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STANDING COMMITTEE ON COAL AND STEEL (2020-2021)

SEVENTEENTH LOK SABHA

MINISTRY OF COAL

"COAL CONSERVATION AND DEVELOPMENT OF INFRASTRUCTURE FOR TRANSPORTATION OF COAL ACROSS THE COUNTRY"

NINETEENTH REPORT

LOK SABHA SECRETARIAT
NEW DELHI
MARCH, 2021/PHALGUNA1942(Saka)

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Presented to Lok Sabha on 16.03.2021

Laid in Rajya Sabha on 16.03.2021

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COMPOSITION OF THE STANDING COMMITTEE ON COAL AND STEEL(2019-2020)

Chairperson - Shri Rakesh Singh

Lok Sabha

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3. Shri Vijay Kumar Hansdak
4. Shri Kunar Hembram
5. Shri Raghurama Krishnaraju Kanumuru
6. Shri C. Lalrosanga
7. Shri S. Muniswamy
8. Shri Ajay Nishad
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10. Smt. Riti Pathak
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12. Shri Chunni Lal Sahu
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15. Shri Sushil Kumar Singh
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25. Shri Ram Vichar Netam
26. Shri Samir Oraon
27. Shri Dhiraj Prasad Sahu
28. Shri Prabhakar Reddy Vemireddy
29. Shri B. Lingaiah Yadav*
30. Shri Anil Desai#
31. Shri Venkataramana Rao Mopidevi^

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*Nominated as a Member to this Committee w.e.f. 3rd December, 2019
Nominated as a Member to this Committee w.e.f. 21st December, 2019
@ Retired w.e.f. 23.06.2020
^ Nominated as a Member to this Committee w.e.f. 23rd July, 2020

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28. Shri Dhiraj Prasad Sahu
29. Shri Shibu Soren
30. Shri Prabhakar Reddy Vemireddy
31. Shri B. Lingaiah Yadav

SECRETARIAT

1.	Shri Pawan Kumar	-	Joint Secretary
2.	Shri Arvind Sharma	-	Director
3.	Smt. Geeta Parmar	-	Additional Director

INTRODUCTION

I, the Chairperson, Standing Committee on Coal and Steel having been authorized by the Committee to submit the Report on their behalf, present this Nineteenth Report (Seventeenth Lok Sabha) on the subject "Coal Conservation and Development of Infrastructure for Transportation of Coal Across the Country" relating to the Ministry of Coal.

2. The Standing Committee on Coal and Steel (2019-2020) had selected the subject for detailed examination and report to the Parliament. The Committee took oral evidence of the representatives of the Ministry of Coal, Coal PSUs and Ministry of Railways at their sitting held on 06.01.2020. However, due to paucity of time, the Committee in their previous term could not be finalize the Report on the subject. The Standing Committee on Coal and Steel (2020-2021) have carried forward the unfinished work of the predecessor Committee and again selected the subject for examination. Based on the oral and written testimony submitted by the Ministry of Coal and the Ministry of Railways, the draft Report on the subject was prepared.

3. The Committee wish to express their sincere thanks to the predecessor Committee for the significant contribution made by them in examination of the subject.

4. The Committee also express their thanks to the representatives of the Ministry of Coal, Coal PSUs and Ministry of Railways for appearing before the Committee and furnishing material/information desired in connection with examination of the subject.

5. This Report was considered and adopted by the Committee at their sitting held on 15.03.2021

6. The Committee place on record their profound appreciation for the valuable assistance rendered to them by the officials of the Lok Sabha Secretariat attached to the Committee.

7. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in Part-II of the Report.

NEW DELHI;
15 March, 2021
24 Phalguna, 1942(Saka)

RAKESH SINGH
Chairperson
Standing Committee on Coal and Steel

REPORT

PART-I

CHAPTER- I

INTRODUCTORY

A Central Sector Scheme viz., Conservation, Safety and Infrastructural Development in Coal Mines was formulated in 1975 to incentivise coal companies through financial assistance. The Scheme is implemented by the Ministry of Coal to cover the areas of Conservation and Safety, Research and Development, Developing road and rail linkages in coal mines and EMSC Scheme Jharia Raniganj Master Plan.

1.2 The Coal Mines (Conservation and Development) Amendment Rules, 2011 were made as per Section 18 of Coal Mines(Conservation and Development) Act(CM(C&D) Act), 1974. As per Rule 10 of the CM(C&D) Amendment Rules, 2011, Coal Conservation and Development Advisory(CCDA) Committee has been formed to advise the Central Government for disbursement of the cost incurred by the coal companies for carrying out sand stowing, protective works and development of transport infrastructure. Accordingly, financial assistance is given by the Government for carrying out Stowing operations, Protective Works, Surface protection measures including vacation of buildings and structures over areas of subsidence and rehabilitation of affected persons, Installation of stowing plants, blending plants and plants for the beneficiation of coal, Schemes for recovery and transportation of sand, Scientific Development of Coal Mines and Research and Development.

1.3 Coal Controller's Organization (CCO) acts as nodal agency on behalf of Ministry of Coal for clearing the proposals submitted by the coal companies for receiving the assistance under the above works done by them and for sanction of funds against each work.

1.4 The Committee have been informed that the fund for this scheme was being collected through Stowage Excise Duty (SED)@ Rs.10 per tonne of coal produced. However, after subsuming of SED in GST w.e.f. 01.07.2017, the provisions of sections 6, 7 and 8 of the Coal Mines Conservation and Development (CMCD) Act, 1974 have been repealed and the Stowage Excise Duty (SED) have been abolished. Further, Expenditure Finance Committee (EFC) in its meeting dated 12.12.2017 recommended that with the subsuming of SED in GST w.e.f. 01.07.2017, the same will no more be available for reimbursing stowing activities and therefore these may be made part of the mining plan for all future projects and where no work has been started. EFC had recommended continuation of the scheme 'Conservation, Safety &

Infrastructural Development in Coal Mines' from 2017-18 till 2019-20 with budgetary outlay of Rs. 900 crore to carry out other provisions of CMCD Act which mandates the safety & conservation activities by the Government. Approval of the Hon'ble Minister of Finance was obtained in line with the recommendation of EFC.

1.5 As regards the activities which have been identified for the purpose of grant/reimbursement as well as rate of interest permissible under this scheme, the Ministry of Coal has informed as under:

A. Conservation and Safety:

(i) Stowing operations. (Reimbursement stopped from 01.04.2017)

(ii) Protective works, including :Blanketing with incombustible materials; Filling up of subsidence area (Reimbursement stopped from 01.04.2017);Cutting of branch trenches; Surface protection measures including vacation of buildings & structures over areas of subsidence and rehabilitation of affected persons; CIL's Master Action Plan on Stabilization in Jharia / Raniganj Coalfields; Installation of stowing plants, blending plants for coal beneficiation; Schemes for recovery & transportation of sand.

(iii)Scientific Development of Coal Mines Development of new coal mining methods, development and utilization of explosives; Techno-economic studies of various UG& surface transport systems in mines; Investigations into rock burst problems in deep mines; Investigations into roof bolting under different mining conditions Introduction of man riding system; IT and other electronic aids for application in mining.

(iv) Research and Development: Transportation of stowing material; Investigations into suitability of waste materials for stowing in mines; Investigations into problems of mine fires and efficacy of different methods of dealing with them; Assessment of Ventilation and other environment conditions in mines; Problems relating to Methane emission and drainage from highly gassy coal seams; Research on surface pollution and environmental control in mining areas; Any other activity on conservation as directed by Central Govt.

B. Development of infrastructure for transportation of coal

(i) Development of Rail infrastructure

(ii) Development of Roads

C. Environment Management and Subsidence Control (EMSC)

1.6 As regards the rate of Assistance approved under the scheme, it was informed to the Committee that to prioritize Stowing & Protective works required for a large number of UG(U/G) mines for production and conservation of coal resources, 58th Coal Conservation &

Development Advisory Committee (CCDAC) approved enhanced rate of CCDA assistance as under:

- Stowing-75% (Stopped from 01.04.2017), Protective Work-90%, Road & Rail-70% (100% for Greenfield Projects), Cement Concrete Roads – 20%. However, reimbursement for stowing has been stopped from 01.04.2017 (As approved in 82d CCDAC Meeting)

- Scientific Development Works – 100% for 1st project of the company and 30% for subsequent projects (As approved in 73rd CCDAC Meeting).

1.7 The Committee have been informed that the proposals for Protective works, Scientific Development Works & Road/Rail Infrastructures are to be submitted to Coal Controller's Organisation (CCO) by Feb/March and revised proposals by October every year. After every quarter, claims pertaining to Protective works (PW)/ST/R&D/Road/Rail Infrastructure works are to be submitted to CCO within a month of completion of every quarter.

1.8 The details of the budget proposed, actually approved by CCDAC and fund released since 2012-13 vis a vis the achievement of the Central Scheme are given as under:

Year	Budget Head	(Rs. in Crore)						
		BE	RE	Actual Approved by CCDAC	Spill Over from previo-us year	Total Require-ment	Fund released by MoC	Spill over to next year
2012-13	Conservat-ion & Safety (including Tribal sub Plan)	150.00	119.00	157.63	15.58	173.21	119.01	54.20
2013-14		160.00	185.00	157.46	54.20	211.66	184.95	26.71
2014-15		185.00	185.00	178.23	26.71	204.94	185.00	19.94
2015-16		170.00	170.00	192.88	19.94	212.82	170.00	42.83
2016-17		80.00	170.00	233.56	42.83	276.39	170.00	106.39
2017-18		200.00	200.00	127.13	106.38	233.51	200.00	33.51
2018-19		59.50	42.40	9.20	33.57	42.77	42.40	0.37
2019-20 (Till Dec'19)		4.00	4.00	6.72	0.37	7.09	3.60	
In 2017-18, Rs. 5.9 lakh was given from this budget to ISM for preparation of study report								

Year	Budget Head	(Rs. in Crore)						
		BE	RE	Actual Approved by CCDAC	Spill Over from previous year	Total Require-ment	Fund released by MoC	Spill over to next year
2012-13	Development- of Transportation	50.00	40.00	72.21	13.27	85.48	40.00	45.48
2013-14		50.00	75.00	58.79	45.48	104.27	76.02	28.25

2014-15	**Infrastructure in Coalfields(DTIC)**	75.00	75.00	73.66	28.25	101.91	75.00	26.91
2015-16		75.00	75.00	257.13	26.91	284.04	75.00	209.04
2016-17		70.00	180.00	277.56	209.04	486.60	180.00	306.60
2017-18		299.50	299.50	201.33	306.61	507.94	299.50	208.44
2018-19		140.00	140.00	0.00	208.50	208.50	140.00	68.50
2019-20 (Till Nov'19)		130.50		73.28	68.50	141.78	68.50	
In 2017-18, Rs. 5,90,000/- was given from this budget to ISM for preparation of study report								

Year-wise achievement of Conservation & Safety Scheme							
Year	**Sand Stowing**		**Protective Works**		**Scientific Development Works**		**Amount Disbursed by MoC**
	Quantity of Sand used for Sand Stowing in Million m^3	Cost in Rs. Crore	No. of Projects	Cost in Rs. Crore	No. of Projects	Cost in Rs. Crore	Rs. in Crore
2014-15	**6.65**	**157.13**	33	11.41	5	9.69	185.00
2015-16	**6.26**	**181.46**	31	7.78	1	3.16	170.00
2016-17	**6.31**	**217.56**	30	5.53	5	10.46	170.00
2017-18	**3.43**	**119.55**	9	1.79	2	5.78	200.00
2018-19	**0**	**0**	3	1.06	8	8.14	42.40

Year-wise achievement of Development of Transportation Infrastructure in Coalfields Scheme				
Year	No. of Projects			Amount Disbursed by MoC
	Rail	Road	Total	Rs. in Cr.
2014-15	3	16	19	75.00
2015-16	5	11	16	75.00
2016-17	3	12	15	180.00
2017-18	4	5	9	299.50
2018-19 (Payment for Spillover of 2017-18)	4	5	9	140.00
2019-20 (up to Dec, 2019)	5	12	19	75.46

It may be seen from the above that there has been consistent spill over amount every year from the previous year. There has been a spill over amount of Rs. 0.37 crore during 2019-20 in respect of conservation and safety in coal mines and Rs. 68.50 crore in respect of development of transport infrastructure from the previous year (2018-19).

1.9 When asked about the reasons for under utilization of the budget allocation during 2018-19, the Ministry has informed as under:

⇒ Through Taxation Laws Amendment Act, 2017, the cess imposed on coal (SED) as per the Coal Mines (Conservation & Development) Act, 1974 has been abolished w.e.f. the date of GST role out i.e. 01.07.2017.

⇒ Eligible amount of claim for stowing in different mines for the period from April, 2017 to June, 2017 (i.e. 1st quarter of 2017-18) was Rs. 58.41 Crore.

⇒ Eligible amount of claim for protective works (including stabilisation with stowing) in different mines for the period from April, 2017 to September, 2017 (i.e. 1st & 2nd quarters of 2017-18) was Rs. 1.62 Crore.

⇒ 82nd CCDA Committee in the meeting held on 28.02.2019 decided that after role out of GST from 01.07.2017, the cess (SED) previously imposed on coal has been subsumed with GST. It is decided that claim for stowing and also for stabilization with stowing will not be considered with effect from 01.04.2017.

⇒ Accordingly 82nd CCDA Committee did not approve the claim for stowing (Rs. 58.41 Crore) and approved Rs. 1.056 Crore for protective works deducting the claims for protective works with stowing.

⇒ 82nd CCDA Committee approved a total of Rs. 9.20 Crore under "Conservation and Safety" head including TSP.

⇒ It is worthwhile to mention that the budget allocated for TSP has been fully utilized. However, due to non-consideration of stowing cost, the budget allocated for 'General Safety" head could not be fully utilized.

⇒ Total spillover amount from previous year i.e. 2017-18 was Rs. 33.57 Crore.

⇒ Thus, total amount to be released was (Rs. 9.20 Crore + Rs. 33.57 Crore) = Rs. 42.77 Crore.

⇒ MoC released Rs. 42.40 Crore in the year 2018-19, resulting in spillover of Rs. 0.37 Cr. in 2019-20.

⇒ In DTIC head, there was spillover of Rs. 208.50 Cr. from 2017-18 and the Budget for 2018-19 was Rs. 140 Cr. The budget of 2018-19 was fully utilized. However, after exhaustion of the total budget of 2018-19, spillover of Rs. 68.50 Cr. remained for 2019-20.

1.10 Further, the status of utilization of the allocation made for the CCDA schemes during the year 2019-20 (up to Dec, 2019) is given as under:-

Particulars	Conservation and Safety in Coal Mines (Rs. In Crore)				
	General	NER	TSP	SC	Total
Fund Allocated (RE 4 Crore)	2.70	0.40	0.46	0.44	4.00
Fund disbursed till December, 2019	2.70	0	0.46	0.44	3.60
Fund available	0	0.40	0	0	0.40
Fund already approved in 83rd CCDAC Meeting but yet to be disbursed	0	0	1.05	2.44	3.49

Particulars	DTIC (Rs. In Crore)				
	General	NER	TSP	SC	Total
Fund Allocated (RE – 90 Crore)	57.53	9.00	11.93	11.54	90.00
Fund disbursed till date	50.27	1.72	11.93	11.54	75.46
Fund available	7.26	7.28	0	0	14.54
Fund already approved in 83rd CCDAC Meeting but yet to be disbursed	0	0	72.57	79.85	152.42

1.11 When asked about the number of claims of Coal Companies under CCDA Schemes for reimbursement made, settled and pending for scrutiny by the CCO during the last three years, the Ministry in a written reply has furnished the details of the claims of different coal companies for stowing, protective works, scientific development works and Road/Rail infrastructure development works which have been scrutinized and recommended for reimbursement in tabular form (**Annexure-I).**

1.12 Company-wise/Subsidiary-wise details of works/projects targeted vis-à-vis completed under CCDA Schemes are given in **Annexure-II (A, B and C).**

1.13 To a specific query, it has been informed that the reimbursement under CCDA Schemes are made only after completion of the job except for Rail/Road projects in which case, part reimbursement is made depending upon the fraction of the project accomplished. All these projects are undertaken by the coal companies and they submit their claims on quarterly basis which are verified by the Regional Offices of CCO.

1.14 The Committee enquired about the existing monitoring mechanism to ensure a time bound implementation of CCDA scheme. In reply, it has been informed that the coal companies submit their claims for reimbursement from CCDA schemes which are inspected by concerned Regional Office of CCO. After inspection of the job/site, the report is submitted at CCO HQ. The claims are further scrutinized at CCO and are placed to CCDA Sub-Committee for technical scrutiny and recommendation to CCDA Committee (CCDAC). The CCDA Committee normally meets twice in a year for approving the claims of coal companies and accordingly funds are disbursed from CCDA Scheme. Coal Controller acts as the Member Secretary for the CCDAC, constituted under the Coal Mines (Conservation & Development) Act, 1974.

1.15 It has been added that an independent evaluation and assessment of Conservation, Safety and Infrastructural Development in Coal Mines has been conducted by ISM, Dhanbad, which in its Evaluation and Assessment Report recommended as follows:-

(i) The expenditure on Conservation and Safety in Coal Mines will increase in the coming years due to increase in the cost of stowing and protective works, implementation of Master Plans of BCCL and ECL and introduction of new technologies like man riding facilities, in-seam degasification for improving safety of the gassy mines, introduction of air cooling system in deep mines etc. Expenditure on these activities qualify for receiving assistance under CCDA Act and Rules thereunder.

