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Indian Mining & Exploration Updates



VOLUME 4, ISSUE 1

DECEMBER 2016

## CARROT FOR NON COAL EXPLORERS!! - PAGE 1...



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# CENTRE SET TO OFFER ATTRACTIVE INCENTIVES TO EXPLORERS FOR NON-COAL MINERAL BLOCKS

As several non-coal mineral blocks are being auctioned off to exploration companies, the government may offer them 0.05% of the value of the estimated resources (VER) as incentive, provided the asset is explored up to G2 level, which requires identified deposits to be delineated.

As several non-coal mineral blocks are being auctioned off to exploration companies, the government may offer them 0.05% of the value of the estimated resources (VER) as incentive, provided the asset is explored up to G2 level, which requires identified deposits to be delineated,

reports Surya Sarathi Ray in New Delhi. However, to ensure that the explorers don't find the projects too risky, a market-determined annual advisory fee (AAR) will also be given to the firms, as per a draft contract framework prepared. The incentive will be at least equal to the AAR. It will, however, be capped at 10 times the AAR so that vary large finds don't result in the government forking out too much.

If the exploration is done only up to G3 level (prospecting stage), the incentive will be 0.035% of the VER or 70% of the amount given for a G2 level find.

To illustrate, if the VER in a G2 block is pegged at Rs 1,000 crore and AAR is fixed at Rs 3 crore, the explorer will get Rs 3 crore as incentive even though 0.05% of VER works out to Rs 0.5 crore only. In case the value of the resources is Rs 1 lakh -

<b>0.05%</b>	<b>0.035%</b>
Incentive for explorers for viable (G2*) mineral deposit find, as share of its value	The explorers' share if a block is explored only up to G3* level
Incentive will be in addition to a market-determined annual advisory fee (AAR), will at least equal AAR and be capped at 10 times the AAR	
<small>*G2 level denotes initial delineation of an identified deposit and G3 represents prospecting stage</small>	



crore, the explorer will get not more than Rs 30 crore (ten times the AAR) as incentive even though 0.05% of VER in that case works out to Rs 50 crore.

Under the new bidding conditions, the licences will be exclusively for exploration; the idea is attract private companies with expertise in the field to work in India, whose non-coal mineral deposits (base metals and deep-seated minerals besides limestone, bauxite and iron ore etc.) are inadequately tapped. The explorers will be appointed in a two-step process: National Mineral exploration Trust (NMET) will first invite for expression of interest (EoI) from global and domestic explorers and if

they meet the stipulated technical criteria, they will be empaneled for three years.

Technical and financial bids would then be invited from the empaneled explorers. Weights will be assigned to the technical and financial bids in the ratio of 70:30. Bidder quoting the lowest advisory fee will get the maximum score on the financial bid while technical bids will be evaluated separately. The bidder with the highest composite score will be selected.

Mineral areas have remained largely untapped in the country with only 10% of the 8 lakh square km area explored so far. Mining takes place on just 1% of the explored area. There are 16 notified exploration agencies in the country but the exploration activities and deployment of exploration is also low.



## INDIA AIMS TO BRIDGE GAP BETWEEN GRANTED LEASES AND OPERATIONAL MINES

After laying out a new policy environment for mining, India's Mines Ministry has launched second-generation reforms aimed at bridging the gap between the number of mining leases granted and operational mines.

Currently, 3 884 mining leases have been granted, but only 1 800 mines are operational.

Having set out a new policy regime under the National Mineral Policy and National Mineral Exploration Policy over the past year, the government has now come to the view that dealing with supply-side aspects and boosting production, despite depressed commodity markets, will be key to achieving government-stated goals involving the industry.

A senior official in the Ministry said that getting more mines

operational was imperative if government's stated objectives of increasing mineral production by 2.5 times and doubling its contribution to gross domestic product to 2% were to be achieved.

Following a recent review, the Ministry concluded that the big gap between the capacity visible in sanctioned mining plans and current production levels had to be bridged to reach fuller capacity utilisation.

Government's next step would include identification and execution of blocks obtained through auctions, expediting mandatory clearances required from provincial and federal governments and reducing gestation periods through adoption of improved technologies, the official said.

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However, acknowledging that mine output was a factor of infrastructure growth and industrial production increases along with commodity price cycles, the Ministry has maintained that developing such an efficient mining ecosystem and higher production levels could not be activities earmarked only for an upturn in commodity cycles.

Picking up a cue, one of the country's largest industry associations, the Confederation of Indian Industry (CII), stated in a recent report on the mining sector that India could add \$70-billion to the economy by 2030 and generate an additional six-million jobs if government were to foster a more conducive business environment.

The CII report said, "Presently, the process of obtaining approvals and clearances still remains long drawn and varies from state to state. This requires [simplification] so that the time required for

operationalisation of the mineral concession can be drastically reduced."

