and any class above that will have a proportionately higher freight rate as per the class. Railways currently charge coal as per class 145, which means the freight rate for coal is 45 per cent higher than the commodity in class 100 for the same distance.

Railways' financial model is based on a cost-plus model to earn sufficient revenues combined with cross-subsidies between segments of users. For railways, not only do we have an enormous differentiation between freight and passengers, we have differences within these segments as well. Coal is the financial 'cash cow' for the Railways and forms the backbone for its sustenance. But the larger question is whether this interdependency, or rather over dependency through policy instruments, is sustainable.

The paper will focus on the possible policy choices for a viable future.

Speakers Profile



Shri Alok Perti, IAS

Chairman, Indian Coal Forum

Shri Alok Perti is an Adviser and former Secretary in Ministry of Coal, Govt. of India. He is an IAS of 1977 batch (Assam-Meghalaya cadre), and has worked in the Ministry of Coal, Health and Welfare, Ministry of Defence etc at centre as well various departments in Govt. of Assam.

He was on the board of several Defence PSUs as official director when is worked as Joint Secretary in Ministry of Defence. He was also official director on the board of Coal India Ltd. and NLC when he was serving in the Ministry of Coal. He has also been a non-official part time Independent Director on the Board of Coal India Limited and various other companies,

Shri Perti holds a bachelor's degree in science and a master's degree in physics from the University of Allahabad and also completed a master's course in Social Planning and Policy in Developing Countries from the London School of Economics, UK. He was also a member secretary to the Kelkar Committee set up by the Ministry of Defence to suggest modifications to defence acquisitions, WHO consultant for conducting study and validation of National Immunization Programme in Bhutan and also served as a consultant to UNICEF to develop a material management systems for supply in Myanmar.



Shri Pramod Agrawal (IAS)

CMD, Coal India Limited

Shri Pramod Agrawal, an Indian Administrative Service Officer of Madhya Pradesh Cadre 1991 batch, took over as Chairman, Coal India Limited (CIL), the world's largest coal producing company, on and from 1st February 2020. A Graduate (B.Tech) in Civil Engineering from Indian Institute of Technology (IIT) Mumbai (1986), Mr. Agrawal completed his Post-Graduation in Design Engineering (M.Tech) from IIT, Delhi (1988).

Shri Agrawal underlined his priority as “to make Coal India a competitive, economically viable business entity, in the changing scenario, with greater emphasis on operational efficiency, quality and lowered cost of production”.

His impetus on procurement of heavy earth moving machinery, engagement of Mine Developers and Operators, pursuance of first mile connectivity projects, developing evacuation infrastructure is aligned to dovetail production and despatches seamlessly.

Amid the pandemic challenge Shri Agrawal led CIL with composure trying out many innovations and reaching out to customers to increase supplies and stepping up medical care for the safety of the employees.

**Shri Arun Arora***General Manager, Eastern Railway*

Shri Arun Arora is presently posted as General Manager Eastern Railway. Prior to this appointment, he was posted as Additional Member (AM)/Railway Board since October 2020.

Shri Arora is an alumnus of Premier institutions - IIT Delhi, SCRA & University of Queensland. He holds Bachelor's degrees in Mechanical & Production Engineering and has done MBA from University of Queensland, Australia. He has been decorated twice with National Railway Award for outstanding contribution to railway working.

He played a key role as Divisional Railway Manager, Delhi in launching India's fastest conventional Train Gatiman Express between Delhi and Agra during 2016. He also played a key role as Principal Chief Mechanical Engineer, Northern Railway in successful launch of First Vande Bharat Exp between New Delhi and Varanasi during February 2019 & 2nd Vande Bharat Express between New Delhi and Katra during October 2019.

To fight with Covid pandemic, Shri Arora spearheaded the design and conversion of conventional coaches as isolation coaches. Under his leadership, NR workshops fabricated lakhs of PPE kits during the lockdown.

He has an extensive exposure to developed railway systems in the world - Germany DB Railway, SNCF French Railway, Italian Railways & US Rail Roads. He had also been deputed for senior management leadership programs to Bocconi Business School, Italy and Tepper Business School of Carnegie Melon University, USA.

He is recognized over Indian Railway as a tough and focussed administrator who walks the talk and delivers successfully. He has been chosen to lead the Eastern Railway a prestigious & historic zonal railway of Indian Railway.

**Shri S N Tiwary***Director (Marketing), Coal India Limited*

Shri Satyendra Nath Tiwary took over the charge as Director (Marketing), Coal India Limited from 01st December'2019. Prior to assumption of the present charge Shri Tiwary was General Manager (Marketing & Sales), CIL.

Graduating B.Sc. Engineering from Birla Institute of Technology MESRA with Distinction, Shri Tiwary was ranked 3rd in his batch. He also holds MBA Degree from the same Institute. Shri Tiwari began his professional career in Coal India Limited in 1986 after a short stint as Test Engineer in Hindustan Motors. With a career spanning over 33 years in Coal India he has garnered wide exposure in the entire gamut of Marketing & Sales operations having worked in various capacities of M&S Division in Eastern Coalfields Limited, Central Coalfields Limited and Northern Coalfields Limited.

Backed by over three decades of professional experience in the intricacies of Coal Marketing and Sales, Shri Tiwary has set the supply of increased quantity of Coal with improved quality through use of technology like Auger sampling and Auto ash analyser, as his priority objectives.

Presently, Shri Tiwary is also a member of MCL, NCL & ECL Board, contributing in a big way on First Mile Connectivity.

**Shri Abraham Stephanos***President, BCC&I and MD, TSDPL*

Shri Abraham George Stephanos is the Managing Director of Tata Steel Downstream Products Limited. He started his career with Indian Aluminium Company (INDAL) in 1984, where he held various positions in the smelter, extrusions and the foil & packaging divisions. In 1997, he joined the Senior Leadership team of TSDPL (Then known as Tata Ryerson Limited), where he held the positions of Chief of Market Planning, Vice President (Marketing & Sales), Chief Operating Officer and Executive Director before being appointed as the Managing Director in 2014.