(ii) For effective monitoring of progress, quality of construction and verification of estimates, it is desirable that the number of road and rail schemes should be reduced to manageable limits. It is recommended that only important and large rail and road links should be considered for assistance. Strengthening / renovation schemes of existing roads/sidings and roads of small lengths should be excluded from receiving assistance.

CHAPTER-II

CONSERVATION & SAFETY IN COAL MINES

A. Mechanization in coal mines

(Background Note)

CIL's coal production has jumped manifold achieving above 600 Mt in 2018-19 from a paltry 78 Mt since its inception. In this process, CIL has been able to become world's largest coal producing company. During this period, CIL has transformed its operation mostly into mechanised one with consistent improvement in technology both in Under Ground(UG) & Open Cast(OC) mines, with a view to enhance its coal production with maximum recovery of coal reserve. High capacity HEMMs like 42 cum Shovel with 240 T Rear Dumper have been introduced in Gevra Expansion, Dipka & Kusmunda open cast mines. Surface Miners have been introduced in OC mines in a big way to improve operational efficiency, selective mining & cater environmental needs during 2018-19. In CIL, around 50% of the OC coal production was through Surface miners and is likely to further increase in subsequent years. In UG mines, introduction of mechanized Mass Production Technology has been introduced wherever viable. At present, 2 mines are being worked with Powered Support Long Wall (PSLW) technology and 10 mines are being worked with Continuous Miner (CM) technology. Further, a study has been made by independent consultants (ISM-SCCL-PWC Consortium) wherein recommendations were made for revival of old mines with introduction of mechanisation in operation.

2.2 Asked whether complete mechanization in UG and OC mining has been introduced, the Ministry of Coal has informed the Committee that almost all of the UG & OC mines of CIL are mechanised to a certain degree. The UG mines are mostly mechanised in the face loading operations using Side Discharge Loaders (SDLs) & Load Houl Dumpers (LHDs) with conveying system. Mass Production Technology is being used at 13 UG mines of CIL at present. All OC mines of CIL are mechanised which use state of the art technology in mega projects like Gevra OC, Dipka OC, Kusmunda OC mines of CIL. Surface Miners are also extensively used in the OC mines of CIL. Generally, the Shovel-Dumper combination is deployed in the operations of the OC mines. Coal conservation and safety of mines workers vis-a-vis the various technologies is being implemented in UG and OC mines.

2.3 In this regard, SCCL has informed that at present, 27 UG and 18 OC mines are in operation. All OC mines are mechanised, operated with Shovel dumper combination, Surface Miner, Inpit crusher conveyor technology etc. Recently, Light Detection and Ranging (LiDAR) technology is installed in one of the OC mine on experimental basis to monitor the slope/dump stability. SCCL has completely phased out the manual loading of coal with semi-mechanisation of SDL/LHD. Continuous Miners are in operation in 4 mines and High Capacity Long wall in one mine. Bolter Miner (used for cutting and supporting) is in operation in two mines operation eliminating blasting. Air condoning systems are installed in two mines of SCCL. Programmable Logic Control (PLC) - automation based belt conveying system is being used in some of the mines. Man-riding are installed in all UG mines (except 2 mines which are in initial stage of operation). There is no difficulty in mechanisation in the mines of SCCL. Mechanisation in the mines of SCCL are being done as per requirement and technical feasibility.

2.4 For OC mines, CMPDI has informed that CIL is always keeping pace with time as far as technology adoption and mechanization is concerned. For OC mines, CIL has taken several steps towards mechanization resulting in coal conservation and increased safety in mines and almost all of the OC mines of CIL have been mechanized. Higher capacity mines are being planned with heavy mechanization to take advantage of economy of scale. Several high capacity mines have been planned such as Gevra (70 MTY), Magadh (51 MTY), Kusmunda (50 MTY), Siarmal (40 MTY) etc. While Planning for Coal Projects, due consideration is given to conservation of coal since coal is a finite resource. The mines are planned in a way that ensures maximum extraction of coal. CMPDI, in its project report for OC mine, always strive to provide technology best suited for optimal and scientific mining that will minimize coal loss. For instance, technology like surface miner, high-wall miner etc. are deployed for increased percentage of extraction of coal by OC method. Slope stability study is done to design optimum pits for increased percentage extraction. Further, Geovia MINEX software, VULCAN, DATAMINE etc. are being used for optimum resource modelling as well as planning, design, and scheduling of a mine so as to maximize the recovery of coal.

2.5 As informed, several technological upgradation has been taken up by CIL, the details of which are as under:

- High capacity HEMMs like 42 cum Shovel with 240 T Rear Dumper, 311 MM drills etc. are being proposed for mega mines to reduce the traffic density in mines.
- Standardization of equipment have been done in CIL thereby upgrading the capacity of existing equipment.

- Surface Miner in large scale to eliminate the need of hazardous blasting for coal extraction and thin seam extraction.
- In-pit crushing & conveying are being adopted for all future and existing mines of more than 4 MTPA capacity coal transportation thus reducing the traffic density in the mine which leads to increased safety.
- Depending upon the requirement and feasibility, technologies like High Angle Conveyor and Pipe conveyor are also proposed for coal transportation.
- For coal evacuation, ground bunker with reclaim feeder & Surge bin RLS are proposed in for all mines of more than 4 MTPA capacity. OHE Silos are also being planned for coal evacuation.
- For survey, CIL is using latest technology like Terrestrial Laser Scanner (TLS) and Drones for survey and monitoring in some of its mines.
- For slope stability, CIL has introduced slope stability radar and is planning to introduce this technology in all OC mines for enhanced mine safety.
- Operator Independent Truck Dispatch System (OITDS) has also been introduced in number of OC coal mines of CIL to improve communication and monitoring.
- Work is in progress for implementing Enterprise Resource Planning (ERP) and other IT-enabled system to manage its human, physical and financial resources which will give a big boost to the operating efficiency of the CIL.
- Several technological interventions have also been made to mitigate the risk of accidents e.g. Slope Stability radar to monitor slope stability, technology such as collision avoidance system in dumpers, Operator Independent Truck Dispatch System, Vehicle tracking system, proximity warning system and other camera based or radar based system, Surface Miners to eliminate blasting in coal, Conveyor to reduce traffic density in mines etc.
- Technologies like water mist for dust suppression to increase safety and productivity.

All these technological interventions helped improve the productivity of mine, recovery of coal and safety of personnel and machines in CIL.

2.6 For UG Mines, it has been informed that at CMPDI, no UG mine is planned with manual working as a principle since long. Over the years, various types of mechanisation depending upon the prevailing geo-mining conditions have been introduced in UG mines of CIL, which resulted in improved production, productivity and safety apart from progressively eliminating manual workings. Some of the commonly applied mechanisation are as follows:–

- Mechanised loading machine viz., Side Discharge Loader (SDL)/ Load-Haul-Dump machine (LHD) which replaced manual loading,
- Universal Drilling Machine that replaced manual drilling,
- Belt conveyors for coal transportation,

- Continuous miner technology (using continuous miner, shuttle/ ram cars, mobile bolting machine, feeder-breaker, gate belt conveyor, multi-utility vehicle like LHD and power center),
- Mechanised longwall mining technology (using powered roof supports with high pressure pump, armoured face conveyor, shearer, stageloader-crusher, gate belt conveyor, etc.),
- Various types of man-riding systems viz., chairlift, monorail, locomotive, free-steered vehicles, etc.
- Various types of material transport systems including tyre-mounted vehicles,
- Various types of roof supporting system like roof bolts, standing supports, mobile hydraulic roof bolting, w-strap, wire-mesh, etc. and various types of strata control and monitoring systems viz., tell-tale, extensometers, convergence recorder, etc.
- Various types of mine environment monitoring systems viz., tele-monitoring system, sensors and transducers for monitoring various environmental parameters, etc.
- Continuous miner technology and longwall mining technology are highly mechanised systems, though capital-intensive, but are considered most productive and safer systems of mining as these systems of mining considerably reduce exposure of mine workers to hazardous areas. These technologies are also considered superior in terms of conservation owing to comparatively higher recovery. All UGcoal mines are planned at CMPDI with mechanisation suitable for the prevailing geo-mining conditions.

2.7 On being asked about the action plan, if any, made for phasing out manual mines, it has been stated that Bejdih and Sodepur UG, ECL – will be phased out by April, 2020. Futher,Govindpur, CCL - not feasible (high gradient) & proposed for closure. In an information later on furnished to the Committee, it has been stated that mining operation has been discontinued in Sodepur (R) UG mine of ECL in the year 2020-21 and manual working has been withdrawn in Bejdih UG mine of ECL in the year 2020-21.

B. Study on UG Coal Mining in CIL

2.8 The Committee have been informed that a consultancy services for 'Study on UG Coal Mining in CIL – Problems, Potential, Technology, Modernisation, Production and Safety' was awarded to the Consortium of Indian Institute of Technology (Indian School of Mines), Dhanbad [IIT (ISM)], Singareni Collieries Company Limited [SCCL] and Pricewaterhouse Coopers Private Limited [PwC] on 25.07.2016. The Final Study Report was submitted on 08.12.2017. According to the Terms of Reference (ToR) of the above work, ninety (90) selected UG mines were to be studied specifically along with some general assessment of the subsidiaries in consultation with CIL and its subsidiaries.

2.9 The 'Scope of Work' for the above work study were as under:

(a) To assess the various factors that are coming in the way of enhancing coal production from UG mines of different coal companies in CIL;
(b) To study the available coal reserves suitable for UG mining in each coal subsidiary company of CIL;
(c) To assess the existing level of mechanization of the UG mines in various subsidiary companies and the trend in production from the same;
(d) To assess the scope for replacing cyclic mining and avoiding blasting operations by deploying mass production technologies like continuous miner, short wall mining, long wall mining, etc.;
(e) To assess the scope of mechanization deploying continuous miners with matching roof supporting mechanism and to phase out side discharge loaders;
(f) To assess the scope of amalgamation of smaller units and strengthening the infrastructure for mechanization of amalgamated units;
(g) To assess the preparedness of different coal companies in terms of shelf of projects for implementation;
(h) To assess the requirement of different infrastructural support for taking Greenfield/brown field projects;
(i) To analyse the reasons for delay in implementing the already conceived UG continuous miner/long wall projects in BCCL in particular and other companies in general;
(j) To assess the scope for reviving the identified 6 closed mines in different subsidiary companies as envisaged earlier;
(k) To assess the gap between the availability and the requirement of skilled manpower for UG mines over next ten years' time;
(l) To assess the training needs of technical manpower in UG mechanization;
(m) To assess the means of incentivizing UG coal mining;
(n) To address the contract management issues to importing of equipment for UG mines and also to examine the issue of certification/approvals by safety regulator for the imported UG machinery;
(o) To assess the possible cooperation with various technology providers from different countries for taking up large scale UG mechanization;
(p) To suggest measure considering the above Terms of Reference for improving the production, productivity and safety from the UG mines.

2.10 When asked to highlight the major recommendations made by the study team, the Ministry has summarised the suggestions/recommendations made in this report as under

I. Strategy for exploitation of coal resources and business plan

(i) CIL needs to formulate a strategy for exploitation of coal resources within its leasehold for sustainable coal production in the long term through 2040. The strategy should basically highlight the following aspects:

- Coal resources amenable to OC mining and UG mining within CIL leasehold.
- Phase-wise demand of coal on CIL through 2040.

- Phase-wise coal production possible from OC and UG mining through 2040 in CIL.

- Phase-wise requirement of land and other major infrastructures (rail/road/power) through 2040.

(ii) The above strategy for exploitation of coal should be integrated with the business plan of CIL through 2040. The business plan should focus on the following aspects:

- Projected phase-wise requirement of capital to meet the above coal production and other objectives of CIL.

- Projected phase-wise revenue generation and profit/loss.

II. Upgradation of technology

(i) Post-nationalization, CIL has concentrated on technology upgradation mainly for OC mining and there are a number of OC mines of international standards. However, there had been minimal introduction of advanced technologies in UG mining and most of the UG mines continue to practice age-old technologies. This can be partly attributed to the failure of some earlier initiatives for application of mass production technology in CIL mines.

(ii) The present study reveals that there is scope for introduction of mass production technologies (CM/longwall) in as many as 48 number of mines out of the 90 mines studied. It is therefore, recommended that techno-economic feasibility of these mines should be examined for taking investment decisions.

(iii) Introduction of mass production technology, particularly longwall mining, would require detailed geological information. The study reveals that out of 90 mines studied 44 number of mines (mostly in ECL, BCCL and CCL) require further exploration, particularly for lower coal horizons, to establish reserves, quality and structure of the coal seams. It is therefore, recommended that thrust need to be put on application of modern exploration techniques including high resolution seismic survey for bridging the geological data gap within next couple of years.

(iv) One of the major constraints in developing high capacity UG mines particularly in the older coalfields in ECL, BCCL and CCL is existence of reserves in upper seams that have been extensively worked and having standing pillars/goaves/fire areas/waterlogged areas etc. Liquidation of these seams by the conventional technology will take several years thereby blocking virgin coal reserves in the lower seams for exploitation with mass production technology. It has therefore been recommended to liquidate such upper seams by OC mining to unlock the lower virgin seams for introduction of mass production technologies.

(v) The study has recommended introduction of mining systems like Wongawilli and Longwall Top Coal Caving (LTCC) systems in CIL mines wherever such systems are found suitable. These systems have been successfully applied in other countries but are new to India. In addition, in certain steep seams, pilot scale studies for application of hydraulic mining system has also been recommended. However, certain physico-mechanical studies of the coal seams must precede application of these new mining systems.

(vi) Mass production technologies are ideally suitable for caving methods. However, in many mines, it is found necessary to adopt stowing in conjunction with mass production technology to protect important surface features like large villages/townships/factories/railway lines etc. which cannot be relocated. This will necessitate application of high speed stowing methods to cater to the high rate of production obtained from mass production technology. The study has recommended methods for improving the rate of conventional stowing and for taking up R&D works for trial of other systems of high speed stowing.

(vii) Out of the 90 mines under study, 19 number of mines are closed (as on 2015-16) for various reasons. The study recommends to reopen all these mines (except two mines, namely, Chinakuri-2 of ECL having negligible reserve and Tipong of NEC closed due to statutory restriction by DGMS) and to commence production from these mines within next 10 years after formulation and approval of PR and EMP. The total geological reserve of these mines proposed to be opened has been worked out to 3.0 Bt approximately.

It was further recommended that CIL should develop a guideline for maintaining the balance reserves and mine conditions for mines where workings are to be discontinued so that their future reopening, whenever needed, becomes easier and less time consuming.

(viii) Most of the existing UG mines of CIL are having a major constraint of poor inseam and vertical coal transport capacity. The study recommends widening/deepening of existing shafts, sinking of new shafts and drivage of new inclines to cater to the increased demand of vertical coal transport. For in-seam coal transportation, conventional rope haulage system has been proposed to be replaced by conveyors in the mines where mass production technologies have been suggested. As many as 62 numbers of shafts have been proposed to be sunk/widened/deepened and 79 number of new inclines proposed to be driven in the studied mines. High speed sinking and incline drivage technologies have been envisaged to reduce the gestation period for mine development.

(ix) The study envisages increase in UG production from a level of 7.80 Mt in 2015-16 to 62.08 Mt in 2026-27 from the selected/amalgamated mines. Apart from these mines, there will be production from other OC and UG mines also. Therefore, it has been recommended that master plans for surface coal handling and dispatch arrangements should be prepared for each subsidiary for handling the enhanced production without disturbing civil life of the locality.

(x) One of the major factors contributing to low productivity in the UG mines is poor ventilation of the workings. The study has recommended sinking of large number of air shafts for improving the UG environmental conditions. In addition, air cooling system has been recommended in all the mines with high depth. Also, the study recommends introduction of in-seam methane drainage for highly gassy mines and installation of inertisation plants in a number of mines to mitigate the risk of fire.

(xi) In most of the UG mines, a lot of time is wasted by the workers to reach the working place due to long travel distance. To reduce the time spent in travelling and to reduce the fatigue of workers, the study recommends introduction of man riding system in almost all the mines studied.

III. Land and R&R

(i) The study has recommended application of mass production technology in a number of mines. In most of these mines, rehabilitation of large villages/townships have not been suggested. In some of the mines, stowing has been suggested below developed areas. However, acquisition of land and rehabilitation of company quarters/buildings, small villages/habitations have been suggested for caving/OC mining of upper seams in a number of mines. This will involve mass scale land acquisition (forest and non-forest) and R&R works for implementation of the PRs of the mines where such technologies have been suggested. It has been therefore, recommended in the study to greatly strengthen the organization structure for land acquisition and R&R in each of the subsidiaries at HQ level and at Area level.

(ii) Mine projects are site specific unlike other industries where options for alternative locations are available. It is therefore, recommended that the existing provisions of LARR (2013) may be reviewed by the Government to facilitate easier land acquisition, at least for the mines for exploitation of energy minerals.

IV. Skilled manpower and training

(i) The study has projected a shortage of skilled manpower to the tune of 22,871 numbers by 2026-27 for the UG mines operating in 2026-27. The dimension of training will undergo vast changes due to increased application of CMs/longwall mining, introduction of new methods like Wongawilli system, LTCC etc., introduction of new services/technologies like methane drainage, high volume inertisation, high speed stowing, UG strata monitoring etc.