Some of the measures enunciated by CII included finalisation of specific timelines for each approval process step, without modifying the overall stipulated time in the notification; finalise responsibilities and accountability at each process step, wherever not defined at present; and work on digitising the approval process for enabling integrated online communication between central, state and district authorities. In fact, concerned by the piling up of pending mining leases, the Mines Ministry last month wrote to provincial governments seeking expeditious clearances of the same. There are 317 mining licences across 12 mineral-rich states pending. These licences fall under the Mines and Minerals Development and Regulation Act 2015 and if not processed by January 11, 2017, will automatically lapse.

## TECH INTERVENTION: SURVEYING MINES WITH A DRONE'S EYE VIEW

The Centre has decided to give a major thrust to the use of unmanned aerial vehicles (UAVs) – commonly known as drones – in order to increase the efficiency of various aspects of mining sector such as plan preparation, area inspection and mineral exploration.

While the Union mines ministry in its November 1 letter to all state governments and public sector units (PSUs) involved in mining asked to "explore the usage and deployment of drone technology in your respective organisations", it has already asked its exploration company – Mineral Exploration Corporation Limited (MECL) – to buy one or two drones and start using them so that others can see the benefits themselves.

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"I have asked the MECL to buy one or two state-of-the-art drones, which can do most of the stuff such as mining plan, geo-referencing, inspections etc. Once these drones are purchased, MECL would be free to lend them to other organisations such as Geological Survey of India (GSI) and Indian Bureau of Mines (IBM)," said Balvinder Kumar, secretary, Ministry of Mines to The Indian Express. All three organisations – MECL, GSI and IBM – work under Ministry of Mines.

"Now, if a (mining) plan has to be prepared for a 100 square kilometer area, the drone can do a broad survey of the whole area, along with its geology, within 8 or 10 days. The same work, if done manually, takes two to three months," he added.

The mines ministry, however, is yet to receive any reply to the November 1 letter written to states and public sector units such as National Aluminium Company (NALCO), Hindustan Copper

Limited (HCL), National Mineral Development Corporation (NMDC), Steel Authority of India Limited (SAIL), Rashtriya Ispat Nigam Limited (RINL), Mineral Exploration Corporation Limited (MECL), Bharat Gold Mines Limited (BGML) and MOIL (formerly known as Manganese Ore India Limited). In its letter, the mines ministry had specifically asked the states and these companies to "share the action taken in this regard with the ministry". The mines ministry, however, is undeterred. A few days ago, Kumar received a presentation from IIT Kanpur that talked

about how the drones can provide all kind of services and how they can be designed as per a mining organisation's requirements.

"They (IIT Kanpur) talked about how we can take a high quality picture from above and we can easily analyse the area belonging to dumps or to the green area. They also talked about how the inspection of an area can be done with the

help of drones. We don't need to go there physically.

Also, we can assess the production by seeing the depth to which the miner has gone to. So, if the miner tells us that if he has taken out 10,000 tonne of mineral, we can easily check it through the images," Kumar said. "Another area, which they believe can be checked is illegal mining. For example, to help catch illegal sand mining, they told us that the drone can go to 5 km in one direction on a river bed. This means that a 10 km stretch can be observed by drone," he added.

Globally, the use of drones in the mining sector has already begun. Rio Tinto, one of the world's largest mining company has already been using drones to survey its mining pits and use of equipment in Western Australia.

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International Data Corporation (IDC), a global market intelligence firm, did a survey in 2015 of 190 mining companies across the world, where it found that “mining companies are looking to a future where technology is changing the operations of the mine.” Its research showed that 69 per cent of mining companies globally are looking at remote operation and monitoring centers, 56 per cent at new mine methods, 29 per cent at robotics and 27 per cent at unmanned drones. IDC found 83 per cent of mining companies saying that their technology budgets will increase or stay the same in 2015.

Talking about the global use of drones in mining sector, Kumar told this newspaper: “I am sure that other countries must be using it already. I have not seen it personally. If our IIT is guiding us on this issue, then I am sure that other countries must be using it already in the mining sector. Nowadays, high resolution drones have already come in mining sector

which gives us the exact picture on the ground.”

“With fewer man hours required to produce large, accurate data sets, and no need for externally sourced imagery, the result is vastly reduced costs. In fact, many operators report that a single imaging drone – comparable in price to a mid-range GPS rover – can pay for itself in just a few months,” said the November 1 letter of Union mines ministry.

MECL is set to use the drones, the government is pushing other PSUs to use them, government believes that it is now affordable and drones’ usage globally in this sector is already increasing. All these factors may lead to the technology’s widespread use in the Indian mining sector. However, with mineral demand not up to the required levels, which can be observed from the lukewarm response of the Indian companies to the ongoing non-coal mining auction, it remains to be seen if they would move quickly to adopt drones.