He is a Mechanical engineer from National Institute of Technology, Rourkela and Post Graduate Diploma in Management from Indian Institute of Management, Calcutta.

He is a member of the CII Eastern Region Council and President of The Bengal Chamber of Commerce and Industry. In addition, he is the Chairman of the CII GreenCo Forum, Kolkata Chapter. He is also the Chairman of IIM Calcutta Alumni Association.

**Shri P K Sinha***CMD, NCL & MCL*

Shri P K Sinha, Chairman-cum-Managing Director (CMD), Northern Coalfields Limited (NCL), and Mahanadi Coalfields Ltd. A Mining engineering graduate from NIT, Raipur and M.Tech. from IIT (ISM) Dhanbad, Shri Sinha has a diversified experience of more than 37 years in opencast and underground mining in Coal India, as he has held many important positions like Director (Technical) in South Eastern Coalfields Ltd.

He is honoured with many prestigious awards viz. Excellence in Environment Management, as Project head, from MPCCB-Bhopal for the year 2010-11 and Best Mines Manager at HB Ghosh memorial award hosted by MGMI at Kolkata for 2 consecutive yrs (2012, 2013).

**Shri Subir Das***Former Director, NLC India*

Shri Subir Das is a former Director (Mines), NLC India (2014-2018). He is a mining graduate from Indian School of Mines, Dhanbad of 1980 batch. He also possesses First Class Mine Manager Certificate of Competency (Coal).

Shri Das joined as Executive Trainee in Dhemomain Coolery, Eastern Coalfields Ltd. and worked in various capacities before joining BCCL as Project Manager in 2003 and promoted to GM in 2006, He has worked with latest underground mining technologies of the world, long wall mining with powered roof supports and shearer, Road Header. He has also worked in DGMS as Dy . Director for a short period

**Shri Sanjay Gehlot***Former Addl. Member, Railway Board*

Shri Sanjay Gehlot is a former Addl. Member (Marketing & Business Development), Railway Board. He is an Indian Railway Traffic Service Officer from 1984 batch and worked as Addl. General Manager, Eastern Railways previously.

Shri Gehlot is post graduated from Delhi University and had Diploma in Computers from IIM, Kolkata.

He had received several Awards and recognition in his career. He received Hon'ble Minister of Railways Award for Outstanding Contribution towards Environment Sustainability (2016); General Manager/ South Eastern Railways Green Award (2006); won Overall Efficiency Shield as Railway Divisional Manager, Asansol (2014).

Also Received meritorious certificate and cash Award as GM/COA, CRIS from MD, CRIS (201; Energy Conservation Certificate from Ministry of Power for Energy Conservation at Madhupur Station & Electric Loco Shed, Asansol (2014), Appreciation letter from Chairman, Railway Board for developing Rooftop Energy Park on the terrace of official residence (2018).

**Shri Binay Dayal***Director (Technical), Coal India Limited*

Shri Binay Dayal has assumed the charge of Director Technical from 11th Oct'17. Shri Dayal graduated in Mining Engineering in 1983 from Indian School of Mines (ISM), Dhanbad. He also obtained 1st Class Mine Manager's Certificate of Competency from DGMS, Dhanbad.

He joined as Junior Executive (Trainee) in Coal India and was posted at Central Saunda Colliery, Barkakana Area of Central Coalfields Limited in the year 1983. He worked in various capacities such as Head of Technical Services and Public Relations in CMPDI (HQ), Regional Director, CMPDI, Regional Institute - V, Bilaspur, General Manager (Projects & Planning Services) in South Eastern Coalfields Limited. He took over the charge of Director Technical (Engineering Services), CMPDI on 1.12.2015.

He was nominated as Nodal Officer on behalf of South Eastern Coalfields Limited for Rail Corridors for evacuation of coal from Mand Raigarh and Korba Coalfields and represented South Eastern Coalfields Limited in the Board of Joint Venture Cos. viz. Chattisgarh East Railway Limited and Chattisgarh East-West Railway Limited (comprising of SECL, IRCON and Chattisgarh State Government).

Shri Dayal attended various Training Programs, Conference, Mining Congress in Australia, Canada, China, Turkey etc. He is Life Member of MGMI & Computer Society of India (CSI).

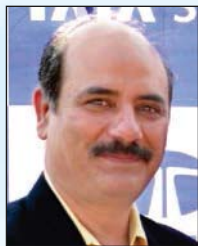
**Shri Peeyush Kumar***Chief Manager at Ministry of Coal & CLUVPL*

Shri Peeyush Kumar, Chief Manager, CIL is presently looking after the work of Director Technical in Ministry of Coal. He is member of expert committee of DST for CCT projects and Member Secretary of various committees at Central Government level.

Shri Kumar was involved in formulation of policies such as identification of coal blocks for auctions, deciding end use for CMSP blocks, CPMP/MDMS portal for online coal project monitoring, UCG policy, CBM/CMM extraction policy, resolving CBM overlap issue, Star Rating Policy of MoC, revising the guidelines of Mining Plan preparation & evaluation, Strategies for Coal to chemical economy, thrust area for future research projects, Mission Document for Surface Coal Gasification etc.

He joined MoC as Director Technical in Sep 2013 and was member of Board of several coal companies for 6 years as Government nominee such as MECL, CMPDI, BCCL and SCCL. He has been awarded Sir John Dunn Medal by MGMI for 2015-16 and The IME Journal Golden Jubilee Award in the field of Coal Mining. He has several papers in International and National conferences and has chaired many technical sessions.

Graduated in Mining Engineering with Silver Medal from Indian School of Mines, Dhanbad in 1993, Shri Kumar has done short term courses in Rock Mechanics and Environment Management from IIT BHU. At present he is pursuing part time PhD from IIT(ISM), Dhanbad.

**Shri Pankaj Satija***Chief Regulatory Affairs, Tata Steel*

A graduate mining engineer from IIT (ISM), Dhanbad with PGDBM from XLRI, Shri Pankaj Satija has blended mining operation with framework of Safety, Health and Environment. A PMP certified professional has undergone Indo German Manager Programme at Germany, Global Advance Management Programme at Beijing and Tata Group Executive Leadership Development Program at UK. He is also a LEAD Fellow of cohort 19. He is a certified coach from Erickson Coaching International.