(ii) It has therefore been recommended in the study to revamp the existing training system of CIL. The key features of the suggested revamped training system are:

- Large workforce (including land losers) to be converted to useful manpower resource through need-based structured training.
- Training Need Analysis (TNA) to be introduced and training programme to be developed accordingly to suit different job categories. Equipment manufacturers are also to be associated for TNA.
- Introduction of competency assessment system after completion of training and issuance of certificate of competency by competent assessors.
- Employment of training partners – overseas and in-country, for training in new technologies.
- Employment of qualified/competent trainer for imparting training in CIL training centers.
- Local ITIs may be made training partners of the respective subsidiaries. Similar arrangement may be made with the OEMs on PPP model.
- Managerial skill upgradation based on national and international standards, best practices, SOPs etc.
- Revamping of training organization and infrastructure and introduction of State of the Art training aids like equipment simulator, virtual reality mine simulator etc. in regional training centers of the subsidiaries.

V. Organization

(i) The present organizational set up of the mines is mainly based on statutory requirements. For implementing the major changes envisaged in the study in UG mining activities of CIL, the existing set up has to be strengthened. It has therefore been recommended in the study to introduce the following manpower/cells in the mines/Areas/ Subsidiary HQs where mass production technology/ new methods/ new practices are to be implemented.

(a) At mine/project level- Planning cell for operational planning and new technology absorption, computerized survey and mine plan preparation, strata monitoring cell, UG mine environment control cell for gassy, fiery and deep mines and ITC cell.

(b) At Area level - Area planning and construction cell, Area land cell, computerized survey cell and ITC cell.

(c) At subsidiary HQ level- Land acquisition and R&R division, UG mine construction division and R&D division.

(ii) Presently, there is little thrust for developing new UG mines or for reconstruction/upgradation of technology in existing UG mines in CIL mainly because the process is tedious and benefits will be visible in long term. In contrast, less efforts yield quick benefits in OC operation along with profits. As CIL has to depend on UG mining in the long term, the study has recommended creation of a separate organisation for construction and development of large UGmines at Subsidiary level, Area level and mine level. Available expertise of CMPDI regional offices may also be integrated in this organisation. It is recommended that suitable incentives should be introduced for such UG mine development teams.

VI. Research and Development

(i) The study recommends introduction of several new mining technologies and mine system supporting technologies. These technologies are mostly proven in other countries. However, certain R&D studies have been recommended before introducing these technologies to Indian mining conditions.

(ii) R&D works have been suggested in the following areas in different subsidiaries:

- Determination of technical parameters of panels to be extracted by Wongawilli method (ECL).
- Introduction of high speed stowing system (ECL / BCCL).
- Application of in-seam methane drainage system (ECL / BCCL).
- Estimation of safe thickness of hard cover for UG mining in immediate lower seam below overlying quarry bed having overburden dump (BCCL / CCL).
- Study of suitability of thick coal seams for application of LTCC technology (ECL/CCL/SECL).

- Method of extraction of 7 m top coal left in the thick composite seam occurring below highly water bearing Kamptee formation (WCL).
- Suitability of OB material for utilization as stowing material (SECL/WCL).
- Method of extraction of thick HR seam developed in multi-sections with stowing below OC mine (MCL).
- Trial application of hydraulic mining (NEC/BCCL).

(iii) At present there is no R&D wing in any coal producing subsidiary of CIL. The study recommends creation of R&D wing in each subsidiary HQ to facilitate identification and application of new R&D projects based on the actual need of the subsidiary.

VII. Indigenous manufacture of UG mining machineries

(i) One of the main reasons for lack of mechanization in UG coal mines of CIL is absence of indigenous manufacturing capability of UG machineries. Imported machineries are costly and spares availability is a problem. The study therefore, recommends establishment of a large UG mining machinery manufacturing facility utilizing the unused land and infrastructure of erstwhile MAMC in Durgapur.

(ii) The effort to revive MAMC through formation of a JV of PSUs in 2010 has not yielded any result till date. It has therefore been recommended in the study to explore the following alternative routes for establishing such a mining machinery manufacturing company in India:

(a) Disinvestment of the present JV and inviting global bid from reputed mining machinery manufacturing companies for establishing a mining machinery manufacturing facility registered in India. Such company may be permitted to export surplus production only after fulfilling the domestic need.

(b) Establishing a company in Public-Private Partnership (PPP) mode involving coal PSUs and reputed mining machinery manufacturers in private sector.

(c) Establishing a JV company with partnership of different Indian PSUs presently engaged in manufacture of mining machineries.

VIII. Economics of UG mining

(i) One of the major reasons for negative growth of UG coal mining in CIL is the high cost of production of UG mining compared to OC mining. For increasing coal production from UG mining, the study has suggested application of mass production technology wherever possible. This is likely to improve the economics of UG mining from the present level due to higher production and higher productivity of such upgraded mines. However, preliminary analyses of the prospects of the studied mines indicate that economics of UG mining may still continue to suffer particularly in mines having inferior coal quality.

(ii) Capital cost of UG coal mining is likely to increase with application of mass production technology with caving mainly due to following:

- Cost of mine development like sinking of new shafts/inclines, installation of new winding and UG transport arrangement, high cost of mining equipment which are mostly imported, installation of new CHP and despatch system and other modern facilities like man riding system etc.

- Very high cost of land and R&R in recent times and cost of relocating company quarters/buildings and other public utilities to free the surface area for adopting mass production technology with caving.

(iii) Operating cost of mechanized UG mining is also likely to increase mainly due to incidence of high capital cost and high cost of maintenance and spares. Also, cost of adopting high speed stowing will be added where stowing is necessary.

(iv) Thus, the economic prospect of UG coal mining is not encouraging in spite of achieving moderately high OMS (compared to present average OMS of $0.8t$ in CIL) through mechanisation, particularly if the coal grade of a mine is poor.

(v) The study has therefore, recommended some incentives for UG mining as there is need for achieving balanced production from OC and UG mining in CIL for long term sustainability of coal supply. The major recommendations in this regard are:

- UG coal projects may be considered for approval with FIRR of 8% at 85% level of production (instead of 12% at 85% level of production at present).

- Part of GST collection by Central Government may be allocated to continue the subsidies allowed under CCDA and rules made thereunder and also to consider the following additional subsidies:

(a) Cost of relocating CIL quarters/buildings, private settlements and public facilities required for UG mining projects with caving.

(b) Increasing stowing subsidy to 100% of normative stowing cost from the present level of 75%.

- CIL may set aside some fund from its gross profit towards creating an 'UG mine development reserve' which may be utilized for supporting UG mine development.

2.11 Major recommendations in the study report include:

1) 95 mines under study (including 5 additional adjoining mines taken up by the Consortium for amalgamation) were proposed to be amalgamated to 80 mines. Out of these, 61 nos. of UG mines/amalgamated UG mines and 14 nos. of OC mines are envisaged to be operational in 2026-27 as per the report. Rest 5 mines will be exhausted/not proposed to be operated.
2) There is scope for introduction of mass production technologies in 48 mines/ amalgamated mines out of these 61 UG mines/ amalgamated UG mines that are likely to start production in 2026-27.

3) Out of the 90 mines awarded for study, 44 nos. (mainly in ECL, BCCL and CCL) shall require detailed exploration of lower seams.

4) Out of these 90 mines, 19 mines were closed (as on 2015-16) for various reasons. It was proposed to re-open these mines except 2 mines (one mine closed due to exhaustion of reserve and another closed due to DGMS restriction) and to commence production in these by OC/ UG method.

2.12 In an information later on furnished to the Committee with respect to the implementation of recommendations of the above said study report, it has been stated as under :

"Implementation status: The consortium studied the Technical Viability only and the financial viability of the recommended technology/method for the projects are being assessed during the preparation of the PRs. Hence, it was decided that initially each subsidiary shall select few mines from the list of mines recommended to produce more than 1 MTY w.e.f. FY 2026-27 in the report and request CMPDIL to prepare complete Project Report for those mines. If the PR is found financially viable, those will be implemented first followed by the rest of the projects. Number of UG mines envisaged to produce more than 1 MTY in 2026-27 as per the report is 23 (ECL-9, BCCL-8, CCL-1, SECL- 1, WCL- 3 and MCL- 1). Subsidiary-wise status of these 23 Projects are as follows:

ECL: Out of 9 mines envisaged to produce more than 1 MTY on 2026-27, PR of 3 Projects have already been prepared and approved (Tilaboni, Siduli and Parasea-Belbaid).

BCCL: 3 Project Reports out of 8 are already approved (Muraidih UG, Kapuria UG and Moonidih XV Seam) and BCCL has requested CMPDI to take action for 2 more projects (P B Project and Phularitand UG). However, due to variation in revised GR, the PR of Kapuria UG is under review.

WCL: Out of 3 projects (Murpar UG, Gandhigram and Shaktigarh) of WCL in this category, PR of Gandhigram has already been approved. CMPDIL has been requested to prepare fresh PR of Murpar UG. PR of Shaktigarh is unviable at present. It will be taken up in future after change in scenario like increase in coal price etc.

CCL, SECL and MCL: Only 1 Project each (Asnapani block of CCL, Badauli mine (GF) of SECL and Natraj UG of MCL) fall in this category. Respective subsidiaries have requested CMPDIL to prepare fresh Project Report/ Conceptual report to know financial viability. However, Asnapani block has issue of CBM overlap."

2.13 When asked about how many old/closed mines both (UG and OC) which have been identified for revival in line with the recommendations contained in the above said study report, it has been stated that out of these 90 mines under study, 19 were closed mines (as on 2015-16). Those are ECL– 5 mines (Chinakuri-1, Chinakuri-2, Seetalpur, Gopinathpur and

Kapasara), BCCL- 11 mines (Katras-Choitudih&Gajlitand, Hurriladih, Kustore, Loyabad, Basdeopur, Madhuband, Sudamdih Shaft, Amlabad, Dharmabandh, Teturiya and South Govindpur), WCL- 1 mine (Thesgora), SECL- 1 mine (Anjan Hill) and NEC- 1(Tipong). It is recommended in the report to re-open these mines except 2 mines namely Chinakuri Mine 2, ECL (closed due to exhaustion of reserve) and Tipong UG, NEC (closed due to DGMS restriction).

2.14 According to the information made available to the Committee, under Jharia-Raniganj Master Action Plan, Government of India through its Nodal Agency namely Asansol Durgapur Development Authority (ADDA) and Jharia Rehabilitation and Development Authority (JRDA) has taken initiatives for relocation and rehabilitation of the population of Jharia and Raniganj coalfields for unlocking the high quality coal resources.

2.15 When asked how much coal reserve resources (in physical term) are available in Jharia and Raniganj Coalfields, , the Ministry in a written reply has informed that as per the coal inventory of GSI, as on 01.04.2019, the coal resources in Million tonnes in Raniganj Coalfield are: Proved: 15556.65, Indicated: 7569.93, Inferred: 3739.24; Total : 26865.82. The coal resources in Million tonnes in Jharia Coalfield are: Proved: 16282.19, Indicated: 3248.44, Inferred: 0.00; Total - 19530.63.

2.16 When asked about the initiatives being taken for relocation and rehabilitation of the population of Jharia and Raniganj coalfields for unlocking the high quality coal resources and also the constraints, if any, being faced in this regard, the Ministry in a written reply has stated as under:

CIL :

Rehabilitation of BCCL families

2.17 As per approved Master Plan rehabilitation of BCCL employees residing in endangered areas is the responsibility of BCCL. BCCL was supposed to construct 25000 nos of quarters, however on subsequent assessment; it was revised to 15852 quarters due to superannuation of employees. Out of the total requirement of 15852 quarters, 7714 quarters have already been constructed and 4185 families were shifted till February, 2021 and for rest shifting is in progress. Further 8138 quarters are in different stage of construction.

Rehabilitation of non-BCCL families

2.18 As per approved Master Plan Jharia Rehabilitation & Development Authority (JRDA), has been identified as implementing agency for Rehabilitation of Non-BCCL houses. Master plan indicates requirement of about 2729 acres of land for construction of 54159 quarters for non-BCCL townships. State Govt. is facing constrains to identify and acquire big chunk of land beyond coal bearing areas for setting up township with all amenities and facilities required. JRDA, has taken ownership of 140.92 acres from DLAO, Dhanbad. Further NOC of 86.44 acres of vacant land in Bhuli Township and 849.68 acres of non-coal bearing land in and around Belgoria Township belonging to BCCL has been given by MoC. As per reassessment of non BCCL families by JRDA, total no. of families required to be shifted is 104946 instead of 54159 (As per approved Master plan). Construction of 18352 houses has already been taken up by JRDA in Belgoria Rehabilitation Township "Jharia Vihar" out of which 6352 quarters are completed and 2537 families have been shifted till February, 2021.

Rehabilitation of ECL & Non ECL families

2.19 ECL had already shifted all of its employees to existing ECL quarters at stable locations and demolished all the structures which were within the endangered/subsided zone. As per approved Master Plan rehabilitation of Non ECL employees residing in endangered areas is the responsibility of Asansol Durgapur Development Authority (ADDA), State Govt. authority. ADDA was supposed to construct 29000 houses as per Master Plan. To acquire big chunk of land beyond coal bearing areas for setting up township is major constraint for State Govt. As per the Master plan 896.29 Ha land was required for rehabilitation of non ECL families. On subsequent assessment; it has been revised to 146.76 Ha land out of which 102.04 Ha land is identified and finalized by ADDA. Action taken by ADDA for construction of 12,976 houses.Construction of 3,584 have been completed and 6,336 houses are in different stages of construction. The number of Non-ECL households rehabilitated during the last three years is NIL.

2.20 As regards the constraints in rehabilitation, they are stated as under: -

a) Non finalization of cut-off date

b) Non acceptance of R&R package of Master Plan demanding LARR Act 2013 with Employment of individuals in family.

c) Integrated township in urban area with all necessary facilities.

d) Livelihood provisions

2.21 It has further been informed that the time frame of 10 years for implementation of the Raniganj Master Plan, has already been expired on 11.08.2019 and validity of approved Jharia Master Plan is till August 2021. As per the directive of the 19th HPCC meeting dated 19.05.2019, a draft comprehensive proposal incorporating alternative rehabilitation package, time, and cost overrun have been prepared by ECL in consultation with CMPDI, RI-1 & ADDA, and BCCL in consultation with CMPDI RI-II & JRDA.

Both the comprehensive proposal have been discussed in the 21st HPCC meeting held on 04.03.2020. As per the directive of the 21st HPCC meeting, revision of the both the proposals are under finalization at JRDA and ADDA respectively.

2.22 When asked to furnish the subsidiary-wise details of various coal mines which have been closed and identified for revival, the Ministry in a written reply has stated as under:

SCCL: There is no such mine in SCCL at present.

CIL: The mines which have been closed/production suspended/abandoned in the subsidiary companies are either due to depletion of reserves or unsafe mining condition arising out of fire, inundation, adverse geo-mining condition etc. However, one study was conducted by a Consortium led by IIT/ISM for Problems, Potential, Technology, Modernization, Production and Safety for 90 UG mines in different subsidiaries of CIL (The Final Study Report was submitted on 08.12.2017) including 26 numbers of closed / abandoned / discontinued mines (ECL - 4, BCCL - 11, CCL- 4, WCL - 3, SECL-3 and MCL- 1) considering the list of closed / abandoned / discontinued mines up to 2018-19. Out of these 90 mines, total 23 mines have been primarily selected for production enhancement / revival. Now, out of which 03 closed mines namely Kustore, Hurriladih & Burrahgarh of BCCL have been conceptually recommended for revival through amalgamation with mass production technology. Study of Techno-economic viability of the recommended mines is under process.

2.23 When asked about the overburden removal policy of the Coal Companies to ensure that coal reserves lying underneath the place of coal dumping is not overlooked and do not result in extra financial burden to remove/shift the overburden, the Ministry has stated that during planning of a mine, care is taken not to dump any spoil material over coal bearing area amenable for OC mining, at present or even in future. Effort is made to accommodate most of the OB by backfilling. Even if there is a requirement of external OB dump, effort is made to dump it over non-coal bearing area or abandoned quarry or any coal bearing area where coal seams are deep seated and amenable to UG mining. Coal companies ensure dumping of overburden in planning stage considering the reserves available, rated capacity, economic striping ratio, availability of land, degree of mechanisation available at that time, etc. However,

in course of enhancement of capacity or life of the project, sometimes re-handling of the small quantity OB is unavoidable in view of conservation of coal.

2.24 When asked whether the Coal Companies have planned for incline mines to avoid extra expenditure incurred on removal of overburden, the Ministry in a written reply has stated as under:

SCCL: After detailed drilling of the block, Geological Report (GR) is prepared. While formulating Project Report (PR), mining method by incline (underground) or OC is decided based on the following factors –

- Depth of the coal seam
- Thickness, gradient, geological disturbances
- Grade of the coal
- Surface structure
- Reserves
- % of recovery etc.

CIL : Due to the quality of coal and geotechnical properties of coalfields, the Incline/UGmines are mostly unviable with existing technological knowhow. Hence, OC method of mining help in achieving bulk production due to higher viability, easier accessibility to the coal reserve, scope of deployment of high capacity equipment in multiple faces and ease of in-pit evacuation. As of now, Coal production of CIL is primarily dependant on OC mines (CIL achieved around 95% of its coal production through OC method in 2018-19).

