

F.No. 34011/26/2006-CRC- Vol-III-Part(1)(FTS- 343988)

Government of India

Ministry of Coal

Shastri Bhawa, New Delhi
Dated the November, 2019

**Subject:- Record of Discussion during visit of Secretary (Coal) to
CMPDI(HQ), Ranchi and CMPDI Exploration Site at Patratu, Jharkhand**

I am directed to forward Record of Discussion during visit of Secretary (Coal) to
CMPDI(HQ), Ranchi and CMPDI Exploration Site at Patratu, Jharkhand on 30th October,
2019



(Hitlar Singh)

Under Secretary to the Government of India

Encl:- as above

To,:-

1. CMD, CIL, Kolkata
2. CMD, CMPDI, Ranchi, Jharkhand
3. CMD, CCL, Darbhanga House, Cutchery Road, Ranchi-834001, Jharkhand
4. CMD, BCCL, Koyla Bhawan, Dhanbad, Jharkhand,.
5. MD, CMPDI, Gondwana Place, Kanke Road, Ranchi, Jharkhand
6. CMD, ECL, Sanctoria, Dishergarh, West Bangal-713333
7. CMD, MCL, Jagritibihar, Sambalpur, Orissa – 768020
8. CMD NCL, Singarauli, Sidhi, Madhaya Pradesh
9. CMD, SECL, Seepat Road, Bilaspur, Chhattisgarh
10. CMD, WCL, Civil Lines, Nagpur, Maharastra

Copy to:-

1. Advisor(P), MoC
2. Director(NIC), MoC (to upload on the website)

**Record of Discussion during visit of Secretary (Coal) to
CMPDI(HQ), Ranchi and CMPDI Exploration Site at Patratu,
Jharkhand**

**A. Review meeting of CMPDI under the Chairmanship of Secretary
(Coal) on 30th October 2019 at CMPDI (HQ), Gondwana Place,
Ranchi**

The meeting was attended by following participants:

Ministry of Coal:

1. Shri Anil Kumar Jain, Secretary to GOI, MoC
2. Dr. Anindya Sinha, Project Adviser, MoC
3. Shri Peeyush Kumar, Director(Technical), MoC

CMPDI:

1. Shri Shekhar Saran, CMD, CMPDI
2. Shri K.K. Mishra, Director(T/ES), CMPDI
3. Shri R.N. Jha, Director (T/CRD) & Director (T/RD&T)
4. Shri A.K. Rana, Director (T/P&D)
5. Shri A.K. Srivastava, CVO, CMPDI
6. GMs/HoDs & other Senior Officials of CMPDI

CMD, CMPDI extended warm welcome to Secretary (Coal), MoC on his first visit to CMPDI. He also welcomed Project Adviser & Director (Tech) from MoC and officials from CMPDI. Thereafter, with the permission from the Chair, he presented a brief power point presentation on CMPDI.

The following deliberations were held /decisions were taken during the presentation:-

- 1.0** CMD, CMPDI briefed about the CMPDI's domain of services provided to MoC/CIL/Outside clients as well as the performance in respect of drilling & other activities. On a query by Secretary (Coal), he explained that services pertaining to preparation of conceptual report, tender/bid document, tender evaluation, drawing approval, etc. are carried out by CMPDI for CIL subsidiaries in respect to Coal washeries. It was informed that a team of 15 nos. of executives is working in Coal &

Mineral Preparation (CMP)/ Washery Division at CMPDI HQ.

2.0 About Environment Division, CMD CMPDI apprised that there are 120 nos. of recognized experts and 5 nos. of NABL accredited laboratories at CMPDI HQ and its Regional Institutes. For strict compliance of EC conditions by coal producing CIL subsidiaries, Secretary (Coal) emphasized on CMPDI's effective environmental monitoring for averting EC violations.

Secretary (Coal) enquired about the implementation of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) particularly for large mines of CIL and directed CMPDI to take action in this regard. It was apprised that CMPDI has taken up an R&D project for satellite based monitoring of respirable particulate matter at regional level. This project is under implementation at Singrauli and Talcher coalfields of CIL. Also, CMPDI is in the process of procurement and installation of CAAQMS for MCL. Online reporting of environmental quality monitoring has also been implemented by CMPDI, thus, avoiding any human interference in the process.