Shri Pankaj Satija is working for Tata Steel Ltd as Chief Regulatory Affairs. He has more than 25 years of experience in Strategic Planning, Project Management, Mine Planning, Mining Operations, Training, Production and Maintenance. Under his leadership, vetiver plantation experiment was carried out first time in Indian mining industry with collaboration of IIT Kharagpur at Joda East mine of Tata Steel in 2012. He has been in task force for Sustainable Development Framework for Indian Mining Industry constituted by Ministry of Mines.

He is the recipient of FIMI Gem Granite Sustainability Award 2014-15 and Excellent Performer Award 2015 from Legasis. He is a recipient of Best Corporate Management Innovative Excellence Award 2016-17 at GeoMinTech symposium, Bhubaneswar. He is the recipient of Bala Gulshan Tandon Excellence Award from FIMI. He is the recipient of IME Journal annual award for innovation in 2017. MEAI bestowed Service Excellence Award for his contributions to mineral sector of the country for 2017-18 and 2019-20.

**Shri Arun Kumar Shukla***CMD, Hindustan Copper Limited*

Shri Arun Kumar Shukla is, presently, the Chairman and Managing Director of Hindustan Copper Ltd. (HCL), a PSU under the Ministry of Mines, Govt. of India. He joined HCL in 2018 as Director (Operations) and subsequently took charge of the Company as CMD in 2020. Prior to joining HCL, Shri Shukla was working as Executive Director in NMDC Ltd.

Shri Shukla started his career from Central Coalfields Ltd. and worked there for more than 21 years before joining NMDC Ltd. in October 2006. On deputation from NMDC, he served as Managing Director of Jharkhand State Mineral Development Corporation Ltd. for about 2 years. He was also holding the charge of CEO of Joint Venture Companies of NMDC viz. NMDC- CMDC Ltd. and JNMDC Ltd. to start new mines in the state of Chhattisgarh and Jharkhand respectively.

A Graduate Mining Engineer of 1985 batch from Indian School of Mines, Dhanbad, Shri Shukla possesses First Class Mines Managers' Certificate and has done his M. Tech. (in Environmental Engineering) and LLB.

With a vast experience in the Indian Mining Industry, Shri Arun Kumar Shukla was conferred with the prestigious FIMI Golden Jubilee Award for Excellence (2016-17) and TATA STEEL Mining Sustainability Award (2017-18) for his significant contribution towards sustainable mining.

**Shri Prem Sagar Mishra*****CMD, ECL***

Shri Prem Sagar Mishra is Chairman-Cum-Managing Director of Eastern Coalfields Limited. He completed his B. Tech (Mining) from Indian School of Mines, Dhanbad in the year 1987 and obtained First Class Certificate of Competency in the year 1990. He has obtained a Post Graduate Diploma in Business Law from the West Bengal National University of Juridical Sciences (NUJS), Kolkata. He has worked in different capacities in SECL, CCL and BCCL. He has also served as Director (Production & Planning) of Orissa Minerals Development Company Limited. He has attended Advanced Management Programme held at IIM, Calcutta, University of St. Gallen, Switzerland and Essec Business School Paris, France in 2014. He was also a part of CIL delegation to Istanbul (Turkey) for attending World Mining Congress 2011. He has also attended Management Training Programme at Administrative Staff College, Hyderabad and Advanced Management Programmes conducted by IICM at LBSNAA, Mussoorie.

**Shri V K Arora*****Chief Mentor, Karam Chand Thapar & Bros. (Coal Sales) Ltd.***

Shri V K Arora is a graduate in mining engineering from Indian School of Mines, Dhanbad. While managing the operations of coal mines belonging to erstwhile Thapar Group, he collected extensive experience in both, open cast and underground mines in some of the most efficiently run Units.

After having worked as President and after having put in 50 years of service with Karam Chand Thapar & Bros. (Coal Sales) Ltd., he is presently designated as Chief Mentor of the Company. KCT has a sizeable presence in logistics of domestic coal, handling about 40 M.T./year.

In addition, as Ex-Chairman of the Mining & Construction Equipment Division of CIL, he has been regularly contributing thoughts and ideas towards the policy making in regard to the emerging coal scenario leading to the auction of coal blocks. As President of the Indian Coal Merchants' Association and Chairman of the Indian Mining Federation, he has played a critical role in representing the needs and concerns of the various coal consumers with regards to the marketing and distribution of coal by means of regular interaction with the Ministry of Coal, Ministry of Railways and Coal India Ltd.



Shri Surojit Samanta

Managing Director, S. K. Samanta & Co.

Shri Surojit Samanta is the Managing Director of S. K. Samanta & Co. (P) Ltd. an infrastructural engineering company, popularly known as SKSL. SKSL is a leading EPC Contractor, operating in various States in India having clientele like NCL, SECL, BCCL, MCL, ECL, SAIL, DVC, HEC etc.

After graduating from Manipal Institute of Technology, Sri Samanta practiced as an Architect for about a year with M/s. Stein, Doshi & Bhalla, New Delhi and then joined his family business, SKSL and since then is serving the Company in various capacities and is holding the position of MD since 2006. During this period SKSL's turnover excelled from a modest Rs. 10 crores to over Rs. 500 crores in recent years. SKSL, also, had set up a steel plant in Chhattisgarh with annual production capacity of 1.5 Lakhs MT.

Shri Samanta has served as VP, Builders' Association of India; Chairman, Eastern Region, ASSOCHAM; Council Member of Indo-American Chamber of Commerce; Member of ICC and FICCI so on and so forth.

Shri Samanta is member of Council of Architecture and India International Centre. He is also member of Elite Clubs like The Calcutta Club, The Bengal Club, The Delhi Flying Club etc. Shri Samanta is a keen traveler having travelled to almost all major places of tourism interest around the world.