2.25 The Committee pointed towards closing of Simlong Colliery in Jharkhand for quite some time, enquired about the steps taken to reopen it and the constraints/difficulties, if any, being faced in this regard. In reply, the Ministry has stated that project Report for Shimlong OCP (2.0 MTY) is under finalisation at CMPDIL RI-I. A proposal for Stage-1 Forest Clearance of 81.71 Ha has been applied. Evacuation of coal is also a constraint. Initially coal was planned to be evacuated through MGR mode which was to be developed by NTPC. But, in spite of many reminders to NTPC, it has not taken any step. Hence, a new railway siding has been proposed for coal evacuation at Sunderpahari (15 Km from Shimlong OCP) which will take some time for construction. Till then, coal will be evacuated by road through Goods shed at Kathoun Halt.

2.26 When asked whether any timeline has been fixed for effecting revival of closed mine, the Ministry in a written reply has stated that production from Shimlong OCP will start after

approval of Project Report, Stage-II Forest Clearance & establishment of Coal evacuation route. The Committee observed that ECL had acquired land for a project in Jharkhand. However, after completion of the project, the land has not been returned to their owners and people from other areas rehabilitated there, the Ministry in a written reply has stated that in Rajmahal Open Cast Project situated in Godda District, Jharkhand, land has been acquired predominantly under Coal Bearing Areas (Acquisition & Development) Act, 1957. Displaced families of 'Bara Simra' village were resettled at 'Iswar Marandi Nagar' which is a well-established rehabilitation site with required infrastructural facilities. After mining operations and reclamation of land 'Bara Simra' site has been re-utilized as rehabilitation site of displaced families of some other villages. Requisite approval of Central Govt. was obtained for the said purpose.

2.27 It was added that although displaced families of 'Bara Simra' wanted their lands back but same was not possible as there's no provision in CBA (A&D) Act, 1957 to return the acquired lands to the original land owners. The displaced were properly compensated as per the provisions of the Act and were resettled earlier at rehabilitation site.

2.28 When asked that when was the project started and people were displaced for undertaking the project. In reply, the Ministry has informed that Rajmahal Project was started in 1981-82 and the project has not been completed as yet.

2.29 As regards the rehabilitation of the displaced persons, the Ministry in a written reply has stated that first R & R activities of project affected people of Bara Simra started in 1992 and completed in 1994. They were rehabilitated at Iswar Marandi Nagar site.

2.30 In response to a specific query as to whether the norms for rehabilitation of the displaced people had been strictly followed, it was replied that the displaced persons' grievance was to have their own land after completion of mining activities which is not as per the law. However, norms for rehabilitation of the displaced people are being strictly followed. The displaced persons have not been given their own land because there is no provision of returning lands acquired under CBA (A&D) Act, 1957 to original landowners. Patta of allotted plots at rehab site have been provided to the resettled families. The other grievances in respect of compensation payment, employment provision, delay in preparation of genealogical tables (GT) by Circle Officer, internal family disputes etc. are timely looked after with care.

CHAPTER-III

DEVELOPMENT OF INFRASTRUCTURE FOR TRANSPORTATION OF COAL

3.1 The Committee have been informed that in order to develop transport infrastructure for coal evacuation, the following actions are in progress:-

(a) Development of rail links in coalfields (a) on deposit basis; (b) on JV basis;
(b) Railway sanctioned projects which are essential for evacuation of coal;
(c) Development of Rapid Loading System (RLS);
(d) Development of major road infrastructure for coal transport; and
(e) Development of rail sidings (existing/new)

3.2 When asked to furnish the details of various projects undertaken or planned to be taken up for developing transport infrastructure for coal evacuation and also their current status, the Ministry of Coal in a written reply has informed the Committee as under:

CIL

- The two rail infrastructure projects funded on deposit basis i.e. The Tori-Shivpur and Jharsuguda- Barpali- Sardega new broad gauge rail lines have been commissioned and coal freight movement started.

- The construction activities of rail connectivity from Lingaraj SILO to the existing Deulbeda siding at Talcher coalfields of MCL is in progress and anticipated to be completed by May, 2021.

- The development of rail infrastructure along the east corridor in the State of Chattisgarh is being executed by CERL, a Rail JV of CIL, in two phases.

- In the first Phase, connectivity from Kharsia to Dharamjaigarh with spur from Gharghoda to Gare Pelma and three feeder lines from Chhal, Baroud and Durgapur is planned. The Kharsia- Korichhapar (0-45 Km) part of the Kharsia- Dharamjaigarh (0-74 km) main corridor section was commissioned on 12th October, 2019 and coal freight movement is already underway.

  The remaining portion of the main corridor from Korichhapar- Dharamjaigarh (45-74 km) is anticipated to be commissioned by March 2021. The spur from Gharghoda-Gare Pelma (24 Km) and the three feeder lines (34Km) are anticipated to be completed by September, 2021. The estimated project cost is Rs3055 Crs and the entire track length is 132 km.

- In the second Phase, connectivity from Dharamjaigarh to Korba (62.5 Km) is planned to be taken up. Land acquisition process is underway. The likely date of completion of the Project is three years from Financial Closure.

- The development of rail infrastructure along the East–West Rail Corridor in the State of Chhattisgarh is being executed by CEWRL, a Rail JV of CIL at an estimated cost of Rs 4970 crore. Tenancy land is in possession and Forest Stage-II clearance obtained.

Financial closure achieved on August, 2020. The anticipated date of completion is three and a half years after Financial Closure.

- The construction of the Angul-Balram- Putagadia- Jarapada and one leg to Tentuloi of 68 Km length, at an estimated cost of Rs 1700 Crs. is being undertaken by CIL Rail JV MCRL. This rail project shall provide independent ingress and egress to the coal rich Talcher coalfields. MoC has approved transfer of land on 09.07.19. The updation of RoR records and transfer of land to East Coast Railway through State Govt. is in progress. The Angul- Balram (13 Km) Phase is anticipated to be completed by June'2021 and the Total project by March'2024.

- A scheme has been prepared for rail works related to Jharsuguda –Barpali-Sardega Rail Line (i.e. Doubling of Rail Line, Construction of coal loading complex at Barpali & Construction of flyover complex at Jharsuguda) at an estimated cost of Rs. 2900.63 Crore. The scheme likely to be placed in the upcoming CIL Board for approval.

3.3 Further, post 5th July' 2019, CIL has formulated a strategy to develop an integrated approach for eliminating road transportation of coal in mines having capacity of 4 Mty and above, under 'First Mile Connectivity'. This entails capacity creation of mechanized conveyor system and computerized loading system (SILOs) in such a way that, wharf wall loading by pay loaders is eliminated by year 2023-24 (FY 24). This shall impart various benefits including but not limited to savings in diesel costs, demurrage charges and transportation charges, health benefits etc.

A total of 35 such FMC projects of 404.5 Mty capacity, with an estimated capital of Rs 11500 Cr has been identified for implementation.

As per the latest status, three projects viz. Kusmunda PH-I (10 MTPA), Lingaraj (16 MTPA) and Krishnashila (4 MTPA) have been commissioned.

8 Projects of 107 MTPA are under construction, LOA/WO has been issued for 20 FMC Projects of 224.5 MTPA and 4 Projects of 43 MTPA are under Tender evaluation stage LOA/WO of which shall be issued before March'2021.

STATUS OF CHP-SILO PROJECTS IN CIL FOR MINES > 4 MTPA UNDER FIRST MILE CONNECTIVITY (AS ON 05.03.2021)				
Sr. No.	Status	Name of the Mine/CHP	Subsidiary	CHP Capacity (MTPA)
1	Commissioned Post 5th July'2019	Kusmunda PH-I	SECL	10
2		Krishnashila	NCL	4
3		Lingaraj	MCL	16
3		Sub Total		30
4	Under Construction	SonepurBazari	ECL	12
5		Kusmunda PH-II	SECL	40
6		Jayant	NCL	15
7		Block- B (Rail Connectivity)	NCL	
8		Dudhichua	NCL	10
9		Bhubaneswari PH-I	MCL	10
10		Hingula	MCL	10
11		Lakhanpur- Belpahar-Lilari PH-I	MCL	10

STATUS OF CHP-SILO PROJECTS IN CIL FOR MINES > 4 MTPA UNDER FIRST MILE CONNECTIVITY (AS ON 05.03.2021)				
Sr. No.	Status	Name of the Mine/CHP	Subsidiary	CHP Capacity (MTPA)
8		Sub Total		107
12	LOA/WO issued for construction	Rajmahal	ECL	10
13		Jhanjra UG	ECL	5
14		North Urimari	CCL	7.5
15		Block B	NCL	4.5
16		Gevra(5&6)	SECL	30
17		Gevra RLS	SECL	20
18		Chhal	SECL	6
19		Baroud	SECL	10
20		Kusmunda PH-III (In pit Belt conveyor)	SECL	
21		Dipka RLS	SECL	15
22		Amlohri RLS	NCL	5
23		Dudhichua RLS	NCL	5
24		Magadh	CCL	20
25		Amrapali	CCL	12
26		Manikpur	SECL	5
27		Bhubaneswari PH-II	MCL	15
28		Lajkura RLS	MCL	15
29		Sardega RLS	MCL	20
30		Nigahi (10 Mty)	NCL	10
31		Bina- Kakri Amalgamation	NCL	9.5
20		Sub Total		224.5
32	Tenders under evaluation	Ananta	MCL	20
33		Kaniha	MCL	10
34		Dinesh	WCL	8
35		Konar	CCL	5
4		Sub Total		43
35		Grand Total		404.5

Note: Besides the above, about 151 MTPA of coal handling and loading into railway wagons are presently being done through RLS/Mechanized system in different Subsidiaries of CIL.

SCCL:

3.4 SCCL is presently supplying coal of 65 MT per annum. Out of which 73% is by rail and 13 % is by road and 13 % is by MGR. SCCL coal transportation-Mode wise is as under:

(in M T)

Year	Mode				
	RAIL	ROAD	MGR	Others	Total
2015-16	40.30	9.12	8.61	0.52	58.55
2016-17	39.96	11.95	8.51	0.38	60.79
2017-18	39.21	16.86	8.13	0.42	64.62
2018-19	45.58	13.39	8.36	0.34	67.67
2019-20 (up to Dec 2019)*	34.03	6.03	6.04	0.27	46.37

*Provisional

3.5 There are 09 Coal Handling Plants of 50 MT capacity through which dispatches are by Rail / MGR systems. Remaining coal is being transported by road. There are 08 Pre-Weigh Wagon Loading systems and 14 Truck Loading systems in SCCL, installed & working at various Mines & Coal Handling Plants. Keeping in view the planned enhancement of coal production and dispatch up to 85 MT in the next 5 Years, following steps regarding coal evacuation and infrastructure are being taken by SCCL –Two Railway projects i.e. Goleti Railway Siding and Railway line to Singareni Thermal Power Plant of SCCL are totally completed. Road transport of 5 million tonnes of coal is eliminated and transporting 100 percent of it by rail. The third railway line from Bhadrachalam to Sattupalli is a project of Rs. 952.16 crore (revised cost) which is a deposit work taken up by railways. 98 per cent of the land acquisition has been completed and rest would be completed by June, 2021. This is a 54.1 KM railway line which will be completed within two and a half years from the start.

3.6 Further, the other projects for development of Rail Links in Coalfields – Planned in future are given as under:

A. Bethampudi to Koyagudem railway siding (8.20Km @ Rs 81.31 Crores)
B. Sathupalli railway siding (about 8.00Km length)
C. Railway line for transportation of Coal from Naini Coal Block by MCRL.

3.7 Also, the development of new Coal Handling Plants monitored in Transformative idea for implementation in 100 days programme of MoC is as under:–

- SRP OC (3.50 MTPA) - works completed & ready for trial run.
- JVR OC CHP (capacity of 10 MTPA) – will be completed in 2021.
- Naini OCP (capacity of 10 MTPA) – will be completed in 2023-24.

3.8 The various bottlenecks in Railway Infrastructure Projects have been stated to be as under:

(i) Issue of Reservation coal bearing areas in GVCF, Telangana in favour of SCCL under section 17A of MM(D&R) Act, 1957 resulting in delay of the grounding of projects.
(ii) Land Acquisition for railway line from Bhadrachalam to Sattupalli

3.9 The Committee desired to know the various stages of transportation of coal from the mine head to the dispatch/loading points. In reply, the Ministry has informed as under:

SCCL: The selection of mode of transportation of coal from mine head to dispatch points varies from case to case based on the grade of the coal, Quantity, life of the project, customer available etc. Mode of transportation of coal from mine head to dispatch points in SCCL is as follows by:

- Belt
- Road through trucks
- Arial rope
- Merry Go Round

CIL :

3.10 It has been stated that once mined, the coal from the mines is loaded by loading equipment, delivered to a transfer point and then moved through road/belt conveyors to the main transport systems like Rail and Road to the consumers. At present 151 MTY of the total coal being dispatched are through a combination of belt conveyor system feeding onto CHP-SILOS equipped with Rapid Loading Systems. Coal transported through road to the siding is weighed both at the mine end before moving out of mine area and at the siding before receiving the same. Coal despatched through railway rakes and through belt conveyors, are measured through in-motion weigh bridges. Coal loaded through CHP-SILO with Rapid Loading Systems are pre-weighed in the SILO itself (computerised). This weighment is now accepted by the Indian Railway and in-motion weighing is done only for cross-checking purposes. In this regard all coal companies follow a uniform practice. However, under the 'First Mile Connectivity' scheme, CIL is adding a further 405 MTY in all its mines having production capacity of 4 MTY and above. Out of this 405 MTY, CHP-SILO of 112 MTY are under construction.

3.11 When asked to state the present procedure being practiced by different subsidiaries before coal is sent to the sidings, the Ministry in a written reply has stated as under:

CIL : Crushed coal (-100 mm) is transported through road/belt conveyor to the siding, weighed both at the mine end before moving out of mine area and at the siding before receiving the same, and the same is despatched through railway rakes or through belt conveyors (weighment through in-motion weigh bridges). Coal loaded through CHP-SILO with Rapid Loading Systems is pre-weighed in the SILO itself (computerised). This weighment is now accepted by the Indian Railway and in-motion weighing is done only for cross-checking purposes.

3.12 On being asked about the quantity of coal, out of the total coal produced sent by road and through railways during the last five years, the Ministry in a written reply has informed as under:

Company	2015-16		2016-17		2017-18		2018-19		2019-20 (till Dec'19)	
	Rail	Road	Rail	Road	Rail	Road	Rail	Road	Rail	Road
ECL	26.45	1.68	29.16	1.46	30.43	2.01	34.17	2.57	22.95	2.02
BCCL	28.61	7.48	26.27	8.6	24.43	8.93	23.40	9.67	15.57	5.09
CCL	26.77	32.81	30.94	29.99	32.74	34.77	30.54	37.85	25.18	24.21
NCL	27.86	10.08	27.37	14.14	30.98	17.31	30	20.91	26.64	13.78
WCL	27.14	12.02	26.96	9.89	34.17	11.58	35.32	17.64	22.47	12.75
SECL	46.69	57.13	52.93	52.53	51.55	65.99	49.09	70.74	34.95	42.72
MCL	89.08	34.53	90.76	38.21	89.44	34.82	87.38	42.78	54.75	30.01
NEC	0.27	0.07	0.57	0.21	0.69	0.21	0.60	0.15	0.27	0.03
CIL	272.87	155.81	284.95	155.04	294.45	175.62	290.50	202.31	202.77	130.62
SCCL	40.30	9.12	39.96	11.95	39.21	16.86	45.58	13.39	34.03	6.03

3.13 The Committee further asked about the various modes of transport being used for evacuation of coal from coalfields areas. The Ministry in a written reply has furnished company-wise/subsidiary-wise details as given below:

Name of Coal Co./Subsidiary	Various Modes of coal evacuation
ECL	Rail, Road and MGR
BCCL	Rail, Road
CCL	Rail, Road
NCL	Rail, Road, MGR and Belt Pipe Conveyor
WCL	Rail, Road, MGR, Ropeways and Belt
SECL	Rail, Road, MGR and Belt
MCL	Rail, Road, MGR and Belt
NEC	Rail, Road
SCCL	Rail, Road, MGR, Others

3.14 To a specific query as to whether the present transport infrastructure for evacuation of coal from coalfield areas is adequate to meet the rising demand of coal from different sectors of the economy, the Ministry has replied that Coal India Ltd. has adequate infrastructure in place to evacuate the planned production for the coming 1-2 years. However, with the increase in production, leading up to the production Plan of 1 billion tonnes in 2024-25, infrastructure is also required to be upgraded of the desired level. CIL has stated to have taken the following steps:

I. One of major issues taken up in the 5-year vision plan for Coal India limited for the 2019-20 to 2023-24 is reduction in surface transportation from Mine to siding/CHP (1st mile connectivity). As a part of the plan, CIL will reduce and ultimately eliminate first mile road transport of coal from large mines having production capacity exceeding 4 MTPA by

enhancing coal handling efficiency through employing alternate transport methods like mechanized conveyor system and computerized loading into railway rakes. This will ensure the seamless movement of coal from the mine mouth to the respective dispatch points.

II. CIL is also studying the feasibility of installing surge bunkers, mini Silo at the loading points which are fed from the mines having capacity of less than 4 MTPA. This will ensure smooth and faster loading.