## THE GOVERNMENT OF INDIA SIGNS EXPLORATION CONTRACT WITH THE INTERNATIONAL SEABED AUTHORITY

The International Seabed Authority and the Government of India have signed a 15-year exploration contract for polymetallic sulphides.

The contract was signed today, Monday 26 September in New Delhi, India by the Secretary-General of the International Seabed Authority, Nii Allotey Odunton and Dr M Rajeevan, Secretary of the Ministry of Earth Sciences.

The application area, located in the central



Indian Ocean, covers 10,000 km<sup>2</sup> and consists of 100 blocks, each of 10 km by 10 km, which are grouped into five clusters, each containing from 15 to 30 blocks. The application area is confined within a rectangular area not exceeding 300,000 km<sup>2</sup> in size and where the longest side does not exceed 1,000 km in length.

The Government of India currently has an exploration contract with the Authority in the Indian Ocean for polymetallic nodules, which entered into force on 24 March 2002.

## COAL INDIA ARM SIGNS PACT WITH SBI CAPS

Central Mine Planning and Design Institute Ltd (CMPDI) the consultancy arm of Coal India Ltd., has signed a memorandum of understanding with investment banker SBI Capital Markets.

The agreement is aimed at tapping each other’s strengths to increase their respective market share in the rapidly growing consultancy area, according to a statement from Coal India.

It is expected that CMPDI, with expertise in mineral exploration, resource evaluation including coal bed methane , mining geology , hydro



geological and engineering geology investigations and mineral processing will provide technical and advisory support for assignments undertaken by SBICAP.

The MoU covers areas like providing help for due diligence for the overseas coal and mineral properties for clients, advising bidders in mineral sector and also advising governments for managing mineral sector. The details of the scope of work and the commercial arrangement would be worked out later, according to the statement. The deal was signed by

Sashi Kant, General Manager, business development,

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CMPDI and Supriyo Gupta vice-president SBI Capital Markets Ltd.

It may be mentioned that while companies scouting for acquisition of coal properties hire services of merchant bankers, there have been instances when lack of expertise had led to -

inadequacies in the reports and even incorrect due diligence.

A power utility had once 'discovered' that there was hardly any extractable coal deposits in a South-East Asian country-mine, even after initial reports had promised sufficient reserves.

## ANGLO AMERICAN SAYS MINE AUCTIONS FLAWED

Global miner says Indian system discourages foreign players as the auction process doesn't adequately provide risk-reward incentive

While the country once again prepares to put on block mineral mines, the initiative might not get the desired response from foreign players. The earlier auction of 17 mines didn't get adequate response from prospective bidders.

Anglo American plc, a major global miner, has said Indian auction system discourages foreign players as the auction process doesn't adequately provide risk-reward incentive.

The adoption of National Mineral Exploration Policy, following which 17 mines have been put on auction so far, was specifically devised to attract FDI in the mining sector.

"With this auction system, it's difficult to see India competing with other countries where we can invest. It's a headwind for us," John Vann, group head of exploration, Anglo American told DNA Money. It's granting of licences rather than auctioning off mines that, John believes, would give confidence to foreign investors.

"The analogy that comes to my mind is the pharmaceutical industry where you spend billions of dollars in research and

development to develop a drug. But then, if you have to participate in an auction to see if you can manufacture and market that drug, then it's a bad idea," he said on the sidelines of Global Mining Summit organised by the Confederation of Indian Industry.

Anglo American plc focuses its business on its portfolio of diamonds, platinum group metals and copper. It owns interests in De Beers and its diamond operations are in Botswana, Canada, Namibia and South Africa. It has interests in two copper operations, phosphates business and coal assets in Australia South Africa and Colombia.

"They should look at how the system operates in markets like Australia, Canada and Chile where an exploration licence means you have a guaranteed path to development if you find something. That should be the preferred path," he said.

"So far, 17 mines have been auctioned off having potential revenue of Rs 70,000 crore consisting of a royalty of Rs 12,000

crore. Another 37 mines, which were annulled earlier due to various reasons would again be put into auction valued at Rs 47,000 crore," Balvinder Kumar, secretary of mines, said.

The mines auctioned have deposits of limestone, iron ore, gold and diamonds and are located in Jharkhand, Odisha, Rajasthan, Chhattisgarh, Andhra Pradesh, Madhya Pradesh and Karnataka.



## NEW REPORT SAYS INDIA'S MINING SECTOR CAN CREATE 6 MILLION JOBS

India's mining sector has the potential to contribute as much as \$70 billion to the country's economy by 2030 and generate about 6 to 7 million jobs, believes the country's industry association, the Confederation of Indian Industry.