Shri Ghan Shyam Singh

President - Logistics, JSPL and Former Member, Railway Board

Shri Ghan Shyam Singh, IRSEE has been working in Jindal Steel and Power Ltd. since June 2020 as Executive Director. He is looking after complete logistics for JSPL group.

Shri Singh is a Bachelor in Electrical Engineering with Gold Medal from University of Allahabad and belongs to Indian Railway Service of Electrical Engineers (IRSEE). He is superannuated from Indian Railways as Member Traction & Ex Officio Secretary to Government of India in 2019. Shri Singh has served Indian Railways for 38 years approximately holding different positions in Ministry of Railway & Zonal Railways. While working with Indian Railways, Shri Singh has achieved professional excellence for which, he has been awarded twice at the level of Hon'ble Minister for Railways and also twice at General Manager level. Some of the notable professional work done by Shri Singh, are conversion of Diesel loco into Electric loco, Injection of solar power on 25 KV AC traction lines of railways, indigenous automatic switched neutral section etc.

With JSPL, Shri Singh, apart from executing daily logistics operational needs, also deeply involved for logistics planning and execution of logistics infrastructure of future planned expansion of steel plants.



Shri Sabyasachi Hajara

Former CMD, The Shipping Corporation of India Ltd. (SCI)

Shri Sabyasachi Hajara is a former CMD, The Shipping Corporation of India Ltd. (SCI) (2005-2012). During his tenure, the turnover of SCI increased substantially and the increase in the Gross asset value was twofold and SCI also received the status of 'Navratna' by Govt of India in 2008.

Shri Hajara passed out from IIM Calcutta and joined SCI in 1973. Since then he worked in SCI in various key positions, like General Manager, Project Leader, Director (P & A) etc.

He is also on the Board of Directors of several companies like Adani Petronet Port Project Ltd, L&T Shipbuilding, Doehle Danautic India, ICL Shipping, Dubai, Dolphin Offshore Shipping, IIM Shillong etc.

At the India Shipping Summit 2007, he was conferred the “Innovator of The Year” award. The SHIPPING & MARINE 2008, supported by CHEMTECH Foundation, has conferred the “Business Leader of the Year Award – for Shipping” to him. Also at the Sailors Today Award ceremony on 21.04.12, he was conferred with prestigious “Life-Time Achievement award” for his outstanding contributions to the Shipping Industry for last four decades. At the 3rd All India Maritime and Logistics Awards (MALA) 2012, he was conferred the “Global Indian & Maritime Personality of the Year”. Lastly he was also conferred honorary fellowship/honorary membership by the Institute of Marine Engineers and the Company of Master Mariners' respectively



Shri Partha S Bhattacharyya

Vice Chairman, Peerless Group & Former CMD, CIL

He joined Coal India Ltd as Management Trainee in 1977, rose to become Chairman in 2006 and retired in Feb 2011. He steered CIL through Miniratna in 2007, Navratna in 2008 and finally Maharatna in 2011 - a unique feat by any PSU CMD.

In 2010, he spearheaded the Initial Public Offer (IPO) of 10% of CIL's equity. It met with resounding success and became a landmark event. The IPO is still the largest in India so far.

He is also credited with turnaround of BCCL in 2005-06 as well as introduction of coal sale by e-auction in 2004-05.

He authored WHEN COAL TURNED GOLD, published by Penguin in Aug 2018. The Foreword to the book was written by Shri Pranab Mukherjee, Former President of India.

Shri Bhattacharyya is currently the Vice Chairman of Peerless Group and Director on the Board of several companies in India and abroad.

**Shri Anil Kumar Jha***Chairman, Jindal Power Ltd & Former CMD, CIL*

Shri Anil Kumar Jha, Chairman, Jindal Power Limited is a Post Graduate (M.Tech) Mining Engineer with distinction in Mine Planning & Design from Indian School of Mines, Dhanbad. He began his career in Coal Mining Industry in 1983 in Central Coalfields Limited. He was Chairman & Managing Director of Coal India Limited (CIL) since May 2018 and superannuated from that position on January 31, 2020.

During his tenure in 2018-19, CIL achieved a growth rate of 7% and absolute growth of 40 million tons in coal production.

Prior to the assumption of CIL's apex post, he headed Mahanadi Coalfields Limited and also worked with CMPDI and MOIL.

He is the recipient of "Best Chief Executive" award conferred by GeoMine Tech for his outstanding performance of MCL. He is immediate past President of the Mining, Geological & Metallurgical Institute of India (MGMI).

**Shri Manoj Kumar***CMD, WCL*

Shri Manoj Kumar, took charge as Chairman-cum-Managing Director, WCL on 1st of January, 2021. Prior to that, he was working as Director Technical in the same Organization since 29th November, 2018.

Shri Kumar is a Mining Engineer with distinction from the Indian School of Mines, Dhanbad -1985 batch. He obtained First Class Mine Manager's Certificate of Competency in the year 1989. He did M.Tech in Rock Excavation Engineering from ISM, Dhanbad in 1993-94 and is recipient of Gold Medal. He started his career in mining industry from WCL/SECL. He has been serving the coal industry for more than three decades. During this tenure, he served at WCL, SECL & ECL in various capacities.

He is known for his expertise in difficult underground mining methods and Continuous Miner Technology. His concern for contribution towards National Priorities, Sustainable Development and humanity forced a paradigm shift in outlook towards attainment of societal well-being. His personal initiatives through launch of MUDRA & SEHAT has created replicable niche in Coal India.

**Shri P M Prasad*****CMD, CCL & BCCL***

Shri P M Prasad took charge as Chairman-cum-Managing Director (CMD) of Central Coalfields Limited (CCL) on 01/09/2020. Presently he is having the additional charge of CMD, BCCL too. He has over 37 years of experience in the mining industry. He is a mining engineer from Osmania University. He did M. Tech in 'Open-Cast Mining' from Indian School of Mines (IIT-ISM), Dhanbad. He also has a degree in law from Nagpur university.