III. Coal India Limited is in the process of procuring 40 rakes under General Purpose Wagon Investment Scheme (GPWIS) at a capital investment of Rs. 675 crores. These wagons will serve Fifteen (15) Power Houses spread over Maharashtra, Madhya Pradesh, Chhattisgarh and Odisha falling in the South East Central Railway Circuit.

IV. Development of new Railway lines and capacity enhancement of the existing Railway lines will contribute significantly to the enhanced evacuation of coal particularly at SECL, MCL, NCL and CCL. Some of these railway lines are as under:

i. Tori-Shivpur
ii. Jharsuguda-Barpali-Sardega
iii. Railway connectivity to Lingaraj Silo with existing Deulbara siding.
iv. ShivpurKathautia
v. East Corridor(Kharsia-Korichappar-Dharamrajgarh-Korba)
vi. East-West Corridor(Gevra road-Pendra Road-Kusmumda)
vii. Angul-Balaram
viii. Doubling of Singrauli-Shaktinagar-Katni line.
ix. Third line of Barkakhana-Barwadih.
x. Third and fourth line of Jharsuguda to Bilaspur
xi. DFC-Dadri to Sonenagar and extension upto Koderma
xii. Third and fourth line from Talcher to Budhapunk
xiii. Third and fourth line from Budhapunk to Rajatgarh.

The Committee have been apprised that Power Houses in the close vicinity of the coalfields have also been persuaded to develop captive modes of transport like MGR, Belt etc. in compliance of the MoP advise. The Power Houses having existing captive mode of transport are also being advised to enhance their capacity.

3.15 When asked whether the proposal to transport the coal through pipeline or mechanised loading system has been explored, the Ministry in a written reply has stated that depending upon the requirement and feasibility, Pipe conveyors are being proposed for Projects for transportation of coal and some of them are already under construction. Mechanized loading of coal including Rapid loading system are already in use. All future mines above 4 Mtpa and above capacity are being planned with Mechanized loading / RLS. Presently construction of pipe belt conveyor line of 2.2 Kms at Bhubaneshwari OCP and 3.8 Kms at Hingula OCP is

underway at MCL. Under the 'First Mile Connectivity' project, it is planned to construct pipe conveyors from the pit-head to the RLS SILO at the rail despatch point for eco-friendly transportation of coal. Coal consumers like Hindalco have installed their own pipe conveyor from Krishnashila OCP of NCL to their power plant at Renusagar, drawing 3.5 MTY. MAHAGENCO is installing a pipe conveyor of 6.665 km from Bhatadih OCP of WCL to Padmapur WagonLoading Station for CSTPS Chandrapur in the State of Maharashtra. MAHAGENCO is also installing a pipe belt conveyor from Bhanegaon OC, Singori OC, Gondegaon Ghatrohna OC, Inder OC and Kamptee Deep OC, in Nagpur Area of WCL feeding coal to their power plants at Koradi and Khaparkheda.

3.16 When asked to furnish the details of rakes approved and pending for clearance in the Ministry of Railways and the methodology adopted to finalize the rake points by the Railways, the Ministry in a written reply has stated that the loading points (sidings) are finalized on the basis of coal production points, logistics connectivity with the main line as well as with the production points and various other issues in consultation with the Railways. The broad stages involved in commissioning of a Railway siding are as under:

- Approval of feasibility report and issuance of in-principle approval (IPA) by CTPM.
- Approval of detailed project report (DPR) and engineering scale plan (ESP).
- Approval of signal interlocking plan (SIP) and detailed engineering/ bridge drawings.
- Execution of approved work.
- Inspection and certification of completed work by railway authorities.
- Vetting of completion estimate.
- Signing of siding agreement.
- Commissioning of siding.

3.17 In this regard, the Ministry of Railways in a written reply has stated that bulk of the coal transported by Indian Railways is sourced from CIL companies. Close co-ordination is maintained with all coal companies to chalk out a joint plan for transporting coal to various power houses. Demand for rakes are placed by the concerned coal companies with the Zonal Railways based on their coal production, capacity to transport coal into the sidings, contractual obligations with the consumers including payments, etc. All such demands placed by CIL subsidiaries are being accepted by the Railways without any regulation. The consumers of coal, including power plants, do not place demands directly with Railways as is the case with

other commodities. It has been observed that at most of the times, the loading capability of the coal company is less than the total demand projected by the coal company which results in loading being less than the projected demand. As on 31st December 2019 there were 4,525 non lapsable rakes arrear on Indian Railways (out of which 3043 arrears were in South Eastern Coalfields Ltd (SECL) alone). The shortfall in loading is primarily on account of less availability of coal at sidings. At present, most of the coal loading is done from private sidings depending upon the requirement. The coal companies submit plan for building sidings to the Zonal Railways which are examined and approved as per extant policies. In case of loading of coal from railway goods sheds, depending upon the demand and the clearances of the statutory pollution controlling authority, some goods sheds are notified for outward booking of coal. The following points are kept in mind before notifying goods shed/siding for outward booking of coal:

a) The goods shed/siding should have full rake handling capacity.

b) Suitable arrangement for coal loading exists or is provided for so as not to affect existing traffic being handled at such goods sheds/sidings.

c) All coal rakes loaded at such goods shed/siding can be weighed, and Railway Receipt (RRs) are issued on the basis of such weighment reports.

d) Environmental issues, if any, are kept in mind before.

3.18 As regards development works of Shivpur-Tori Rail line, the Ministry of Railways in a written reply has stated that works of road infrastructure development connecting different sidings on Tori-Shivpur rail line to mine have been taken up by CCL, the details are given below: -

Sl no.	Name of work	Cost (in crore approx.)	Status
1.	Construction of road from Binglat to Honhe(4 KM)	20.72	Completed
2.	Construction of road from Phulbasia to Jari (Length 7.95 Km)	25.34	Completed
3.	Construction of PQC Road from Jari to Balumath, NH-99 (Length = 4.0 Km) has been awarded to RITES	42	Completed
4	Weigh Bridge no. 6 (Honhe) to Saradhu (6 KM)	22.38	Work incProgress
5	Construction of road from Saradhu to Masilong (4.4 KM)	21.57	Work in Progress
6	Construction of road from Masilong to Baseria, (6 KM)	29.53	Work in Progress
7	Construction of road from Saradhu to Phulbasia (8 KM)	39.13	Work in Progress
8	Construction of road from Golitand to Kundi via Chamatu (6 KM)	36.00	Completed
9	Construction of road from Golitand to Phulbasia Junction to Bukru Siding and Phulbasia Siding (9 KM)	48.55	Work in Progress
10	Construction of road from Bukru to Jari (3.1 KM)	27.95	Work in Progress
11	Construction of road from Honhe to Shivpur (4.6 KM)	40.84	Work in Progress

3.19 It has further been stated that most of the works are affected due to non-availability of Forest land. In addition to above roads, various Railway siding infrastructure works taking off from Tori-Shivpur rail line to mine heads have also been taken up by CCL. The details are furnished as below: -

I. Magadh Railway Siding by RITES Ltd on Project Management Consultancy (PMC) basis: - (Length – 14.60 Km; Estd Cost: - Rs 391 crores).

- Construction work under progress by M/s RITES Ltd. Formation work nearing completion in Railway land portion.
- Rails, PSC Sleepers, Points & Crossings and Ballast procurement is under process.
- Works are getting affected due to non-availability of Forest land.

II. Amrapali Railway Siding by RITES Ltd on Project Management Consultancy basis: - (PMC) (Length – 15.60 Km; Estd Cost: Rs 414 crores)

- Construction work under progress in Railway land portion.
- Rails, PSC Sleepers and Ballast procurement are under process.
- Works are getting affected due to non-availability of Forest land

3.20 On being asked about the present status in respect of commissioning of Barwadeeh-Chirmiri rail line and Shivpuri-Chatra-Gaya rail link, the Ministry of Railways in a written reply has stated that the project Barwadeeh-Chirmiri rail line has been taken up by CRCL (Chhattisgarh Railway Company Limited), a Joint Venture (JV) company of Ministry of Railways & Government of Chhattisgarh. The JV is in development stage and Detailed Project Report is being finalized. Further, Tori-Chatra New line project (66.5 km) is under development with Jharkhand State JV, JRIDCL and is under study with State Government of Jharkhand. The New line between Chatra and Gaya of 99 km length was sanctioned in 2008-09. Latest anticipated cost of this project is Rs. 4543 crore. Field verification of Final Location Survey (FLS) has been completed. Land Plan of 39 villages submitted. Presently, Indian Railways has taken up 188 New line Projects of 21295 km length, costing Rs. 3.87 lakh crore including 36 New Line Projects of 3008 km length costing Rs. 54,759 crore in the State of Bihar. The Throwforward of these new lines in Bihar is of the order of Rs. 40,900 crore. The completion of any Railway project depends on various factors like quick land acquisition by State Government, forest clearance by officials of forest department, shifting of infringing utilities (both UG and over ground), statutory clearances from various authorities, geological and topographical conditions of area, law and order situation in the area of project site, number of

working months in a year for particular project site due to climatic conditions, encountering unforeseen conditions like earthquake, flooding, excessive rains, strikes of labour, orders of Hon'ble Courts, situation and conditions of working agencies/contractors etc. All these factors vary from project to project and site to site and affect the completion time and cost of the project. All out sincere and focused efforts are being made by Railway for quick execution of these projects.

3.21 When asked about the factors being taken into account before deciding the routes through which railway lines would be constructed for transportation of coal, the Ministry in a written reply has stated as under:

> **CIL** : Routes for Railway lines are decided after conducting route alignment survey by expert agencies in this field i.e. through M/s RITES Ltd, M/s IRCON International Limited etc in consultation with CCL/ CMPDIL. Various factors including cost of rail line construction, nearest Railway station, distance from mine and other technical factors are considered before deciding the final rail routes through which railway line is constructed for transportation of coal.

3.22 When asked about coordinated efforts being made by the Ministry of Coal and Ministry of Railways to do away with the manual facilities and develop complete mechanized rapid system for evacuation of coal, the Ministry in a written reply has stated that CIL has taken up new thirty-five (35) First Mile Connectivity (FMC) Projects of 404.5 MTY capacity for mega projects having capacity of >4MTY under MoC's 100 Days Transformative Ideas' for implementation in the different subsidiaries of CIL at an estimated capital of Rs 11500 crore. This is in addition to the already existing First Mile Connectivity (FMC) capacity of 151 MTY. The basic purpose of these projects is to eliminate the coal transportation from the pit head to the despatch point through road mode. This will reduce human intervention, traffic congestion, road accidents and adverse impacts on environment and health around the mines by enhancing coal handling efficiency through employing alternate transport methods like mechanized conveyor system and computerized loading into railway rakes.

3.23 In this regard, the Ministry of Railways in a written reply has stated that most of the coal loading is presently being done through mechanized systems, namely, Silos, through coal handling plants or through pay loaders. In view of the inherent benefits of loading of wagons through Rapid Loading System (RLS) the coal companies have been trying to set up more RLS in various sidings and Zonal Railways are facilitating the same. Further, policy has been made by Railway Board for facilitating RLS by permitting acceptance of the weighment done in RLS.

3.24 When asked what constraints/difficulties, if any, are being encountered in the process and the measures taken to remove those constraints, the Ministry in a written reply has stated that the constraints / difficulties mainly relate to Forest land and possession of other lands including Raiyati land. Physical possession of land is a major issue especially in the State of Jharkhand due to land authentication problem in the coal rich district of Latehar and Chattra. Regular persuasion for early authentication is being done with the State Governments and MoEF&CC.

3.25 On being asked about the efforts taken to ensure participation of the local people in transportation of coal related issues in view of growing agitation by land ousters, the reply of the coal companies was as under:

SCCL: During awarding of contract by outsourcing agencies for transportation of coal, the provision of including the local and PDF is being ensured. Further, unemployed youth of neighbouring villages are being imparted skill development training programmes on Heavy vehicle training.

ECL: ECL maintains a pool of registered contractors for undertaking the work of transportation of coal/sand. Most of the registered contractors are amongst the local people nearby the mines of the concerned areas. Further, in the tender document relating to transportation of coal, there are provisions for employment of local project affected people by the concerned contractors. The said Clause 31.1 of "Instructions to Bidders" of tender document states as under:

"Contractors are to employ, to the extent possible (as per policy decision of the company valid from time to time), local project affected people and pay wages not less than the wages fixed (notified and prevalent during submission of the bid for Mining Activity) by the Company..."

BCCL: At BCCL, we also follow a discount bid tendering system in e-mode, on the basis of schedule of Rates for local contractors who are registered with BCCL, for small transportation contracts. To ensure participation of local people in various jobs, BCCL FDs in its 27th meeting held on 30.12.2019 has taken following decision:

"After detailed deliberation FDs directed that award of jobs in the nature of cleaning, gardening etc. with an estimated value upto 2.00 lakh may be considered to be offered to the co-operative societies run by project Affected People (PAP) for enabling the local people to run their livelihood. Detailed modalities may be framed to implement the decision."

The same has been circulated by GM (P)/ TS to Director (Personnel), BCCL to all concerned officials of BCCL for compliance vide ref. No. BCCL/D (P) TS/2020/F-01/09 Dated: 21.01.2020

CCL: Tenders are invited through open tender, based on Contract Management Manuals duly approved by CIL, where participation is open for all eligible bidders.However, there is a provision in tender for employment of local project affected people by the contractors, to the extent possible (as per policy decision of the company valid from time to time) and to pay wages not less than the wages fixed (notified and prevalent during execution for mining activity) by the Company.

NCL: For participation of the local people in transportation of coal related issues steps/ measures are being taken by NCL for the Project Affected Peoples (PAPs) such as –

i) Tenders for estimated value below Rs.10.00 lakh are invited only through PAPs registered firm/ society.

WCL: In WCL, no such issues have been raised by local people.

SECL: In SECL, at present there is no direct participation of land oustees in coal transportation and the works of coal transportation are awarded through tender route i.e. to L-1 bidder, qualifying as per criteria laid down in CMM. However, we are pursuing with the Co-operative Societies of the local people, for participation in the open tender process.

MCL: Considering the requirement of the Projects, the work of coal loading and transportation is awarded to the Co-operative Societies/Partnership Firms formed by the Project Affected People(PAPs) as per the provision of the Vendor Development Scheme approved by MCL Board in its 108th meeting held on 13.06.2009. Since inception of the Scheme, total 95 nos. of Co-operative Societies/Partnership Firms involving more than 950 persons have been registered in MCL and the work of coal loading and transportation has been awarded to the above Co-operative Societies/Partnership Firms.

CHAPTER-IV

ENVIRONMENT MANAGEMENT AND SUBSIDENCE CONTROL

As regards various environmental and air pollution issues affecting transportation of Coal in the country, the Ministry of Coal in a written reply furnished to the Committee has stated that Coal transportation is executed by rail, truck, water, and slurry pipeline or conveyer belt. Environmental impacts of coal transport occur during loading, en route, or during unloading. The impacts are likely to affect "natural" systems, including agriculture, forestry, horticulture, aquaculture, buildings and installations, locality around the mines, the health of employees and local population. The transport of coal in all its forms necessarily involves fugitive dusts that may cause health hazards among the local population living in proximity of the projects/mines site.

4.2 The Committee have further been informed that as per stipulated Environmental Clearance conditions mandated by Ministry of Environment, Forest & Climate Change, transportation of coal by road, is carried out by covered trucks/conveyors. Effective control measures such as regular water / mist sprinkling/rain gun etc. are taken up in critical areas prone to air pollution. Sprinklers have been installed at coal handling plants, near coal stockyards, weigh bridges, and haul roads to control dust. While the water tankers spray water on the mine roads to arrest dust, the plantation in and around the mine reduces dispersion of dust. The major roads used for coal transport are either black topped or made of concrete. In some of the mines, haul roads are treated with approved dust suppressant chemicals to avoid dispersion. The transportation of coal is carried out as per the provisions and route proposed in the approved Mining Plan. Coal transportation though the existing road passing through any village is avoided and it is normally done bypassing the existing local village so that the impact of dust, sound and accidents can be appropriately mitigated.

4.3 The Committee had observed that though the work related to sand filling after coal evacuation in Jharia coalfields was being done by BCCL for the last two to three decades, the existence of Jharia town was in danger. Besides, Dhanbad-Chandrapura line passing through Railways in Jharia Coalfield lying between Dhanbad and Chandrapura had to be closed for a long period of time due to danger of landowning. In this regard, the Committee desired to know the reasons for continuous danger of subsidence of the Jharia town in spite of spending crores of rupees on sand filling in Jharia coalfields. In this regard, the Ministry in a written reply has stated that coal evacuation from Jharia Coalfield started before nationalization. BCCL came into field around 1972. Coal seams at a shallow depth were being extracted by private

operators while BCCL worked at greater depth that too with sand stowing. Danger of subsidence of Jharia town is attributed to fire in old working of coal seams at shallow depth. The quality of sand stowing of those seams done by private owners cannot be proved. However, at present no further depillaring with sand stowing is being carried out by BCCL.