A report titled, Mining Opportunities – Realizing Potential was recently released by the CII, though with an added a cautionary note: clearances "still remain an impediment for a smooth transition from auction stage to implementation stage."

### Mining Reforms Having an Effect

The current Modi government initiated reforms in the mining sector, which underperformed during the previous regime, many say, due to red tape. One of the most important steps was the clearance of the National Mineral Exploration Policy (NMEP) by the government in.

NMEP has the following main features for facilitating exploration in the country:



The Ministry of Mines will carry out auctioning of identified exploration blocks for exploration by the private sector on a revenue-sharing basis. If exploration leads to auctionable resources, the revenue will be borne by the successful bidder of those auctionable blocks.

Creation of baseline geoscientific data as a public good for open dissemination free of charge.

A National Geoscientific Data Repository was supposed to be set up to collate all baseline and mineral exploration information generated by various central and state government agencies and also mineral concession holders and to maintain these on a geospatial database.

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While these policy changes have been welcomed overall, there has been some criticism over the implementation. The CII report, for example, talks of the "inordinately long time that is required for obtaining this clearance and the cumbersome process involved therein."

#### **Why Can't Companies Start Mining Faster?**

The report was recently released at the International Mining and Machinery (IMME) and Global Summit 2016. It said that the Environment and Forest clearance processes take a long time and added that there was significant room for improvement in the clearance system in terms of efficiency, speed of

decision making, predictability and transaction.

There's also unexpected criticism from another quarter on the new mining policy. A report in the DNA newspaper, quoting global miner Anglo American PLC, said the Indian auction system discourages foreign direct investment as the auction process does not provide adequate risk-reward incentive.

In the report, John Vann, group head of exploration at Anglo, said the auction system makes it difficult to see India competing with other countries where Anglo American invests. According to him, the granting of licenses rather than auctioning off mines would give confidence to foreign investors.

## **MINING SECTOR CAN ADD \$70 BILLION TO INDIA'S GDP IN NEXT 15 YEARS: CII**

A vibrant mining sector has the capacity to spur growth and add up to \$ 70 billion to the country's economy as well as generate 60-70 lakh jobs, a report by industry body CII said.

The report -- Mining Opportunities - Realising Potential -- also stresses on dealing with clearances which it says "still remain an impediment for a smooth transition from auction stage to implementation stage".

A vibrant mining sector has the potential to propel economic growth not just through its contribution to GDP but also through its forward and backward linkages, the report said.

"In high growth scenario, mining sector can add close to \$ 70 billion to GDP from now to 2030. Mining could play a crucial role in employment generation for India moving many from poverty to empowerment. In an accelerated growth scenario, mining can generate an additional 6-8 million jobs," it added.

Over last two years, the government has taken some important steps for removing stagnation in the sector. A major step is the enactment of Mines and Minerals (Development and Regulation) Act, 2015, which has made the process of allocation of mines transparent by introducing auctions.

The tenure of the mineral concessions has also been increased from the existing 30 years to 50 years, the report said.

"Presently, the process of obtaining approvals and clearances still remains long drawn and varies from state to state.

This requires to be made simpler and expeditious so that the time required for operationalisation of the mineral concession can be drastically reduced," it added.

The report said that Environment and Forest clearances take long time in clearing adding that industry realises that these are non-negotiable and sustainable development needs have to be addressed at all stages.

"However, the problem is the inordinately long time that is required for obtaining this clearance and the cumbersome process involved therein," it said. Environment Ministry has launched online portals for submission of applications and responses to queries but the desired results are yet to be achieved, it added.

"There is significant room for improvement in the clearance system in terms of efficiency, speed of decision making, predictability and transaction," the report said.

On clearances, the report said finalise specific timelines for each approval process step, without modifying the overall stipulated time in the notification. Finalise responsibilities and accountability at each process step, wherever not defined at present.

Work on digitising the approval process for enabling integrated online communication channel between central, state and district authorities, it recommended.

"Areas free from national park, sanctuaries, wildlife corridors etc be put up for auction," it said.

## **GEOSCIENCE AUSTRALIA TO HELP GSI IN HUNT FOR NEW MINERALS**

Geoscience Australia, Australia's national geological survey, has launched a programme to help Geological Survey of India (GSI) in adopting modern practices and upgrading its capacities to help uncover new mineral deposits.

According to an agreement between the two countries last year, Geoscience Australia has taken a two-year programme to train the capable Indian scientists to adopt a geological process based understanding of ore deposits to add predictive capacity to their exploration techniques. "This is a change of approach and mindset. It's a shift from empirical documentation of the geology of the country in which GSI a long tradition to understanding geological process, which we refer as mineralisation approach that has much bigger footprint than simply the ore

deposit itself," James Jhonson, Deputy CEO of resources division of Geoscience Australia, told BusinessLine. He was in the city in connection with the IMME and Global Mining Summit, 2016 in Kolkata.