Action: CMPDI/ CIL/ CIL Subsidiaries

3.0 GM (Geomatics), CMPDI presented the status of implementation of Geospatial Technology like Remote Sensing, GIS, LiDAR, Digital Photogrammetry, UAV based survey, etc. and its application areas in Survey, Land Reclamation Monitoring, OBR Check Measurement, Correlation Survey of UG Mines, Coal Mine Fire Mapping, Land Use/Vegetation Cover Mapping of Coalfields, Topographical Survey, etc. Secretary (Coal) advised to develop expertise in use of drone technology by imparting training to identified personnel associated with the field-work and also to associate with reputed technical institute having expertise in drone technology. It was informed that CMPDI has associated with Centre of Aerospace Research (CASR), Anna University of Chennai having expertise in the drone technology.

Secretary (Coal) directed for implementation of drone technology in identified 35 top coal producing mines of CIL with a focus on prevention of illegal mining activities, land reclamation monitoring, etc. It was further directed to identify other applicable areas for drone technology in

coal mining sector for effective/ faster mining activities besides coal mine fire mapping, airborne LiDAR for OB measurement and digital photogrammetry for 3D mapping,

Action: CMPDI/ CIL/ CIL Subsidiaries

4.0 Status of coal exploration along with balance area available for Detailed and Regional Exploration in the country was discussed in detail. Secretary (Coal) was happy to know that CMPDI has adopted UNFC classification and updated coal resources in CIL command area upto year 2016 and is being further updated till 01.04.2019. He directed that coal resources should be updated/ proved with its techno-economic viability parameters.

Action: CMPDI

5.0 It was informed that CMPDI had developed an Online Coal Block Information System (OCBIS) which provide information pertaining to coalfields, coal blocks (CIL / additional CIL / Non CIL/ Captive), extent of CBM (excluding SCCL & NER). Secretary (Coal) appreciated the OCBIS system and advised to put it in public domain.

Action: CMPDI

6.0 Status of CIL blocks (explored/ partly or regionally explored/ under exploration) was highlighted.

Secretary (Coal) enquired about the operationalization status of the additional CIL blocks, and whether extraction from these coal blocks is techno-economically feasible. It was informed that out of 110 additional CIL blocks, 50 were explored, 41 were under exploration and balance 19 were partly/ regionally explored. Further, out of 50 explored blocks, project reports of 25 blocks have been prepared. Secretary (Coal) emphasized on quick operationalisation of all of these blocks, otherwise CIL may return them to MoC for their allotment/ auction to other agencies.

Action: CMPDI

7.0 Status of coal bearing area explored and coal reserves proved by CMPDI during last 10 years were presented. It was informed that in 2018-19, about 6.6 billion tonne of additional coal resources were added to the 'Proved' category through 24 Geological reports (prepared by CMPDI) covering about 260 sq km of exploration. Secretary (Coal)

expressed his concern over the quantum of area being explored by CMPDI on yearly basis and directed CMPDI to put all-out efforts to complete exploration (regional/detailed) of the balance coal bearing area of the country at faster pace. He directed CMPDI to adopt modern/ updated technologies in exploration, such as geophysical/ seismic, aero magnetic technique, magneto-tellurics, etc. so that extensive proving of reserve to G1/G2 category could be done for their earlier allocation/auction. He advised that Revenue Sharing Model in prospecting-cum-mining lease with use of seismic exploration should also be looked into.

Action: CMPDI

8.0 Drilling performance (till Oct.'19) of FY19-20 was reviewed. It was stated that 98% of the target was achieved till Oct.'19 with negative growth of 12% as compared to previous year. Secretary (Coal) urged that CMPDI should expedite to achieve the annual drilling target of 14 lakh m.