In 1994-95, he was instrumental in reopening of DRC mine, WCL which was affected by underground fire. For this remarkable job, he was given the 'Best Mines Manager' award by Secretary Coal, Ministry of Coal (MoC) and Chairman, Coal India Limited. In 2015 he joined NTPC as Executive Director (Coal mining). He expedited award of Pakri Barwadiah coal block (NTPC's first project) and floated NITs for other coal blocks of NTPC.

In February, 2018 he joined Northern Coalfields Limited (NCL) as Director Technical (P&P) where he was responsible for the operations of five areas of the company along with key departments like Corporate Planning, Civil Engineering, Railway Siding, Environment & Forest, etc. Under his leadership, NCL was awarded at the World Environmental Conference in June 2018 for outstanding work in environment conservation.

Sustainable mining being his priority, the contracts for 03 FMC (First Mile Connectivity) projects of Magadh, Amrapali & North Urimari of CCL were awarded in the last year after his taking charge of CMD, CCL.

**Shri T K Nag*****Former CMD, Northern Coalfields Limited
Singrauli***

Shri T K Nag is former CMD, Northern Coalfields Limited, Singrauli. He is a Graduate from the Indian School of Mines (ISM), Dhanbad. He has rich experience of handling both UG & OC mines assignments in a career i.e. spun over a period of more than 35 years. He became Director of CCL in May 2008, and worked in various department till 2014.. During his tenure as Director (Tech) of CCL, production reached to an all-time high figure of 48.10 Mill. Te during 2012-13. He took charge as CMD, NCL in 2014.

Shri Nag has attended and completed Mining courses in Australia, Philippines, UK etc. He has been conferred upon with many awards like “e-India Award”2013, Eminent Engineers Award 2012” by various organisations of national and international repute. He has to his credit various publication on varied subjects like Clean Coal technology, Study of Mine Fires, difficulty in Land Acquisition, Safety issues in deep opencast mines, Coal Washing and other technologies etc.

**Ms. Nandini Chakraborty***Managing Director, Mine Line*

Ms. Nandini Chakravarty, Managing Director of Mine Line, manufacturer of electrical equipment designed for hazardous atmospheres like coal mines and petrochemical industries for 45 years. Mine Line is market leader in flameproof mining electrical equipment.

Technology Partners : BARTEC Germany and BECKER Warkop, Poland, in India.

Qualifications : B.A. (Hons) Degree Vishwa Bharati, PG, IIM, Kolkata.

Accreditation :

- MGMI Presidential Award and Gold Medal for "Outstanding Contribution towards Mining Science" 2014.

Co-Chair : CII Mining and Construction Equipment.

Committee Member :

- DGMS Approval Policy recommendations
- CII Safety
- BIS ETDC 22
- ITI Shibpur, IMC, IEEMA nominee.

Publications : Independent publications - Coal Insights, Economic Times etc.

**Dr. M P Narayanan***Co -Chairman, Indian Coal Forum*

Dr. M.P. Narayanan is an eminent administrator and technocrat with a long and successful innings behind him holding important official positions. Dr. Narayanan currently apart from running a prominent scientific NGO also contributes his expertise to various high power think tanks/committees. His strong area of interest is planning for sustainable development.

A Mining Engineer by profession, committed to Public Sector Management ethos and a proponent of Innovative Man-Management approach of functioning. Has served the Public Sector and sustainable development over a period of 33 years. He was the Chairman of Coal India Ltd. (1988-91) and Neyveli Lignite Corp Ltd. (1985-88)

Apart from his involvement in Information Technology fields, Dr. Narayanan has been very actively involved in the activities of World Mining Congress. He was one among the leading personalities who took part in bringing up a very grand success of World Mining Congress, 2003 held in New Delhi, India.

**Shri S.K. Chowdhary***President –ICF & Former Chairman, CIL*

After graduating from Indian School of Mines in 1957 Shri S.K. Chowdhary was deputed to U.K. by National Coal Development Corporation (NCDC) Govt. of India for 3 years, where he completed his Post Graduate studies and Management Training with National Coal Board, U.K. On return from U.K. in 1960, Shri Chowdhary was appointed as Project Manager of the largest Indo-Polish collaboration Project in India at Sudamidi, Dhanbad.

Shri Chowdhary has worked in Coal Industry of India for more than 35 years and after working at various levels in management, he was appointed as Chairman, Coal India Ltd. in 1991. During the first year of his tenure he with his team in Coal India, achieved the turn-around of Coal India, which had been incurring heavy, financial losses since its formation in 1975. Shri Chowdhary during his tenure, also, established The Indian Institute of Coal Management at Ranchi.

He has received various Awards and Medals. He was awarded the Lawrence Holland Gold Medal from Institution of Mining Engineers (London), National Mineral Award from Govt. of India, Diwan Bahadur Thacker Gold Medal from MGMI, National Mining Engineering Design Award from Institution of Engineers (India), Life Time Achievement Award from Indian Mine Managers Association, and Global Excellence Award in Coal Sector from Energy and Environment Foundation.

Currently Shri Chowdhary is President of Indian Coal Forum and Chairman of International Consultants (P) Ltd. He is a Member of Supreme Court Bar Association and is practicing as Advocate in Supreme Court of India.

**Shri U Kumar***Executive President, ICF
Advisor, Essel Mining & Industries*

After Graduating from the prestigious Indian School of Mines, Dhanbad in Mining Engineering in 1958, he joined National Coal Development Corporation (NCDC) and rose to the rank of Dy. Chief Mining Engineer when NCDC was merged into Coal India Ltd. Moving forward and working as General Manager and Chief General Manager, he was appointed Director (Tech) in CMPDI and then CCI. Where from he moved as CMD to NCL, Singrauli and then to SECL, Bilaspur.

After his superannuation in 1977, he worked for two Private Sector Mining Companies and joined Essel Mining & Industries Ltd. of Aditya Birla Group as Advisor (Coal) in 2006 and is continuing as such.

He has served as Vice-Chairman, Standing Committee of Ministry of Coal under MMD and R Act for 6 years and Director, World Coal Institute, Member, Central Pollution Control Board, Government of India. National President, Mining Geological & Metallurgical Institute of India. President, All India Public Sector Sports Control Board and on Board of Governors, Indian Institute of Coal Management (IICL).