#### **Training scientists**

Referring to Geoscience's involvement as 'training the trainers', Johnson said his organisation started training the first batch of scientists in the new approach and they will in turn train the rest of the manpower and create a capacity to assess the technology upgrades required. According to him, the change in approach should not require additional staffing as GSI has few thousand employees when compared 600-people strong Geoscience Australia. Of the 600 people, a mere 50 is dedicated in finding minerals.

## VEDANTA TO INVEST RS 30,000 CRORE IN CAIRN INDIA TO RAMP UP CAPACITY

Vedanta group has lined up Rs 30,000 crore investments to ramp up the capacity of Cairn India, one of the largest independent oil and gas exploration and production companies in the country under its stable.

Cairn India is in the process of being merged with Vedanta, for which the shareholders of both the entities have already given their nod.

With this investment, the production capacity of Cairn India would go up to 3,50,000 barrel of oil equivalent per day.

The average production of Cairn India, which has its producing assets located in Rajasthan, Cambay and Ravva, was 211,671 boepd in FY 2015.

"My aim is to cater to 50 per cent of country's crude oil needs", said Vedanta group chairman Anil Agarwal.

He said, the recent decision of OPEC to reduce production by 1.2 million barrels a day would help the company as it is expected to push up prices.



Similarly, the rebound in commodity prices has given an impetus to the company to ramp up production from its iron ore mines in Goa. "Currently we are exporting low-grade iron ore to countries like China and Korea. We may ramp up production in a conducive market environment", Agarwal said.

Vedanta, which has recently bagged a composite license (for prospecting as well as mining) for a gold deposit in Chhatisgarh through the auction process under the new MMDR Act, is looking at more opportunities to acquire mineral assets by participating in auctions for other minerals

like iron ore and bauxite.

"We would like to participate in the auction for iron ore mines", Agarwal said. On the possible foray into steel making business, he said, "we would consider such a proposal if the government insists on setting up of steel plants".

Agarwal said, his mineral assets in countries like Zambia, Namibia and South Africa are doing well at present.

## WEST BENGAL READY TO TAP INTO ITS RICH COAL AND MINERAL RESERVES: AMIT MITRA

State Finance Minister Amit Mitra on Wednesday said West Bengal was ready to utilise its coal and mineral reserves to fullest. Addressing the 13th Global Mining Summit, a four-day event inaugurated in the city, he said, "If properly harnessed, the mining sector in India can not only produce millions of jobs by 2025, but can also be a significant contributor to the nation's GDP. Please give us the deliverables from this summit, we would work on them with CII." The state has identified six granite prospective blocks and exploration has begun in three through competitive bidding, he added.

The summit is being organized by CII in collaboration with the union ministry of mines and Coal India Limited. With Australia as its partner country, 290 exhibitors have put up stalls showcasing the latest mining equipment from China, Czech Republic, Germany, Italy, Poland, Russia and the UK.



"West Bengal is the third largest mineral resources-rich state in the country, 1/5th of the total mining resources of India are located in the state. It throws an opportunity for employment growth. The coal reserves of Deocha Pachmi, the second largest in the world, at 2,00,000 million tonnes alone can create enormous jobs," said Mitra. "Bengal has tied up with Kudurmukh for iron ore deposit exploration in the state," he added.

The finance minister said that geological surveys carried out in the state have indicated that it has untapped reserves of iron ore, dolomite, tungsten, fireclay, granite and sand. "The government has made the state's minerals related geo-scientific data public and updated rules for mining," he said.

Balvinder Kumar, secretary of the union ministry of mines, said

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that the star rating system for the operating mines was operational and the country's first such rating report will be published in the first half of December. Moreover, following the MMDR Act amendment, the government had facilitated 17 auctions of 55 leases in 9 states, fetching Rs 70,000 crore. "Another Rs 47,000 crore is likely to be fetched from auctions in the near future," said Kumar. "Iron-ore production in the first half of the current fiscal (April-September 2017) was up by 25.8 per cent to 84 million tonnes," he added.

The minister secretary further said that the District Mineral Fund, already constituted in 234 mineral-producing districts of the country, have collected Rs 3,500 crore from miners for development of tribals in districts. "The ministry has facilitated initiatives of large scale exploration of minerals in the country through the Geological Survey of India and a number of public

sector miners. By April 2017, an aerial survey on potential mineral blocks covering 2 lakh square kilometres of land would be over. This would be of G3 level of exploration data, which will help prospecting on the ground areas possible," he added.

Kumar also said that the government has put in place a satellite-based remote sensing of surveillance system to keep illegal mining in check. The mining ministry has also developed a mobile app to help citizens to report irregular or unlawful mining activity. Kumar said the overall growth mineral production was 9 per cent in 2015-16. "This year, we are expecting a 15 per cent growth in iron ore output," he added. An exclusive CII report titled 'Roadmap for Indian Mining Industry' was launched during the inaugural session as well.