CMD, CMPDI proposed that in order to cover large area for detailed and regional exploration, CMPDI needs to switch over from 'Lakh meters drilling Concept' to 'Square km Exploration Concept', as with the use of advanced seismic and other exploration techniques, larger areas can be explored. Secretary (Coal) advised CMPDI to organize a workshop on "Modern Exploration Technologies for coal/lignite sector" with participation from all stakeholders (including exploration companies in Oil and Natural Gas Sector). He also stressed upon the need of curving out large size exploration blocks/ areas so that they could attract established exploration companies for their exploration.

Action: CMPDI

9.0 The exercise of estimating Reserve to Production (R/P) ratio (for assessing balance life of total mineable reserves – CIL subsidiary-wise) was also discussed. This exercise is based on the recommendations of the Report of the Expert Committee on Road Map for Coal Sector Reforms 2007, MoC (under the chairmanship of Shri T.L. Sankar, Advisor, Energy Group, Administrative Staff College of India). Secretary (Coal) enquired about the un-projectized blocks having Geological Reserves of about 110 BT and asked for definite proposal/ methodology to projectize them for capacity addition. After detailed discussion,

Secretary (Coal) directed CMPDI to re-do said exercise at different scenarios. He again advised that coal blocks, which subsidiaries do not want to explore or projectise, may be relinquished so that Ministry may offer them to other interested companies.

Further, Secretary (Coal) advised that CMPDI should make a yearly document detailing subsidiary-wise and block-wise coal reserves, reserves depleted, blocks with areas yet to be explored, blocks projectized and its plan for future projectisation and their R/P ratio. CMD assured that CMPDI will prepare this document in consultation all subsidiaries and will update this document every year.

Action: CMPDI/ CIL/ CIL Subsidiaries

10.0 The jobs carried out by CMPDI viz. Land Reclamation Monitoring, Measurement of Over-Burden Volume, prevention of illegal coal mining, etc., through Geospatial Technology like LiDAR, Digital Photogrammetry, Coal Mine Surveillance & Management System (CMSMS), etc. were highlighted. Further, future applications of Terrestrial SAR Interferometry (for Slope Stability Monitoring in OC mines), Unmanned Aerial Vehicle (UAV) for OB Measurement and Land Reclamation Monitoring, etc., were discussed. Secretary (Coal) advised to focus on generation of real time data through induction of these technologies which could be more useful for creation of general awareness.

Action: CMPDI

11.0 Progress on Underground Coal Gasification (UCG) at CIL command area was discussed. It was informed that a workshop on “Prospects of Underground Coal Gasification (UCG) in India” has been scheduled to be held on 13th Nov.’19 at SCOPE Convention Centre, New Delhi for which, invitations had been extended to global UCG Technology providers.

12.0 Post presentation and discussion, Secretary (Coal) appreciated CMPDI for multi-disciplinary expertise, having proper infrastructure and being the technical arm of MoC/ CIL and advised the following -

12.1 Coal being the major source of energy in the country, CMPDI should acquire latest technology in exploration and mining from everywhere.

12.2 To emphasise on recruitment of young executives and signing of MoUs with IITs/ reputable institutes/ different countries.

12.3 Local Start-Ups related to the CMPDI's field of operations like IT, drone technology, etc. should be supported by CMPDI. Allocation of some fund may also be considered specifically for this purpose as it has been a Govt. of India initiative.

12.4 Publicising the achievements of company in major fields and to focus on becoming a state-of-the-art institute - as the country is dependent on CMPDI in respect of exploration, mine planning & design, CBM developments, etc. Emphasis on accreditations of CMPDI from quality institutes should also be given priority.

12.5 To give emphasis on utilization of R&D fund and taking up of quality R&D projects at large scales on priority basis.

Action: CMPDI

13.0 Meeting ended with vote of thanks to the chair.

B. Visit to CMPDI Exploration Site at Patratu, Jharkhand on 31st October, 2019

14.0 Secretary (Coal) visited the CMPDI exploration site of Patratu Coal block, South Karanpura Coalfield of Jharkhand on 31.10.19. He was accompanied by Project Adviser from MoC and CMD & Director (Technical/CRD) from CMPDI. At the drill site, he was welcomed by Regional Director, RI-III of CMPDI.