4.4 The Committee further asked whether in the present time fly ash is being used instead of sand for land filling. In reply, the Ministry has informed as under:

SCCL: To protect important surface features like Public Buildings, Colonies, Rail lines, Public roads etc., UG Voids /goaf (after coal extraction) are filled up (stowed) with River sand. Due to the acute scarcity of sand, various experimental trials are being conducted to use other materials like Bottom Ash, Boiler Ash and crushed Overburden material etc. for stowing in UG mines as a substitute for Sand in SCCL Mines. Stowing in the 17 UGmines of SCCL is being done by river sand, Bottom / Fly Ash and Processed Overburden. Out of 20.22 LCuM stowing material used in UG mines during April to Dec, 2019, 6 % Processed overburden, 45% Bottom ash and 49% of River sand is being used.

CIL: No fly Ash filling is being done in any UG coal mines of MCL. Sand stowing is being done in all the closed/discontinued UG mines (namely Handidua & Deulbera U/G). However, at present, fly ash is being disposed from TTPS NTPC Power plant into the abandoned mine void of South Balanda OCP of Talcher Coalfields following the guidelines of SPCB, Odisha and MoEF&CC.

PART-II

OBSERVATIONS/RECOMMENDATIONS

Utilization of funds under Central Sector Scheme

1. The Committee are happy to note that the Central Sector Scheme viz. Conservation, Safety and Infrastructural Development in Coal Mines under Coal Mines (Conservation and Development) Act which is being implemented by the Ministry of Coal covers the areas of Conservation and Safety, Research and Development, Developing road and rail linkages in coal mines and EMSC Scheme of implementation of Jharia and Raniganj Master Plan. The financial assistance provided to the Ministry for carrying out Stowing Operations, Protective Work, Road & Rail and Cement Concrete Roads are 75%, 90%, 70% (100% for Greenfield Projects) and 20%, respectively. However, reimbursement for stowing has been stopped as per the decision taken in the 82nd Coal Conservation and Development Advisory Committee (CCDAC) meeting held on 01.04.2017. The Committee further note from the details of the Budget proposed, actually approved by CCDAC and funds released in respect of conservation and safety in coal mines and in respect of development of transport infrastructure since 2012-13 vis-a-vis the achievement of the Central Sector Scheme that as against the total fund requirements for CCDAC Scheme, the Ministry could reimburse less amount resulting in a spillover amount from the previous years. The Committee have been informed that claims of the coal companies for reimbursement from CCDA schemes are inspected by concerned Regional Office of Coal Controller's Organisation (CCO) and after further scrutiny at CCO, are placed before the CCDA Sub-Committee for technical scrutiny and recommendation to CCDA Committee. The CCDA Committee normally meets twice in a year for approving the claims of coal companies and accordingly funds are disbursed. The Committee find that there has been consistent spill over amount every year from

the previous year and in respect of conservation and safety in coal mines, there was spill over amount of Rs. 106.38 crore in 2017-18 from 2016-17, Rs. 33.57 crore in 2018-19 from 2017-18 and Rs. 0.37 crore during 2019-20 from 2018-19. Similarly, in respect of development of transport infrastructure, there was spill over amount of Rs. 306.61 crore in 2017-18 from 2016-17, Rs. 208.50 crore in 2018-19 from 2017-18 and Rs. 68.50 crore during 2019-20 from 2018-19. In view of the foregoing, the Committee feel that the present system of scrutinizing and settling the claims of the coal companies does require a relook as it may end up with under utilisation of the allocations meant for some specific projects under the CCDA scheme. The Committee, therefore, desire the Government to take appropriate action to review the existing procedure for settlement of claims of reimbursement on an urgent basis and for a time bound implementation of schemes under Coal Mines (Conservation & Development) Act, 1974.

2. The Committee observe that the Expenditure Finance Committee (EFC) in its meeting held on 12.12.2017 had recommended for continuation of the Scheme 'Conservation, Safety & Infrastructural Development in Coal Mines' from 2017-18 till 2019-20 with budgetary outlay of Rs. 900 crore to carry out other provisions of Coal Mines (Conservation and Development) Act, which mandates the safety & conservation activities by the Government. Approval of the Hon'ble Minister of Finance was obtained in line with the recommendation of EFC. The Committee would like to be informed about the status with regard to the extension of the 'Conservation, Safety & Infrastructural Development in Coal Mines' Scheme beyond 2019-20. Besides, how far the objectives of the Scheme have been achieved may also be apprised.

Improved Road and Rail Network for evacuation of Coal

3. The Committee note that for time bound implementation of the CCDA Scheme, an independent evaluation and assessment of Conservation, Safety and Infrastructural Development in Coal Mines was conducted by Indian School of Mines (ISM), Dhanbad, which recommended that the expenditure on Conservation and Safety in Coal Mines shall increase in the coming years due to increase in the cost of stowing and protective works, implementation of Master Plans of BCCL and ECL and introduction of new technologies like man riding facilities, in-seam degasification for improving safety of the gassy mines, introduction of air cooling system in deep mines etc. Expenditure on these activities qualify for receiving assistance under CCDA Act and Rules made under it. Further, for an effective monitoring of the progress, quality of construction and verification of the estimates, it is desirable that the number of road and rail schemes should be reduced to manageable limits and only important and large rail and road links should be considered for assistance. ISM has also recommended that strengthening/renovation schemes of existing roads/sidings and roads of small lengths should be excluded from receiving assistance. Taking note of the recommendations of ISM, Dhanbad to immediately strengthen road and rail network in Coal Mining Areas with increased production targets, the Committee would like to be apprised of the steps taken by Ministry of Coal/Coal Companies to implement the same.

Mechanizaion of UG and OC Mining

4. The Committee appreciate that the Coal India Limited's coal production has increased manifold and achieved above 600 Mt in 2018-19 from a modest production of 78 Mt at the time of its inception. The Committee are also happy to note that, presently, CIL is the world's largest coal producer company. CIL has been able to transform most

of its operations into mechanized one with consistent improvement in technology both in Under Ground(UG) & Open Cast(OC) mines, so as to enhance its coal production with maximum recovery of coal reserve. The Committee further learn that presently mechanized OC mining technology dominates the coal industry contributing 93.7% of country's coal production. While almost all of the OC mines of CIL have been mechanized, in respect of UG mines, mechanized Mass Production Technology is stated to have been introduced wherever viable. In view of the fact that conservation of coal is very crucial, particularly when India's coal reserves are finite, the Committee are of the considered opinion that CIL should formulate a strategy for exploitation of coal resources within its leasehold in the UG mines besides OC mining. The Committee desire that initiatives should be taken for application of mass production technology in CIL UG mines for sustainable coal production in the long term and an action plan should urgently be drawn for its introduction and they be apprised of the same.

Implementation of Study Report on UG Coal Mining

5. The Committee note that a 'Study on UG Coal Mining in CIL – Problems, Potential, Technology, Modernisation, Production and Safety' was awarded to the Consortium of Indian Institute of Technology (Indian School of Mines), Dhanbad [IIT (ISM)], Singareni Collieries Company Limited [SCCL] and PricewaterhouseCoopers Private Limited [PwC] (covering 90 mines of different subsidiaries) on 25.07.2016 which submitted its final study report on 08.12.2017. The major recommendation include (i) 95 mines under study (including 5 additional adjoining mines taken up by the Consortium for amalgamation) were proposed to be amalgamated to 80 mines. Out of these, 61 UG mines/amalgamated UG mines and 14 OC mines are envisaged to be operational in 2026-27 as per the report. Rest 5 mines will be exhausted/not proposed to be operated, (ii) There is scope for introduction of mass production technologies in 48 mines/

amalgamated mines out of these 61 UG mines/ amalgamated UG mines that are likely to start production in 2026-27, (iii) Out of the 90 mines awarded for study, 44 nos. (mainly in ECL, BCCL and CCL) shall require detailed exploration of lower seams, and (iv) Out of these 90 mines, 19 mines were closed (as on 2015-16) for various reasons. It was proposed to re-open these mines except 2 mines (one mine closed due to exhaustion of reserve and another closed due to DGMS restriction) and to commence production in these by OC/ UG method. The Committee also note that the Consortium in its study report had inter-alia recommended for revival of old mines with the introduction of mechanization. Out of 90 such mines, 23 mines have been primarily selected for production enhancement/revival and out of this, 03 closed mines namely Kustore, Hurriladih & Burrahgarh of BCCL have been conceptually recommended for revival through amalgamation with mass production technology. Further, study of techno-economic viability of the mines recommended for revival are under process. The Committee desire that the various types of mechanisation depending upon the prevailing geo-mining conditions as recommended by the Study Report of Consortium of IIT (ISM), SCCL and PwC, may be introduced in UG mines of CIL which may not only result in improved production but will also ensure safety. The Committee would like to be apprised of the progress with regard to the implementation of recommendations of Study Report from time to time.

Implementation of relocation and rehabilitation of families in Jharia and Raniganj Area

6. The Committee have been informed that for unlocking the high quality coal resources to the tune of 26865.82 MTs in Raniganj Coalfield and 19530.63 MTs in Jharia Coalfield (as per the coal inventory of GSI as on 01.04.2019), initiatives are being taken for relocation and rehabilitation of BCCL / non-BCCL families of Jharia and ECL / non-ECL families of Raniganj coalfields. As per approved Master Plan, rehabilitation of ECL

and BCCL employees being the responsibility of ECL and BCCL have either been completed or in advance stage of completion. Also, rehabilitation of non-ECL and non-BCCL families is being taken up by Jharia Rehabilitation & Development Authority (JRDA) and Asansol Durgapur Development Authority (ADDA), the implementing agencies identified for the respective States. The Committee have been told that acquiring big chunk of land beyond coal bearing areas for setting up township is one of the major constraints. Besides, there is non finalization of cut-off date, non acceptance of R&R package of Master Plan demanding LARR Act, 2013 with employment of individuals in a family, integrated township in urban area with all necessary facilities, livelihood provisions, etc. Hence, a revised Master Plan is being prepared. The Committee desire that the grievances of the aggrieved families should be appropriately addressed while formulating the revised Master Plan with new R&R policy as all the erstwhile inhabitants of Jharia and Raniganj may have left their source of sustenance while undergoing the rehabilitation and settlement process.

Constraints in Coal Evacuation

7. The Committee have come across a particular case of Simlong Colliery in Jharkhand which is closed for quite some time due to constraint of evacuation facility. For reopening the same, project Report for Shimlong OCP (2.0 MTY) is under finalisation at CMPDIL RI-I and a proposal for Stage-1 Forest Clearance of 81.71 Ha has been applied. Initially coal was planned to be evacuated through MGR mode which was to be developed by NTPC. However, according to Ministry of Coal, NTPC has not taken any step in spite of many reminders and a new railway siding has been proposed for coal evacuation at Sunderpahari (15 Km from Shimlong OCP) which will take some time for construction. Till such time, coal will be evacuated by road through Goods shed at Kathoun Halt. Production from Shimlong OCP will start after approval of Project Report,

Stage-II Forest Clearance & establishment of Coal evacuation route. The Committee recommend that such procedural matters be taken up with urgency and all the impediments should be resolved by taking up the matter with the concerned authorities, for enabling early production from Shimlong OCP. The Committee expect Ministry of Coal and Coal Companies to address such issues of coal evacuation facilities, on priority so that no project is delayed due to coal evacuation constraints.

Methods of Transportation of Coal

8. The Committee note that various modes of transport like Rail, Road, MGR and Belt Pipe Conveyor are being used for evacuation of Coal from the coalfields areas. It is a matter of concern that out of the total coal evacuated in the country, only 34% is being evacuated by MGR/Rail/Belt and rest of 66% is evacuated by road. Keeping in view that transportation of coal through road from the pithead to dispatch point adds to dust and air pollution while endangering environment safety and causing various health hazards, the Committee recommend that CIL should gradually do away with transportation of coal by road. As piped conveyor belt transportation of coal is a covered system for movement of coal and thus prevents possible pollution as well as coal pilferage, the Committee are of the opinion that CIL should focus on placing a completely mechanised system of transportation of coal through MGR/Rail/piped conveyor belts in its mines from pitheads to dispatch points by gradually replacing the present practice of coal transportation by road. The Committee would like to be apprised of the action plan of Coal Companies in this regard.

Coal Evacuation Facilities

9. The Committee have been informed that in order to put an end to the manual facilities for evacuation of coal and develop complete mechanized rapid system, CIL, in addition to the already existing First Mile Connectivity (FMC) capacity of 151 MTY, has taken up new 35 First

Mile Connectivity Projects of 415 MTY capacity for mega projects having capacity of >4 MTY under Ministry of Coal's '100 Days Transformative Ideas', for implementation in the different subsidiaries of CIL at an estimated capital of Rs 18750 crore. This will reduce human intervention, traffic congestion, road accidents and adverse impacts on environment and health around the mines by enhancing coal handling efficiency through employing alternate transport methods like mechanized conveyor system and computerized loading into railway rakes. Railway Board has made a policy for facilitating Rapid Loading System (RLS) by permitting acceptance of the weighment done in RLS. While appreciating the initiatives taken by the Ministry of Coal and Railway Board, the Committee are hopeful that the ambitious project of the Ministry will be implemented and completed in a coordinated and time bound manner to fulfill the desired objectives. The Committee also recommend that Coal Companies should come up with a policy to give preference to Land Oustees for transportation of coal from Coal Mines areas to railways sidings, etc.

Completion of Rail lines for Coal evacuation

10. The Committee note that development of new Railway lines and capacity enhancement of the existing Railway lines are in progress which will significantly contribute to an enhanced evacuation of coal particularly at South Eastern Coalfields Limited, Mahanadi Coalfields Limited, Northern Coalfields Limited and Central Coalfields Limited. Some of these railway lines are Tori-Shivpur, Jharsuguda-Barpali-Sardega, Rail connectivity to Lingaraj Silo with existing Deulbara siding, Shivpur-Kathautia, East Corridor (Kharsia-Korichappar-Dharamrajgarh-Korba), East-West Corridor(Gevra road-Pendra Road-Kusmumda), Angul-Balaram, Doubling of Singrauli-Shaktinagar-Katni line, 3rd line of Barkakhana-Barwadih, 3rd and 4th line of Jharsuguda to Bilaspur, DFC-Dadri to Sonenagar and extension upto Koderma, 3rd and 4th line from Talcher to Budhapunk, 3rd and 4th lines from Budhapunk to Rajatgarh. The Committee hope that Ministry of Railways would make utmost efforts to complete all these projects

within the fixed timelines particularly in view of the ambitious target of 1 BT of coal production by 2023-24 and the consequential rise in demand for coal evacuation infrastructure. The Committee would like to be apprised of the desired steps taken by the Ministries of Railways and Coal in completion of these projects.

11. The Committee note that demand for rakes are placed by the concerned coal companies with the Zonal Railways based on their coal production, capacity to transport coal into the sidings, contractual obligations with the consumers including payments, etc. According to the Ministry of Railways, at most of the times, the loading capability of the coal company is less than the total demand projected by it. This results in loading being less than the projected demand. Further, there were 4,525 non lapsable rakes arrear on Indian Railways as on 31 December, 2019 and out of the same, 3043 arrears were in South Eastern Coalfields Ltd (SECL) alone. The shortfall in loading is primarily on account of less availability of coal at sidings. In view of the foregoing, the Committee desire that the Ministry of Coal/Coal companies should analyse the reasons for shortfall in coal loading and accordingly take suitable measures to avoid their recurrence in future to ease transportation of coal to various power houses.

12. The Committee note that the Barwadeeh-Chirmiri rail line project has been taken up by Chhattisgarh Railway Company Limited (CRCL), a Joint Venture (JV) company of Ministry of Railways & Government of Chhattisgarh. Although, the Ministry of Railways has stated that for Barwadih-Chirmiri (202 km) line initial survey was done in 2011, the Committee had pointed out that this is an old project, identified during British era. The JV is reported to be in development stage and detailed project report is being finalised. Further, Tori-Chatra New Line project(66.5 km) is under development with Jharkhand State. Also, for New Line between Chatra-Gaya of 99 km which was sanctioned in 2008-09, field verification survey and land plan of 39 villages have been completed. The

Committee while observing that Indian Railways has taken up 188 New line Projects of 21295 km length, costing Rs. 3.87 lakh crore including 36 New Line Projects of 3008 km length costing Rs. 54,759 crore in the State of Bihar recommend that all the said projects being implemented by Railways or in JV be reviewed at regular intervals and expedited to ensure evacuation of coal. The Committee desire that a coordination mechanism be developed between the Ministries of Railways and Coal and also Joint Stake Holder and they be apprised of the same.

13. The Committee are given to understand that the completion of any Railway project depends on various factors like quick land acquisition by State Government, forest clearance by officials of forest department, shifting of infringing utilities (both UG and over ground), statutory clearances from various authorities, geological and topographical conditions of area, law and order situation in the area of project site, number of working months in a year for particular project site due to climatic conditions, encountering unforeseen conditions like earthquake, flooding, excessive rains, strikes of labour, orders of Hon'ble Courts, situation and conditions of working agencies/contractors etc. Though, there is no denying the fact that all these factors do affect progress of any project/s, the Committee feel that over the time, the Ministries of Railways and Coal would have learnt to deal with such procedural issues and cope with the other impediments in completion of their projects. While acknowledging the important role of the Ministry of Railways in creation of adequate rail infrastructure in the Country for giving impetus to the development of the economy, the Committee would like the Ministry of Railways to strengthen and streamline its supervisory/inspecting machinery to ensure time bound implementation and commissioning of the railway projects for evacuation of Coal.