Mitra also spoke of the "plight" of people due to demonetisation, but refused to comment on the entry tax issue.

## THE TAKEAWAYS FROM THE MINING ENGINEERS ASSOCIATION OF INDIA OPEN SESSION 2016

Representatives of Members of CRIRSCO, CRIRSCO Representatives for India, China and Latin America and observers from future prospective members (China, India, Indonesia, and the Philippines) met at Jaipur, India for their annual general meeting.

The Jaipur Rajasthan chapter of the Mining Engineers Association of India (MEAI) hosted the open session on 7th and 8th November 2016 at the inauguration of their new Mining Welfare Center (MWC). The Secretary of Ministry of Mines (Secy-MoM) Mr Balvinder Kumar was the Chief Guest at the inaugural function and the Controller General of Indian Bureau of Mines (CG-IBM) and the Director General of the Geological Survey of India (DG-GSI) were the guests of honour. The Secy-MoM and dignitaries recognized the importance of adopting modern reporting standards and expressed their willingness to support the efforts of the National Core Committee of the MEAI in preparing India to join CRIRSCO.

During seven technical sessions, more than 30 papers were presented by CRIRSCO member countries and professionals from the Indian mineral industry. The presenters discussed various critical issues related to the estimation and public reporting of mineral resources and reserves for the mining industry and also the proposed path forward to include India as a member of CRIRSCO. By joining CRIRSCO, the Indian mining industry can benefit by attracting foreign investment through implementing internationally accepted public reporting principles that reinforce transparency, materiality and competency in developing and public reporting of Exploration Results, Mineral Resources and Mineral Reserves in the country.

The members of the National Core Committee (NCC-MEAI) who are responsible for developing the Indian Reporting Code (a CRIRSCO-aligned code) met with the executives and members of CRIRSCO to discuss the progress made so far and a roadmap for the actions necessary to have the Indian Code adopted in the country.

CRIRSCO representatives also met separately with the delegations from China, India, Indonesia and the Philippines to discuss their progress and the next steps for their journey towards membership of CRIRSCO. A memorandum of understanding (MOU) was signed with the Indonesian delegation.

In a special meeting, the delegates from China, who are also developing a CRIRSCO-aligned code, met with the members of NCC-MEAI to further cooperation between India and China in their efforts to develop their respective Codes.

What is CRIRSCO?

CRIRSCO is an international advisory body without legal authority, relying on its constituent members to ensure regulatory and disciplinary oversight at a national level. Formed under the Council of Mining and Metallurgical Institutes (CMMI) in 1994, CRIRSCO promotes international best practices in public reporting of Mineral Exploration Results, Mineral Resources and Mineral Reserves. It has a strategic relationship with International Council on Mining and Metals (ICMM), which shares similar objectives and which represents the international mining industry with regards to sustainable development.

Representatives from professional organizations of member countries of CRIRSCO are responsible for developing mineral reporting codes and guidelines. Currently there are 10 member countries viz. Australasia (JORC), Brazil (CBRR), Canada (CIM), Chile (Comision Minera), Europe (PERC), Kazakhstan (KAZRCA), Mongolia (MPIGM), Russia (NAEN), South Africa (SAMREC) and USA (SME). CRIRSCO has developed an International Reporting Template, the purpose of which is to assist with the development and promotion of effective, good practice for public reporting of Exploration Results, Mineral Resources and Mineral Reserves already widely adopted through national reporting codes and standards.

What is the Initiative of Mining Engineers Association of India (MEAI)?

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MEAI is leading an initiative with CRIRSCO to develop an internationally recognized resources and reserves reporting code for India that can be adopted by the Indian mineral industry and the Government through its agencies viz. IBM, GSI, AMD, CMPDI, State DMGs and SEBI. MEAI, hitherto, organized national level conferences in Dec 2014 and Nov 2015 at Hyderabad, which resulted in the formation of a National Core Committee (NCC) for the development of Indian Code for reporting Exploration results, Mineral Resources and Reserves.

**What is the National Core Committee (NCC) ?**

National Core Committee (NCC) is comprised of experts from mining, mineral processing and geosciences with specialization in exploration, mining, processing, estimation, classification and reporting of mineral resources and reserves, covering all solid minerals including atomic minerals, gemstones and coal. MEAI is representing India as its proposed National Reporting Organization (NRO), and signed an MoU with CRIRSCO on 24-02-2016 in Phoenix, USA, to expedite the development of an Indian Reporting Code that will be aligned with CRIRSCO requirements and to meet other criteria for membership of CRIRSCO.