He has received several awards like Indira Priyadarshini Vriksha Mitra Award, Government of India. D.D. Thacker Gold Medal from MGMI, Distinguished Alumnus Award from Indian School of Mines and Engineer of the Year Award by Institution of Engineers and authored large no. of papers on various aspects of Coal mining.

**Shri N N Gautam***Secretary General, ICF & Former Advisor (Projects), MoC*

- Graduated B.Sc. (Hons.) Mining from Indian School of Mines, Dhanbad in 1962.
- Worked 30 years in Bengal Coal Co. a British Company & Coal India Ltd in deep underground mechanized mines and large mechanized open cast mines.
- Worked as Director (Technical)/ Advisor (Projects) in Ministry of Coal, Government of India.
- Worked as Advisor UNDP/GEF-GoI “CBM Recovery and Commercial Utilisation Project” costing 100 crs. CBM from Vertical wells at Moonidih mine of BCCL was recovered and 1 MW power was generated.
- **Past Positions held :** Vice President, Mining Metallurgical Geological Institute (MGMI), Past President of MGMI Delhi Chapter, Advisor, ACB (India) Ltd.
- Currently Advisor JSPL, Chairman Coal group of India Energy Forum an NGO of Energy Experts, Secretary General, Indian Coal Forum, an NGO of Coal Experts, Secretary General of IIT (ISM) Alumni Association Delhi Chapter, Special Secretary (Events) MGMI DC.
- Distinguished Alumnus Award from Indian School of Mines Dhanbad.
- Life Time Achievement Award of Energy and Environment Foundation.
- Presented over 50 technical papers in International & National Journals and seminars.

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Company Profile (Exhibitors)

Bharat Coking Coal Limited

(A Miniratna Subsidiary Company of Coal India Limited)

Koyla Bhawan, Koyla Nagar, Dhanbad-826005 (Jharkhand)

Tel. No.: 91-326-2230028

Website : www.bcclweb.in

Bharat Coking Coal Limited (BCCL) is a Public Sector Undertaking engaged in mining of coal and allied activities.

It occupies an important place in as much as it produces bulk of the coking coal mined in the country. BCCL meets almost 50% of the total prime coking coal requirement of the integrated steel sector. BCCL was incorporated in January, 1972 to operate coking coal mines (214 Nos) operating in the Jharia & Raniganj Coalfields, taken over by the Govt. of India on 16th Oct, 1971 to ensure planned development of the scarce coking coal resources in the country. Currently, the Company operates 36 coal mines which include 11 underground, 16 opencast & 09 mixed mines as on 01.04.2020. The Company also runs 8 coal washeries & 4 are under construction. The mines are grouped into 13 area (including Washery Division) for administrative convenience. The total manpower as on 31.05.20 was 43,090 and as on 01.03.2010 is 72,222.



Central Coalfields Limited

(A Miniratna Subsidiary Company of Coal India Limited)

Darbhangha House, Kutchery Road, Ranchi-834029 (Jharkhand)

Tel. No.: 91-651-2301606

Website : www.centralcoalfields.in

Number of Mines : 62 Operative Mines (22 Underground & 40 Opencast Mines)

Washeries : 7 Washeries

5 Coking Coal Washeries (Kathara, Rajrappa, Kedla & Sawang, Kargali)

2 Non-Coking Coal Washeries (Piparwar & Giddi)

Repair/Workshops : 1 Central Workshop (ISO 9001) at Barkakana

5 Regional Repair/Workshops (3 w/s are ISO 9001) at Jarandih, Tapin North, Dakra, Giridih & Bhurkunda

Operating Coalfields : 7 Coalfields (East Bokaro, West Bokaro, North Karanpura, South Karanpura, Ramgarh, Giridih & Hutar)



Mahanadi Coalfields Limited

(A Miniratna Subsidiary Company of Coal India Limited)

Jagriti Vihar, Burla, Sambalpur - 768020 (Odisha)

Tel. No.: 91-663-2542870

Website : www.mahanadicoal.in

Mahanadi Coalfields Limited (MCL) is one of the major coal producing company of India. It is one of the eight subsidiaries of Coal India Limited. Mahanadi Coalfields Limited was carved out of South Eastern Coalfields Limited in 1992 with its headquarters at Sambalpur. It has its coal mines spread across Odisha.

MCL has subsidiaries with private companies as a joint venture. The name of these companies is Mahanadi Basin Power Limited (SPV), MJSJ Coal Limited, MNH Shakti Limited, Mahanadi Coal Railway Limited.



Northern Coalfields Limited

(A Miniratna Subsidiary Company of Coal India Limited)

Singrauli, Madhya Pradesh - 486889

Tel. No.: 91-7805-266670

Website : www.nlccil.in

Northern Coalfields Limited (NCL), Singrauli is a major contributor towards fulfilling energy requirement of the nation. NCL is a wholly owned subsidiary of Coal India Limited, under the Ministry of Coal, Government of India and Mini Ratna (Category-I) company since 2007.

NCL operates primarily with the objective of producing coal with due regard to social up-liftment, sustainable development and environmental up gradation. It is an ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 certified company. Organization's main products include non-coking coal in the range of grades G5 to G13 besides 'De-shale Coal' and the 'Coal Rejects'. About 86% of the coal produced is dispatched to Power Sector. NCL has share of about 15% in nation's total coal production i.e. a contribution of about 10% in total power generation.

NCL was formed in November, 1985 encompassing Singrauli Coalfield, carved out of Central Coalfields Ltd., with its Headquarter at Singrauli, Madhya Pradesh.



South Eastern Coalfields Limited

(A Miniratna Subsidiary Company of Coal India Limited)

Bilaspur, Chhattisgarh - 495006

Tel. No.: 91-7805-266670

Website: www.secl-cil.in

South Eastern Coalfields Limited is the largest coal producing company in the country. The coal reserves of South Eastern Coalfields Limited are spread over two States, namely, Chhattisgarh and Madhya Pradesh and the Company is operating 89 mines with 35 Mines in the State of Madhya Pradesh and 54 Mines in the State of Chhattisgarh besides a Coal Carbonization Plant namely Dankuni Coal Complex (DCC) at Dankuni in West Bengal on lease basis from Coal India Limited.