Measures to control pollution due to Coal Transportation

14. The Committee observe that the transport of coal in all its forms involves fugitive dusts that causes health hazards among the local population living in proximity of the project/mine site besides affecting agriculture, forestry, horticulture, aquaculture, buildings and installations. The Committee do appreciate that as per stipulated Environmental Clearance conditions mandated by Ministry of Environment, Forest and Climate Change, transportation of coal by road is being carried out by covered trucks/conveyors. Besides, effective control measures such as regular water/mist sprinkling/rain gun etc. are taken up in critical areas prone to air pollution. Other measures being taken by the coal companies while transportation of coal include the plantation in and around the mine, use of major roads either black topped or made of concrete for coal transport, treating haul roads with approved dust suppressant chemicals besides following the provisions and route proposed in the approved Mining Plan for transportation of coal, bypassing the existing local village/habitations, etc. While observing various measures taken by the coal companies to reduce pollution due to coal transportation by road, the Committee recommend for setting up of the monitoring mechanism to ensure strict implementation of these measures to reduce the negative impact of coal transportation by road. Periodical reviews to determine effectiveness of such measures which may also include seeking feedback from the stakeholders, etc. should be done to improve and address the negative impact due to transportation of coal by road in the interest of the environment and local population living in proximity of the projects/mines site, etc. The Committee would also like to be apprised of any study carried out on adverse impact of coal transport on agriculture produce and steps taken to control it.

Mining Activities in Jharia Town

15. The Committee note that although the work related to sand filling after coal evacuation in Jharia coalfields is being done by BCCL for the last two to three decades, the existence of Jharia town is still in danger. Besides, Dhanbad-Chandrapura line passing through Jharia Coalfield is reportedly closed for a long period of time. According to Ministry of Coal, evacuation of coal from Jharia Coalfield started long back before nationalization while BCCL came into existence around 1972. The Committee have been given to understand that the danger of subsidence of Jharia town is attributed to fire in old working of coal seams at shallow depth which were extracted by private operators and the quality of sand stowing of those seams done by private owners cannot be proved. BCCL works at greater depth and that too with sand stowing. At present, no further depillaring with sand stowing is being carried out. In the light of the fact that the depillaring with sand stowing is over, the Committee are hopeful that efforts initiated by BCCL would prove effective in arresting the fire occurring in the Jharia coalfields and would help in dealing with the danger of subsidence in Jharia town. The Committee would like to be apprised of the present status of mining activities being carried out by BCCL in and around Jharia town.

Use of Bottom Ash/fly Ash for Stowing operation

16. The Committee note that due to the acute scarcity of sand, various experimental trials are being conducted to use other materials like Bottom Ash, Boiler Ash and crushed Over Burden material etc. for stowing in UG mines as a substitute for river Sand so that important surface features like Public Buildings, Colonies, Rail lines, Public roads etc. remain protected. The Committee however, note that out of 20.22 Lakh Cubic Metre (LCuM) stowing material used in UG mines during April to Dec, 2019, 6% Processed overburden, 45% Bottom ash and 49% of River sand was used in SCCL

Mines while no fly Ash filling was stated to have been undertaken in any UG coal mines of Mahanadi Coalfields Limited (MCL) including all the closed/discontinued UG mines (namely Handidua & Deulbera U/G). Further, currently fly ash from Talcher Thermal Power Station (TTPS) of NTPC is being used into the abandoned mine void of South Balanda OCP of Talcher Coalfields following the guidelines of State Pollution Control Board(SPCB), Odisha and MoEF&CC. Keeping in view the acute shortage of river sand and the amount of bottom ash and fly ash being used in the UG coal mines by the coal companies, the Committee are of the opinion that while experimenting other materials, usage of bottom and fly ash should be encouraged by other Coal Companies/ subsidiaries of CIL considering the guidelines of SPCB, Odisha and MoEF&CC issued in this regard. While appreciating the use of bottom ash in stowing operations by SCCL, the Committee desire that the Ministry / Coal Companies should work in this direction to help conserve the environment.

NEW DELHI;
15 March, 2021
24 Phalguna, 1942(Saka)

RAKESH SINGH
Chairperson
Standing Committee on Coal and Steel

ANNEXURE – I

Details of Claims of Coal Companies approved by CCDAC for Different Works during Last 3 years (Fig. in Rs.)

Sl.	Company	Sand Stowing			Protective Works			Scientific Development Works		
		2016-17	2017-18	2018-19	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19
1	ECL	809,727,357	414,935,319	0	0	0	0	30,340,015	0	16,216,930
2	BCCL	15,596,604	6,322,471	0	5,168,564	921,630	0	0	51,228,832	0
3	CCL	11,477,098	6,394,816	0	4,209,475	0	0	0	0	0
4	WCL	202,483,287	92,615,553	0	13,294,585	3,083,708	3,825,127	0	0	12,147,606
5	MCL	0	0	0	229,284	230,950	0	22,400,000	0	0
6	NEC	0	0	0	1,591,137	0	0	0	0	0
7	SECL	0	0	0	0	0	0	23,292,098	0	8,908,800
8	NCL	0	0	0	0	0	0	0	0	0
9	SCCL	970,118,678	606,360,789	0	23,092,136	13,101,464	6,738,486	0	0	44,142,764
10	SAIL/IISCO	40,591,031	22,804,790	0	4,701,573	588,279	0	0	0	0
11	TSL	125,648,414	46,105,323	0	3,057,663	0	0	28,562,391	6,565,288	0
TOTAL		2,175,642,469	1,195,539,061	0	55,344,417	17,926,031	10,563,613	104,594,504	57,794,120	81,416,100

Sl.	Company	R&D			Road/Rail Infrastructure Development			Total		
		2016-17	2017-18	2018-19	2016-17	2017-18	2018-19	2016-17	2017-18	2018-19
1	ECL	0	0	0	148,345,477	21,971,429	0	988,412,849	436,906,748	16,216,930
2	BCCL	0	0	0	0	4,101,219	0	20,765,168	62,574,152	0
3	CCL	0	0	0	1,652,246,468	1,637,038,580	0	1,667,933,041	1,643,433,396	0
4	WCL	0	0	0	19,592,124	0	0	235,369,996	95,699,261	15,972,733
5	MCL	0	0	0	0	0	0	22,629,284	230,950	0
6	NEC	0	0	0	0	0	0	1,591,137	0	0
7	SECL	0	0	0	342,604,121	61,349,047	0	365,896,219	61,349,047	8,908,800
8	NCL	0	0	0	67,258,189	17,953,499	0	67,258,189	17,953,499	0
9	SCCL	0	0	0	545,545,920	270,843,884	0	1,538,756,734	890,306,137	50,881,250
10	SAIL/IISCO	0	0	0	0	0	0	45,292,604	23,393,069	0
11	TSL	0	0	0	0	0	0	157,288,468	52,670,611	0
TOTAL		0	0	0	2,775,592,299	2,013,257,658	0	5,111,173,689	3,284,516,870	91,979,713

ANNEXURE – II (A)

Details of last three years for Sand Stowing

(Figures in Rs./-)

Sl. No.	Name of Colliery	2016-17			2017-18		
		Qtty. Approved by CCDAC	Amount as per NC	Actual sanctioned amount	Qtty. Approved by CCDAC	Amount as per NC	Actual sanctioned amount
		M3	Rs.	Rs.	M3	Rs.	Rs.
1	2	3	4	5	7	8	9
ECL							
1	Madhaipur	17,521	68,45,455	51,34,091	19,270	75,28,789	56,46,592
2	Manderboni	75,516	3,14,94,703	2,36,21,027	39,940	1,66,57,376	1,24,93,032
3	Bankola	1,40,807	6,01,40,078	4,51,05,058	91,092	3,89,06,304	2,91,79,728
4	Khandra	19,583	93,56,170	70,17,127	8,018	38,30,760	28,73,070
5	Shyamsundarpur	84,073	3,57,55,406	2,68,16,555	42,157	1,79,28,951	1,34,46,713
6	Chora 10 Pit	83,724	4,00,28,444	3,00,21,333	10,253	49,01,959	36,76,469
7	Siduli	95,624	5,05,70,752	3,79,28,064	56,853	3,00,66,709	2,25,50,032
8	Chora 7 & 9 Pit	1,09,681	5,42,70,159	4,07,02,619	63,432	3,13,86,154	2,35,39,615
9	C.L. Jambad	51,814	2,56,57,775	1,92,43,331	25,484	1,26,19,422	94,64,566
10	Lower Kenda	30,450	1,43,56,871	1,07,67,653	19,965	94,13,298	70,59,973
11	New Kenda	72,624	3,52,66,214	2,64,49,661	25,694	1,24,77,006	93,57,755
12	North Jambad	78,541	3,49,82,947	2,62,37,210	27,516	1,22,55,902	91,91,926
13	Real Jambad	54,575	2,43,08,251	1,82,31,188	15,441	68,77,576	51,58,182
14	Pure Jambad	44,867	1,99,84,210	1,49,88,158	24,827	1,10,58,194	82,93,646
15	Nabakajora	87,182	4,00,87,155	3,00,65,367	18,502	85,07,405	63,80,553
16	Jambad UG	1,16,893	5,29,38,502	3,97,03,876	52,940	2,39,75,467	1,79,81,600
17	Khas Kajora	1,96,220	9,35,08,641	7,01,31,481	89,788	4,27,88,471	3,20,91,354
18	Parascole East	1,33,815	6,84,50,387	5,13,37,790	41,988	2,14,78,122	1,61,08,591

19	Parascole West	1,07,245	5,07,18,305	3,80,38,729	46,253	2,18,73,969	1,64,05,477
20	Bansra	56,825	3,28,80,082	2,46,60,061	782	4,52,481	3,39,361
21	Kunustoria	1,30,847	6,68,81,136	5,01,60,852	60,919	3,11,38,138	2,33,53,603
22	Belbaid	80,600	4,08,43,244	3,06,32,433	24,114	1,22,19,528	91,64,646
23	Parasea	1,23,364	6,92,14,606	5,19,10,954	58,574	3,28,63,528	2,46,47,646
24	Nimcha®	82,445	4,78,56,025	3,58,92,019	84,624	4,91,20,847	3,68,40,635
25	KalidaspurProj.	2,835	11,13,162	8,34,872	26,139	1,02,63,478	76,97,609
26	J.K.Nagar	27,730	1,08,88,185	81,66,138	28,689	1,12,64,736	84,48,552
27	Chapulkhas	290	96,976	72,732	7,152	23,91,629	17,93,722
28	Kalipahari(R) unit	25,500	1,00,45,470	75,34,103	11,962	47,12,310	35,34,233
29	S.S. Incline	30,298	1,33,89,292	1,00,41,969	11,708	51,73,999	38,80,500
30	Chinakuri Mine III	28,496	1,87,48,088	1,40,61,066	11,524	75,81,870	56,86,403
31	Patmohana	835	4,99,622	3,74,717	4,058	24,28,104	18,21,078
32	Satgram Incline	0	0	0	11,760	59,32,214	44,49,161
33	Sodepur®	0	0	0	1,976	11,98,088	8,98,566
34	Dubeswari	0	0	0	1,965	7,02,998	5,27,249
35	Pandaveswar	0	0	0	29,614	1,15,56,864	86,67,648
36	**J.K. Ropeway**	**27,268**	**1,84,60,163**	**1,38,45,122**	**43,892**	**2,97,14,445**	**2,22,85,834**
	TOTAL ECL	**22,18,088**	**1,07,96,36,475**	**80,97,27,357**	**11,38,865**	**55,32,47,092**	**41,49,35,319**
BCCL							
1	KB 10/12 Pits	14,909	68,91,387	51,68,540	0	0	0
2	Simlabahal	2,754	12,17,461	9,13,096	2,823	12,47,964	9,35,973
3	Gopalichak	7,571	35,73,967	26,80,474	2,277	10,74,881	8,06,160
4	Bhagaband	19,168	91,12,659	68,34,494	12,846	61,07,117	45,80,338
	TOTAL BCCL	**44,402**	**2,07,95,473**	**1,55,96,604**	**17,946**	**84,29,961**	**63,22,471**
CCL							
1	Sawang	8,645	36,64,270	27,48,202	1,464	6,20,531	4,65,398
2	Govindpur	6,946	27,91,458	20,93,594	2,083	8,37,116	6,27,837
3	Sirka	13,613	53,94,968	40,46,226	6,308	24,99,923	18,74,943

4	UrimariProj.	8,643	34,52,101	25,89,075	11,439	45,68,851	34,26,638
	TOTAL CCL	**37,847**	**1,53,02,797**	**1,14,77,098**	**21,294**	**85,26,422**	**63,94,816**
WCL							
1	Sillewara	1,67,028	6,11,17,215	4,58,37,912	75,752	2,77,18,414	2,07,88,811
2	Pipla	12,374	41,58,901	31,19,176	0	0	0
3	A - B Incl.	20,119	73,07,824	54,80,868	0	0	0
4	HLP No. 1	46,346	2,02,09,173	1,51,56,880	0	0	0
5	Nandgaon Inc.	24,854	1,01,32,976	75,99,732	36,140	1,47,34,278	1,10,50,709
6	Durgapur Rayatwari	87,005	4,26,34,190	3,19,75,643	64,942	3,18,22,879	2,38,67,159
7	Mahakali U/G	23,804	99,45,311	74,58,983	0	0	0
8	Manna Inc	1,09,356	4,18,12,267	3,13,59,200	45,126	1,72,53,926	1,29,40,445
9	Ballarpur 3 & 4 Pits	27,347	1,17,57,296	88,17,972	36,431	1,56,62,780	1,17,47,085
10	Sasti	1,13,213	4,16,69,177	3,12,51,883	31,846	1,17,21,239	87,90,929
12	Patansaongi	49,056	1,92,33,386	1,44,25,039	11,666	45,73,889	34,30,416
	TOTAL WCL	**6,80,502**	**26,99,77,717**	**20,24,83,287**	**3,01,903**	**12,34,87,404**	**9,26,15,553**
SCCL							
1	GDK No.2 & 2A	92,390	4,01,84,107	3,01,38,080	89,672	3,90,01,940	2,92,51,455
2	Vakilpalli Mine	1,81,416	6,49,41,486	4,87,06,114	1,00,534	3,59,88,156	2,69,91,117
3	GDK No. 7(LE)	1,28,246	4,61,05,719	3,45,79,290	77,023	2,76,90,539	2,07,67,904
4	GDK No.1 & 3	1,42,695	5,82,16,706	4,36,62,530	1,03,150	4,20,83,137	3,15,62,353
5	GDK NO.5	2,57,981	8,24,79,106	6,18,59,329	1,37,762	4,40,43,889	3,30,32,917
6	Srirampur No.IK-1A Incline	1,03,719	5,79,30,173	4,34,47,630	62,330	3,48,13,175	2,61,09,881
7	Srirampur No.3 & 3A Incline	1,92,523	7,31,20,235	5,48,40,177	1,03,615	3,93,52,977	2,95,14,733
8	Srirampur No.1	1,07,380	3,81,68,221	2,86,26,166	74,432	2,64,56,854	1,98,42,641
9	RK No.8	1,37,089	6,09,84,042	4,57,38,031	76,077	3,38,42,853	2,53,82,140
10	RK No.7	2,36,550	9,02,84,039	6,77,13,029	1,25,608	4,79,40,805	3,59,55,604
11	KTK-1	1,84,110	10,64,94,747	7,98,71,060	1,47,799	8,54,91,376	6,41,18,532
12	KTK-2	3,56,942	18,78,15,742	14,08,61,806	2,21,193	11,63,87,333	8,72,90,500
13	KTK-5	1,40,336	7,90,23,202	5,92,67,401	1,23,418	6,94,96,676	5,21,22,507

14	KTK-6	1,78,510	9,41,26,538	7,05,94,903	1,09,547	5,77,63,038	4,33,22,278
15	GDK - 10	93,319	3,28,06,294	2,46,04,721	29,633	1,04,17,481	78,13,111
16	Kasipet Mine	1,16,502	5,78,84,019	4,34,13,014	64,131	3,18,63,487	2,38,97,616
17	PVK-5	79,562	5,69,16,268	4,26,87,201	36,177	2,58,79,940	1,94,09,955
18	RK-1A	1,37,248	6,03,34,221	4,52,50,666	66,362	2,91,72,735	2,18,79,551
19	KK-1	15,048	56,76,708	42,57,531	18,662	1,07,94,661	80,95,995
	TOTAL SCCL	**28,81,566**	**1,29,34,91,571**	**97,01,18,678**	**17,67,125**	**80,84,81,052**	**60,63,60,789**
SAIL							
1	Chasnalla	53,224	3,57,93,053	2,68,44,789	31,341	2,10,76,823	1,58,07,617
2	Jitpur	40,501	1,83,28,323	1,37,46,242	20,616	93,29,565	69,97,173
	TOTAL SAIL	**93,725**	**5,41,21,375**	**4,05,91,031**	**51,957**	**3,04,06,387**	**2,28,04,790**
TSL							
1	Jamdoba	1,09,575	4,96,41,858	3,72,31,394	32,392	1,46,74,872	1,10,06,154
2	6 & 7 Pits	51,899	2,35,95,361	1,76,96,521	29,586	1,34,50,979	1,00,88,234
3	Digwadih	1,05,909	4,82,88,149	3,62,16,112	22,390	1,02,08,497	76,56,372
4	Amalgamated/ Bhelatand	11,141	52,59,332	39,44,499	341	1,60,976	1,20,732
5	Sijua	79,892	4,07,46,518	3,05,59,888	45,054	2,29,78,441	1,72,33,831
	TOTAL TSL	**3,58,416**	**16,75,31,219**	**12,56,48,414**	**1,29,763**	**6,14,73,764**	**4,61,05,323**
	GRAND TOTAL	**63,14,546**	**2,90,08,56,626**	**2,17,56,42,469**	**34,28,853**	**1,59,40,52,083**	**1,19,55,39,062**