## POLAND OFFERS COAL INDIA TECHNOLOGY FOR UNDERGROUND MINING UPTO 1000 METERS

Poland is keen to offer technology to state-run Coal India Ltd for increasing underground mining operations up to 1,000 metres from the current 300 metres.

"We are holding talks with Coal India. We can offer technology and equipment that can go up to 1,000 metres underground and Coal India does underground mining up to 300 metres only," Janusz Urbaniec, member of a Polish delegation member, said here today.

Coal India officials are also keen for deeper underground mining as it is losing out on extracting coal for since existing technology can allow only 300 metres deep, Urbaniec said this on the sidelines of a BCCI-organised session.

11 companies from Cracow Chamber of Commerce and Industry are on a maiden visit to the eastern region engaged in mining, mining equipment, sanitary items, plastic raw materials and tourism sector.

## SANY INDIA TO ENTER MINING BUSINESS

SANY India, which manufactures construction, heavy machinery and renewable equipment has forayed into the mining segment.

The company also launched its SRT range of off-highway dump trucks in the country.

The new mining business unit will be headed by Dheeraj Panda, who is the BU Head and VP of Excavator at SANY India.

"These trucks are largely used in large surface mining sites for transportation of OB, Coal, Iron ore, limestone, bauxite etc. and in quarry segment. The trucks are equipped with high-strength frame and are 20% stronger than any other product in the same category," the company said in a statement.

With the launch of the new SRT series off-highway dump truck,

SANY India will be offering mining solutions to the iron & coal, power, cement and construction industry. Currently, SANY which is participating at the ongoing International Mining Machinery Exhibition 2016, will be importing these truck series as CBU (Completely Built Units) from China.

Commenting on the launch, Deepak Garg, CEO, SANY Heavy Industries Pvt. Ltd., said, "SANY India will offer complete mining solutions and partner with big mining companies for end-to-end solutions." Deliberating on the company's prospects, Dheeraj Panda, BU Head and VP of Excavator and Mining, SANY Heavy Industries India Pvt Ltd., said, "Mining is a crucial segment adding significantly to the Gross Domestic Product (GDP) of the country. We believe there is a huge potential for us in this market."

## CIL SHIFTS FOCUS AWAY FROM UNDERGROUND MINING

Coal India (CIL), the world's largest coal miner, seems to have lost its emphasis on underground mines whose production as well as mine productivity has declined over the past decade. Instead, CIL's production results indicate a focus on upping the mine productivity and increasing the production contribution of opencast mines to the consolidated output from 86.66% in 2005-06 to 93.73% in 2015-16.

CIL, through its subsidiary Western Coalfields, is eyeing to open one mine every month with a total production capacity of around 30 million tonnes (mt) per annum, to keep up with the production target as the existing mines start running out of coal. However, the planned mines are opencast in nature.

In total, the company has envisioned taking up 129 new coal

mining projects during the XII Five Year Plan. Under the planned scheme of things, the new mines are expected to contribute 87 mt of black diamond in 2016-17, which will reach 182 mt in 2019-20. Initial as well as circulating capital requirements for opencast mines are much lower than underground ones.

The state-owned coal monolith has 413 mines in operation, of which 207 mines are underground, 176 are opencast and 30 are mixed in nature. Interestingly, although opencast mines comprise 42.6% of the mines portfolio, these contribute as much as 93.7% of the total production.

Despite the miner pushing in more use of technology over the decade and investing more than Rs 3,000 crore (estimated) on

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mechanisation of mines, the contribution of the underground mines to the total production has declined. Compared to the production contribution of 13.34% to the total output of 343.39 mt in 2005-2006, the same from underground mines declined to contribute only 6.27% to the total output of 538.79 mt in 2015-16. This trend also indicates a sharp decline of 26% in underground mining over the 2005-06 to 2015-16 time period.

In the last financial year, the Centre had provisioned an allocation of Rs 762 crore or 13% of the total planned capex of the year for betterment of underground mines.

The biggest impediment, according to former Coal India chairman Partha Bhattacharya, is the lack of indigenous heavy mining equipment manufacturers. This limits the scope of mechanised mining in underground minefields.

"Importing the equipment is an option, but it is too costly. However, if the mine productivity rates need improvement, mechanisation is the only option," said Bhattacharya, who believes that down the line, Coal India will have to ultimately shift over to underground mining.

#### Changing Strategy

In 2007, Coal India, together with Bharat Earth Movers and Damodar Valley Corporation, had made the move to acquire

of Mining and Allied Machinery Corporation (MAMC) to ensure it is able to procure mining equipment made domestically. However, the MAMC project so far failed to generate any results making the miner dependent on imported technologies. A Coal India official, however, said there were efforts to procure latest technologies but underground coal mines don't have large areas of contiguous underground coal deposits, making it difficult to deploy longwall mining technology.