For effective administrative control and operation, the mines have been grouped in three Coalfields, namely, Central India Coalfields (CIC), Korba Coalfields and Mand-Raigarh Coalfields with 13 operating Areas.



Western Coalfields Limited

(A Miniratna Subsidiary Company of Coal India Limited)

Coal Estate, Civil Lines, Nagpur - 440001 (Maharashtra)

Tel. No.: 91-712-2510440

Website: www.westerncoal.in

Western Coalfields Limited (WCL) is one of the eight Subsidiary Companies of Coal India Limited (CIL) which is under administrative control of Ministry of Coal. The Company incorporated under the Companies Act, 1956 has its registered office in Nagpur, Maharashtra. WCL has been conferred "Miniratna" status on 15th March'2007. The Company has contributed about 7.02% of the national coal production during 2015-16. It has mining operation spread over the states of Maharashtra (in Nagpur, Chandrapur & Yeotmal Districts) and Madhya Pradesh (in Betul and Chhindawara Districts). The Company is a major source of supplies of coal to the industries located in Western India in the States of Maharashtra, Madhya Pradesh, Gujarat and also in Southern India in the States of Andhra Pradesh, Tamil Nadu, Karnataka and Kerala. A large numbers of Power Houses under Maharashtra, Madhya Pradesh, Gujrat, Karnataka, Punjab and Uttar Pradesh - Electricity Boards are major consumers of its coal along with cement, steel, chemical, fertilizer, paper and brick Industries in these states.



Dilip Buildcon Limited

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Bhopal Madhya Pradesh - 462016 • Tel: 91-623 290 2999
Email : db@dilipbuildcon.co.in • Web: www.dilipbuildcon.com
Contact: Amares Kumar, President

DBL's humble beginnings in 1987 with visionary growth catapulted as one of the India's largest infrastructure company. This journey is characterized by hard work, respect for relationships and drive to excel enabled DBL to achieve value-centric delivery, execution process and commitment to innovation which set the stage for the sustainable growth & development. The DBL's portfolio includes Roads, Highways, Rail, Metro, Airport, Mining, Irrigation, Tunnels, Dams, Irrigation, Tunnel, Bridges, Specialized Construction and Urban Development

DBL commenced its coal mining journey in 2016 and today DBL is developing Siarmal OCP of MCL (50 MTPA) and Pachhwara Central Coal Mines of PSPCL (7 MTPA) and other Overburden Removal Contracts at NCL and MCL totaling to an excavation capacity of 200,000 BCM per day.



Hindalco Industries Limited

Ahura Centre, 1st Floor, 82 Mahakali Caves Road, Mumbai - 400093
Tel. No.: 91-22-6691 7000 • Email : t.kumar@adityabirla.com
Website : www.hindalco.com

Pioneers in the manufacture of aluminium in India, Hindalco's evolution has matched India's economic development step by step. Guided by its purpose of building a greener, stronger, smarter world, Hindalco provides innovative solutions for a sustainable planet. We make aluminium for cars, planes and smartphones.

Hindalco also supplies India are copper through Birla Copper, which operates one of Asia's biggest custom copper smelters in Dahej, Gujarat. Hindalco is one of the largest suppliers of Copper to the Indian Railways. Birla Copper is India's biggest private producer of precious metals such as gold and silver. Our chemicals can be found on the glass on high-end smart phones to the finest tableware.

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Mine Line Private Limited

23 Indrani Park, Kolkata 700033

Tel. No.: 91-33-2417 8398/2709 • Email : info@mineline.in, supriyo@mineline.in

Website : www.minelineindia.com

Contact : Supriyo Dutta, *Executive Assistant* (91- 9674294029)

Mine Line is a 40 year old, ISO 9001 company, manufacturing electrical equipment used in hazardous atmospheres and open cast mines. Mine Line make flameproof, DGMS approved products which are used in underground mines, are considered to be a safe option for hazardous atmospheres in underground coal mines.

Employing over 130 people, over 3 production units, including 5 permanent service sites Mine Line is the leading player in the field of Mining electrical equipment. Cutting edge technology, Customer care, lifecycle management and innovation are the key factors of success. Mine Line undertakes the design and manufacture of import substitution on board electricals for various applications.

Mine Line has developed load centers for running of underground mechanized mines with Automation from their German technology partners, Bartec. These are successfully running Continuous Miner and Longwall Projects in various sites.



Poona Couplings Pvt. Ltd.

Gat No. 106, At & Post Pirangut, Tal. Mulshi, Distt. Pune 412108 (Maharashtra)

Tel. No.: 91-80870 90164/65 • Email : marketing@poonacouplings.com

Website : www.poonacouplings.com

Contact : Abhay Kulkarni, *Vice President – Business Development*

Poona Couplings Pvt. Ltd. (PCPL) is engaged in design, manufacture and export of intrinsically fail - safe, torsionally soft, flexible, rubber in compression couplings. PCPL manufactures a wide range of couplings for Mining, Metal, Cement, Pumps, Compressors, Generator Sets and Heavy Duty Industrial Equipment and Marine applications. The couplings are ATEX certified (Directive 94/9/EC), PCPL is ISO 9001: 2015 certified and has a Type Approval Certificate and Recognition for Mode II Scheme from Bureau Veritas for classification of Steel Ships for Marine and Offshore applications. PCPL takes pride in designing and manufacturing Engineered to Order products based on customised requirements.