Drilling and drilling related operations of KORES WAIIC hydrostatic rig were explained. Exploration team of CMPDI explained Secretary (Coal) about the general geology & exploration status in CCL command area, exploration programme of Patratu Block, coring & core sampling methodology, rate of drilling, problems being faced in exploration sites etc.

Geophysical team of CMPDI explained about the operation of Geophysical logger van (Geovista logger, GV 500 Series - stationed at the site). A sample geophysical log was displayed for demonstrating how interpretation of coal seams is done. Probes and different logging parameters like Natural Gamma, SP, SPR Electrical Resistivity, Density, Acoustic televiewer were displayed and discussed.

A Report on the basis of regional exploration by GSI of Patratu Block and

a Detailed Geological report of adjacent Patratu ABC block were also discussed.

15.0 Secretary (Coal) emphasized the need for using various Geophysical techniques for exploration of coal and advised CMPDI

15.1 To prioritize blocks for detailed exploration considering their future mineability potential;

15.2 To study various techniques used by the oil and natural gas sector for expeditious exploration of the balance areas for coal reserves;

15.3 To impart global exposure to young executives in advance exploration technologies;

15.4 To optimize the size of blocks for considerable mining potential.

Action: CMPDI

C. Visit to various divisions of CMPDI at CMPDI HQ, Gondwana Place, Ranchi on 31st October 2019

16.0 ICT Division

Secretary (Coal) visited the server room of ICT Division. GM (ICT) explained about various IT Systems viz. HRMS, MDMS, OCBIS and Coal Dashboard. On inquiring, Secretary (Coal) was briefed about how coal data base (like coal production/ off take data, exploration data etc.) are maintained/stored at CMPDI server on daily basis.

Secretary (Coal) advised to create single database on information regarding full details of coal exploration, remote sensing data under one shell so that information could be made available to MOC and even in public domain. He further advised that CMPDI should have a network like EPINET of ONGC.

Action: CMPDI/ CIL

17.0 Geomatics Division

GM (Geomatics) explained that CMPDI is well equipped to take up various kind of jobs related to Remote Sensing and Survey. It was further explained that the major activities are satellite based land reclamation monitoring, OBR check measurement, Coal Mine fire mapping. CMPDI uses Terrestrial Laser Scanner (TLS) for OBR measurement and it is in

the process of upgrading to UAV based monitoring. Secretary (Coal) desired that all mines under CIL should be covered for OBR measurement by TLS and UAV based Laser Scanner.

Action: CMPDI/ CIL/ CIL Subsidiaries

18.0 CBM Division

The review meeting was chaired by Secretary (Coal) and was attended by Project Adviser from MoC and CMD, Director (T/P&D), Director (T/CRD), Director (T/ES), GM (CBM), GM (ICT) & other divisional heads of CMPDI. A presentation was made by GM (CBM).

At the onset, Secretary (Coal) desired to know the progress of CBM development made by CMPDI so far. The progress in CBM related activities were briefed. Director (T/P&D) presented the progress of India CMM/CBM Clearinghouse and R&D Project undertaken on CBM. Concern was shown on delay in implementation of R&D projects.

In-house laboratory facilities at CMPDI and capacity & performance of the CBM laboratory were appraised.

CMD, CMPDI explained about the Progress of CBM projects in CIL leasehold areas. It was brought out by CMD that Joint venture with Coal production companies, being lessee, might expedite CBM development.

It was informed that a Model Contract Document and Request for Proposal (RFP) to select CBM Developer have been prepared and submitted to coal companies for further needful. It was informed that the document will be approved by the respective subsidiary boards and then the CBM operators will be engaged.

Secretary (Coal) advised CMPDI officials to get involved more actively for CBM development in CIL leasehold areas. For this purpose, a suitable model may be finalised in consultation with respective CIL subsidiaries, and CIL should produce at least 2 MMSCMD gas in 2-3 years' time as the country needs such clean gas.

Action: CMPDI/ CIL/ CIL Subsidiaries

19.0 Meeting ended with thanks to the chair.

—