These methods were first introduced in the 1980s but so far it has failed to deliver the desired results as the productivity remains low compared to the opencast mines. In 2005-2006, the output per manshift (OMS), a measure of mine productivity, stood at 0.71 mt for the underground mines, which slightly improved to 0.80 mt in 2015-16.

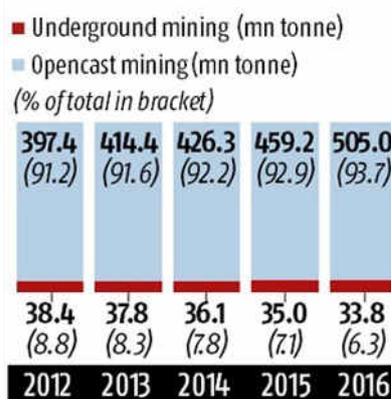
The OMS for opencast mines nearly doubled from 7.51 mt in 2005-06 to 14.35 mt in 2015-16.

"This is also because we've legacy underground mines whose productivity is quite low," said the Coal India official.

According to Bhattacharya, 25% of a mine's reserves are found at depths beyond 300 metres and in case Coal India wants to extract the entire coal from a mine, it will have no other choice but to deploy underground mining technology.

## CHANGING STRATEGY

Year ended March 31



Source: Coal India

## MORE MINING COMPANIES GET CONSENT

Goa state pollution control board (GSPCB) on Monday granted four more mining companies with a combined iron ore extraction limit of 0.78 million tonnes consent to operate, taking the total ore extraction limit in the state to 16 million tonnes.

The consent granted under the Water (Prevention and Control of Pollution) Act, 1974, and Air (Prevention and Control of Pollution) Act, 1981, is valid for a period of one year.

GSPCB, in a board meeting, allowed Salgaonkar Mining Industries (Tolem de Quela-Keli) to extract 0.046 million tonnes of ore, Salitho Ores Pvt Ltd (Purmar e Parvedat-Pale) to extract 0.277 million tonnes, Sova (Odamola) to extract 0.346 million tonnes, and Marzook and Cadar Pvt Ltd (Devachi Raim) to extract 0.115 million tonnes.

"Applications from mining companies were placed before the

board's technical advisory committee along with an inspection report of mines that were visited by board officials," a GSPCB official said. Upon the committee's approval, the applications were placed before the board, which granted the consent to operate, the official added.

The Supreme Court, in its 2014 judgement in an illegal mining case, had put a cap of 20 million tonne on iron ore extraction in the state. Following that, in July 2015, GSPCB granted consent to operate 56 mining leases and extract 13.79 million tonne of iron ore, subject to approval of mining plans by the Indian Bureau of Mines (IBM). In January 2016, four more mining companies with an ore extraction limit of 1.5 million tonne were granted consent to operate. In July 2016, two more mining companies with an extraction limit of 0.2 million tonnes were granted consent as well.

## AUCTIONED COAL BLOCKS YIELD RS 2,779 CRORE FOR STATES

The auction of coal mines is yielding handsome returns for majority of states endowed with black diamond deposits. The 83 mines that were auctioned to commercial entities or allotted to state utilities through the government route have so far generated revenue of Rs 2,779 crore so far, excluding royalty, cess and taxes.

This money is being transferred to states, coal, power, mines and renewable energy minister Piyush Goyal told the Rajya Sabha in

written reply to separate questions on Monday. He said blocks were earlier allotted through the screening committee route and did not result in any earning for the Centre. The Centre has held three rounds of coal mine auctions after the Supreme Court in 2014 cancelled the allotment of 204 coal blocks.

The fourth round auction, specifically for non-regulated sectors

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such as steel and cement was cancelled in view of a sharp decline in the price of Coal India's output sold through e-auction and international rates for non-coking coal.

The state governments will get upfront payment prescribed in auction norms and royalty on per tonne of coal produced from respective blocks in their states.

Royalty rates, levied as a per cent of the sale price, were last revised to 14% in October 2012, except for Bengal. Coal from the state's mines attract royalty at a fixed per-tonne rate that varies according to the grade of fuel produced. Royalty on lignite stands at 6%.

Mining operations have commenced or mine opening -

permission granted in 10 out of the 17 Schedule II coal mines, which were operational before cancellation of their allotment, that were auctioned under the provisions of the Coal Mines (Special Provisions) Act 2015. In addition, one Schedule III coal mine is also operational.

Since commencement of mining operations, 9.56 million tonnes of coal has been produced from these coal mines.

Rest of the Schedule II coal mines are in the process of beginning operation after obtaining statutory clearances as well as appointment of mining contractor. Almost all clearances at the level of the Central government have been granted for commencement of mining operations.



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Your suggestions and feedback is awaited at :-

[editor@geonesis.org](mailto:editor@geonesis.org)