S. K. Samanta & Co. (P) Ltd.

2/5, Sarat Bose Road, Kolkata 700020

Tel. No.: 91-33-6637 4090 • Email : kol@sksl.in

Website : www.sksl.in

Contact : Samrat Dhar, *Company Secretary*

S. K. Samanta & Co. (P) Ltd., popularly known as SKSL, an ISO: 9001-2015 Company, is a large infrastructural engineering company and is expert in turnkey execution of infrastructural projects e.g. bulk material handling plants, heavy industrial workshop complexes, cross country pipelines, roads, educational complexes, buildings, extensive earth work, water and sewage treatment plants etc., right from planning, design, engineering, supply, construction to commissioning and handing over to clients after conducting tests. The activities include geotechnical investigation, survey, planning, system design, engineering, civil and structural work, supply and erection of all equipment, both indigenous and imported, entire electrical works with PLC system, air pollution control system etc. SKSL has esteemed clientele like NCL, SECL, BCCL, MCL, ECL, SAIL, DVC, HEC etc. In recent years SKSL's turnover excelled to over Rs. 500 Crores. SKSL, also, had set up a steel plant in Chhattisgarh with annual production capacity of 1.5 Lakhs MT. SKSL is also involved in various CSR activities.



Smartchem Technologies Limited

Survey no. 93, Sai Hira, Mundhwa, Pune 411036

Tel. No.: 91-900 777 3477 • Email : maharshi.bhaduri@dfpcl.com

Website : www.dfpcl.com

Contact : Maharshi Bhaduri, *DGM (Tech. Services)*

Smartchem Technologies Limited, a wholly owned subsidiary of Deepak Fertilisers and Petrochemical Corporation Limited, is one of the leading manufacturers of Technical Ammonium Nitrate in the world.

With an installed capacity of almost 0.5 Mn MTPA, STL is a preferred partner of the mining, infrastructure and explosives-manufacturing industries in India and globally. The company has a dedicated team that ensures safe and efficient delivery of TAN to its customers. Our manufacturing units are strategically located on the Eastern and Western coasts of India, which helps in realising efficiency in Supply chain and logistics.



Volvo Trucks India, VE Commercial Vehicles Limited

Tavarekere post, Hosakote Taluq, Bangalore Rural Distt., Bangalore - 562114

Tel. No.: 91-98864 60100 • Email: paidb@volvo.in

Website: www.vecv.in

Contact: Deviprasad B Pai, *National Sales Manager*

Volvo Trucks India is a Division of VE Commercial Vehicles Limited which carry out sales & aftermarket support of Volvo Trucks in India. Over 6000+ trucks are working in India in various applications like Coal mining, Mineral Mining, Cement, Construction & Infra projects (viz, Road, Irrigation, Quarry etc), Long Haul/E-commerce, Over Dimension Cargo (ODC), Institutional Sales like Govt Inst (ISRO, BARC etc.) Quasi Defense/ Defense labs (VRDE, DRDO etc.), Fire & Rescue, Oil & Energy segment etc.

We provide complete solution to customers including product recommendation, project costing, Customized After market support Agreement, Funding support & other services. VECV has >200 service touch points across India to ensure high uptime & service support to Volvo Trucks.



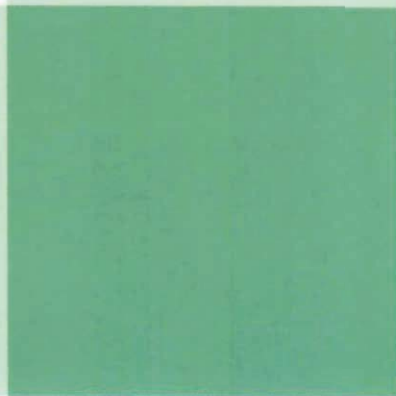
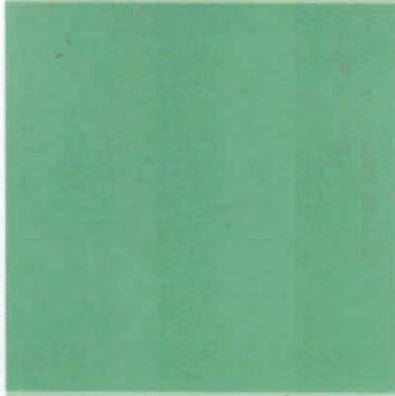
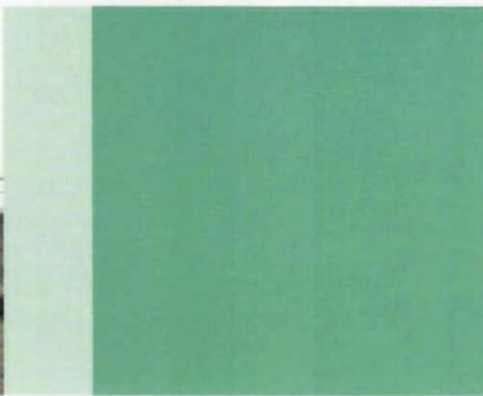
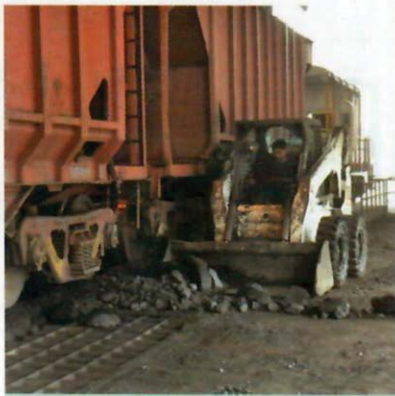
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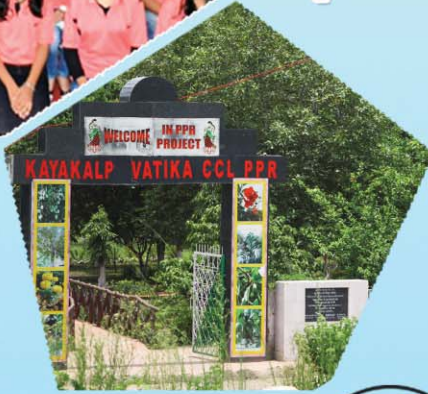


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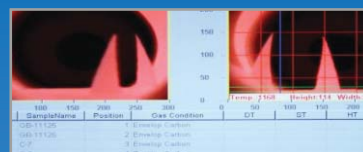
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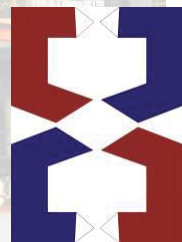
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