ANNEXURE – II (B)

Details of Protective & Scientific Development Works during last three years

(Figures in Rs./-)

Sl. No.	Name of Colliery	Brief Description of work	2016-17		2017-18		2018-19	
			Approved amount	Approved by CCDAC	Approved amount	Approved by CCDAC	Approved by CCDAC	Actual sanctioned amount
1	2	3	4	5	6	7	8	9
ECL								
1	Jhanjra	Manriding System	2,61,89,691	2,61,89,691	0	0	5,40,56,434	1,62,16,930
2	Kalidaspur	Telemonitoring System	41,50,324	41,50,324	0	0	0	0
BCCL								
3	Salanpur	Stabilisation work with sand	47,42,215	42,67,993	10,24,033	9,21,630	0	0
4	Salanpur	Stabilisation work with sand	5,89,984	5,30,985				
5	Moonidih	Manriding System	0	0	3,61,70,453	3,61,70,453	0	0
6	Moonidih	Telemonitoring System	0	0	1,50,58,379	1,50,58,379		
7	Maheshpur	Packing work under Rly. Accquired Land	4,10,650	3,69,585	0	0	0	0
CCL								
8	Rajrappa	Diverson of Nallah	46,77,195	42,09,475	0	0	0	0
WCL								
9	Chanda Rayatwary	Stabilisation work with sand	4,17,884	3,76,096	0	0	0	0
10	Mahakali	Stabilisation work with sand	41,55,197	37,39,677	26,65,982	23,99,384	0	0

11	Nandgaon	Stabilisation work with sand	39,09,070	35,18,163	7,60,361	6,84,325	0	0
12	Durgapur Rayatwari	1) Stabilisation work with sand	7,88,658	7,09,792	0	0	0	0
13		2) support of gallaries with Steel cogs	21,55,340	19,39,806	0	0	42,50,141	38,25,127
14	Tawa Mine	Manriding System	0	0	0	0	2,42,74,466	72,82,340
15	Kumbherkhani	Manriding System	0	0	0	0	1,62,17,555	48,65,267
MCL								
16	Daulbera	Stabilisation work with sand	2,54,760	2,29,284	67,763	60,987	0	0
17	Nandira	Manriding System	2,24,00,000	2,24,00,000	0	0	0	0
18	Handidhua	Stabilisation work with sand	0	0	1,88,848	1,69,963	0	0
NEC								
19	Tipong	Brick arching in cement to be done to prevent spontaneous heating	17,67,930	15,91,137	0	0	0	0
SECL								
20	Nawapara	Manriding System	2,32,92,098	2,32,92,098	0	0	0	0
21	Shivani	Manriding System	0	0	0	0	1,44,00,000	43,20,000
22	Churcha	Manriding System	0	0	0	0	1,52,96,000	45,88,800
SCCL								
23	GDK-11	Flushing of Co2 & N2	50,47,728	45,42,955	0	0	0	0
24	VK-7	Flushing of Co2 & N2	70,06,536	63,05,882				
25		Flushing of Co2 & N2	56,07,579	50,46,821	64,36,040	57,92,436	23,46,083	21,11,475

26	Adriyala Longwall Proj.	Flushing of Co2 & N2	79,96,085	71,96,477	81,21,142	73,09,028	51,41,124	46,27,012
27	Kasipet	Manriding System	0	0	0	0	4,30,23,821	2,15,11,911
28	IK 1A Incline.	Manriding System	0	0	0	0	3,18,97,378	95,69,213
29	GDK-5	Manriding System	0	0	0	0	1,12,92,698	33,87,809
30	SRP-1	Manriding System	0	0	0	0	3,22,46,101	96,73,830
SAIL								
31	Ramnagar	Stabilisation work with sand	42,30,279	38,07,251	6,53,643	5,88,279	0	0
32	Ramnagar	Construction of Brick Pillars	9,93,691	8,94,322	0	0	0	0
TATA								
33	Sijua	Blanketing Work	33,97,403	30,57,663			0	0
34	Sijua	Manriding system	2,85,62,391	2,85,62,391				
35	Sijua	Manriding system			65,65,288	65,65,288	0	0
		Total	**16,27,42,688**	**15,69,27,868**	**7,77,11,932**	**7,57,20,151**	**25,44,41,801**	**9,19,79,713**

Details of Road/Rail Infrastructure Development Projects assisted by CCDA in last 3 Years

ANNEXURE – II (C)

(Figures in Lakh Rs./-)

Sl. No.	Name of Road/Rail Project	Amount approved by CCDAC				
		2016-17			2017-18	2018-19
		79th	80th	Total	81st	82nd
ECL						
1	Strengthening of main road from Railway level crossing to 5 No. Pit and 6 & 7 Incline at Parasea under Kunustoria Area(70%)	6.28197		6.28197	0.00	0.00
2	Strengthening of coal transportation road and construction of 3 Nos. of culverts at Sidull Colliery and at C.L. Jambad Colliery.	62.412600		62.41260	0.00	0.00
3	Widening & strengthening of Zilla parishad road from Bankola rail gate to Ukhra village under Bankola Area(70%)	163.234680		163.23468	83.48032	0.00
4	Construction of coal transportation road for Sankarpur OCP and Chora Block Incline under Kenda Area(70%)	196.308740		196.30874	0.00	0.00
5	Construction of Bituminous road for coal transportation from Dabor Colliery to Bonjemhari Railway siding under Salanpur Area, ECL (length 5.30 kms).	162.808450		162.80845	136.233970	0.00
6	Strengthening of coal transportation road from west Kenda OCP Depot to Bahula Siding under Kenda Area (length 5.50 kms)	185.285910		185.28591	0.00	0.00
7	Strengthening and widening of coal transportation road at Bahula Colliery (3465 metres) and at Lower Kenda Colliery (1365 metres) under Kenda Area, ECL	155.454340		155.45434	0.00	0.00

8	Construction/strengthening of coal transportating road at Chora 7 & 9 Pit Colliery and Chora 10 Pit Colliery under Kenda Area, ECL (total length 3250.00 metres).	76.146820		76.14682	0.00	0.00
9	Strengthening of road from Kalidaspur Project to Kalidaspur More (4 kms), Satgram Area. (State Govt Authority Road)	149.212000		149.21200	0.00	0.00
10	Construction of 335 metres RCC wharf wall at Bahula Siding.	56.250380		56.25038	0.00	0.00
11	Construction of bituminous coal transportation road from Mohanpur OCP to Lohat More under Salanpur Area. Length 3.25 kms width 7.0 m		126.059780	126.05978	0.00	0.00
12	Strengthening and widening of coal and sand transportation road at Nimcha (R) Colliery under Satgram Area. Length 4.80kms		143.999100	143.99910	0.00	0.00
BCCL						
1	Sudamdih Colliery - Renovation and extention of Siding no.5 of E.J. Area (50%)	0.00000	0.00000	0.00000	41.01219	0.00
CCL						
1	Tori-Shivpuri Hazaribagh Rly. Extn. Line (Ph. I & II) (100%)	7859.00000	7740.61983	15599.61983	16370.38580	0.00
2	Widening & strengthening of coal transportation road by concrete pavement from Rohini coal stock yard to chpMohannagar junction under GM unit, N.K. Area , Dakra .(20%)	367.21185	0	367.21185	0.00	0.00
3	Widening & strengthening of coal transportation road from Regional store more , parej to Banjl More (Diversion portion) under Hazaribagh Area (70%)	555.63300	0	555.63300	0	0.00
WCL						
1	Sindola-Sakhara Road (100%)	117.77248		117.77248		0.00
2	Industrial Road in Pench Area with a bridge (50%)	12.62876		12.62876		0.00

3	Development of Arterial Rd Bridges at Chandrapur &Majri Area (50%)	65.52000		65.52000		0.00
SECL						
1	Strengthening & widening of road from Mahan- II OCP to Bhatgaon Siding (Chowra More to Songara) at Bhargaon Area (70 %)	198.73000	0.00	198.73000	0.00	0.00
2	Upgradation of Baloda - Budagahan(Sararisingar to Baloda) Road from 1/2 to 13/8 Km of Dipka Area , Dist.- JanjgirChampa	1197.02818	374.52698	1571.55516	0.00	0.00
3	Renovation and Strengthening of road from Korbi to Rani Atari Project of Chirimiri Area (70%)	573.24639	273.26900	846.51539	0.00	0.00
4	Strengthening & widening of black topping of PWD road from Hardi Bazar (Saraisingar) to Saraital towards Baloda at Dipka Area , Korba Distt. (70 %)	0.00	1.83066	1.83066	0.00	0.00
5	Widening and strengthening of existing PMGSY road fron state highway Ambikapur to Bilaspur (Sandbar) to Kodiha Marg (0 to 5 Km) for coal transportation for Amera OCP to Kumda Siding of Bishrampur Area (length 5 Km)	0.00	446.43200	446.43200	0.00	0.00
6	Strengthening and bitumen re-carpetting of existing PWD road including widening of culverts from Chhal Village tri-junction to village Hati under CCDA odRaigarh Area.	0.00	360.97800	360.97800	613.49047	0.00
NCL						
1	NCL RAIL - Diversion of KBJ Line between Shaktinagar& Krishna Shilla, Khadia project (50%)	501.62357	170.95832	672.58189	179.53499	0.00
SCCL						

1	Formation of Bye pass road to Kothagudem Town from Km 0/0-9/437(joins at Km 41/9 of Thallada - Bhadrachalam road (S.H.) and ends at Km 132/6 of Vijayawada- Jagdalpur road of NH 21 in Khammam Dist. (70%)	42.35156	77.82480	120.17636	0.00	0.00
2	Ramagundem coal corridor (RCC) road from GDK 5 Incline Junction to Pedapalli - Manthani Road near CNC Via penchikalpet Township , Godavarkhani, Karimnagar, Andhra Pradesh.(70%)	255.20450	77.94502	333.14952	0.00	0.00
3	Diversion of road and CD works from RKP coal handling plant to main road junction near RK-5 Incline road for Ramakrishnapur opencast mine, Mandamarri Area(70%)	632.67086		632.67086	0.00	0.00
4	Laying of Railway siding for evacuation of coal from Srirampur and Ramakrishnapur group of mines (Kazipet - Ballarsah section of SCR on Chennai- New Delhi trunk route(70%)	2366.13024		2366.13024	0.00	0.00
5	Diversion of road from G.M.Office to P.W.D. road at Pilot Colony in view of Manuguru O.C.- II Extension (Phase- II), Manuguru (70%)		89.49948	89.49948	2.43752	0.00
6	Diversion of road and CD works from RKP coal handling plant to main road junction near RK-5 Incline road for Ramakrishnapur opencast mine, Mandamarri Area(70%)		46.46430	46.46430	91.92977	0.00
7	Laying of Railway siding for evacuation of coal from Srirampur and Ramakrishnapur group of mines (Kazipet - Ballarsah section of SCR on Chennai- New Delhi trunk route(70%)		1768.86968	1768.86968	2614.07155	0.00
8	Laying of 5.30 Km length of Asphalt road from Tekulapalli to Tadikalapudi , Yellandu Area, Khamman , Telangana.		98.49876	98.49876	0.00	0.00
	TOTAL	15958.14728	11797.77571	27755.92299	20132.57658	0.00

ANNEXURE-III

MINUTES OF THE SEVENTH SITTING OF THE STANDING COMMITTEE ON COAL AND STEEL HELD ON MONDAY THE 6 JANUARY, 2020 IN COMMITTEE ROOM NO. 3, FIRST FLOOR, A-BLOCK, PHA EXTENSION BUILDING, NEW DELHI.

The Committee sat from 1130 hrs. to 1400 hrs.

PRESENT

Shri Rakesh Singh- Chairperson

Lok Sabha

2. Shri Balubhau Dhanorkar alias Suresh Narayan
3. Shri Vijay Kumar Hansdak
4. Shri Kunar Hembram
5. Shri C. Lalrosanga
6. Shri Ajay Nishad
7. Shri Komati Reddy Venkat Reddy
8. Shri Arun Sao
9. Dr. Beesetti Venkata Satyavathi
10. Shri Sushil Kumar Singh
11. Shri Pashupati Nath Singh
12. Shri Sunil Kumar Singh
13. Dr. Alok Kumar Suman
14. Dr. Thirumaavalavan Thol
15. Shri Shyam Singh Yadav

Rajya Sabha

16. Shri Prashanta Nanda
17. Shri Samir Oraon
18. Shri B. Lingaiah Yadav

SECRETARIAT

1. Shri Pawan Kumar - Joint Secretary
2. Shri Arvind Sharma - Director
3. Smt. Geeta Parmar - Additional Director
4. Shri Girdhari Lal - Deputy Secretary

WITNESSES

MINISTRY OF COAL

S. No.	Name	Designation
1.	Shri Anil Kumar Jain	Secretary
2.	Ms Reena Sinha Puri	Joint Secretary & Financial Adviser
3.	Shri Rajesh Kumar Sinha	Joint Secretary (RKS)
4.	Smt. VismitaTej	Joint Secretary (VT)
5.	Shri Bhabani Prasad Pati	Joint Secretary (BPP)
6.	Shri Animesh Bharti	Economic Adviser
7.	Dr. Anindya Sinha	Project Adviser
8.	Shri R D Chouhan	Controller of Accounts
9.	Shri Anupam Lahiri	Deputy Director General
10.	Shri Mukesh Chowdhari	Director (CLD)
11.	Shri Peeyush Kumar	Director (Tech)
12.	Shri Anjani Kumar	Coal Controller, CCO, Kolkata
13.	Shri A.K. Jha	CMD, Coal India Limited
14.	Shri Binay Dayal	Director (Tech), Coal India Limited
15.	Shri Gopal Singh	CMD, Central Coalfields Limited
16.	Shri Rajiv Ranjan Mishra	CMD, Western Coalfields Limited
17.	Shri Shekhar Saran	CMD, Central Mine, Planning & Design Institute Limited
18.	Shri Prabhat Kumar Sinha	CMD, Northern Coalfields Limited
19.	Shri A P Panda	CMD, South Eastern Coalfields Limited
20.	Shri Prem Sagar Mishra	CMD, Eastern Coalfields Limited
21.	Shri Bhola Nath Shukla	CMD, Mahanadi Coalfields Limited
22.	Shri P M Prasad	CMD, Bharat Coking Coal Limited
23.	Shri Rakesh kumar	CMD, NLC India Limited
24.	Shri N Sridhar	CMD, Singareni Collieries Company Limited

MINISTRY OF RAILWAYS

S. No.	Name	Designation
1.	Shri P.S. Mishra	Member Traffic & Ex. –officio Secretary to the Government of India.
2.	Shri Piyush Agarwal	Additional Member, Planning
3.	Shri R.N.Singh	Principal Executive Director, Infrastructure

2. At the outset, the Chairperson welcomed the Secretary (Coal), representatives of the Ministries of Coal and Railways and Coal Companies to the sitting of the Committee convened to examine the subject "Coal Conservation and Development of Infrastructure for Transportation of Coal across the Country". The Chairperson then drew their attention to Direction 55 of the Directions by the Speaker, Lok Sabha regarding confidentiality of the proceedings.

3. Thereafter, the Secretary, Ministry of Coal briefed the Committee about the genesis of the Coal Mines (Conservation and Development) Act [CM (C&D) Act], 1974 and the objectives of the schemes brought thereunder. A representative of the Ministry of Coal then made a power point presentation highlighting the importance of Coal Conservation and development of major infrastructure works for transportation of coal. Then, the representatives of the Ministry of Railways elaborated on role of railways in transportation of Coal and also their initiatives for development of various Rail Link projects in coalfield areas and the current status of implementation of their sanctioned projects which are essential for evacuation of coal.

4. The Committee then sought clarifications on the issues like works/projects targeted vis-à-vis completed under CCDA Scheme during the last three years; constraints/difficulties, if any, in accomplishment of the projects; reasons for under utilization of budgeted allocation during 2018-19, current status of utilization of the allocation made for CCDA Scheme during 2019-20; major recommendations of Independent Consultants (JSM-SCCL-PWC consortium) and status of their implementation; extent of mechanization introduced in open cast and underground coal mines; details of technologies adopted; efforts to address Fire and subsidence in Coal Mine Areas and related threat to Rail Lines; environmental problems and air pollution caused by coal evacuation infrastructure; land acquisition and rehabilitation policy of the Coal companies, availability of Rail Wagons and Rakes for evacuation of coal, rationalization of coal linkages from nearby Coal Mines, poor conditions of Road Links from Coal Mines to Railway Sidings, laying of Barwadeeh-Chirmiri and Shivpuri-Chatra Rail Lines; etc.

5. The representatives of the Ministries of Coal and Railways replied to queries of the Members. The Chairperson directed the representatives of the Ministries of Coal and Railways to furnish written replies to the queries raised by the Members which remained unanswered during the sitting of the Committee within a week.

A copy of verbatim record of the sitting has been kept.

The Committee then adjourned.

ANNEXURE-IV

MINUTES OF THE NINTH SITTING OF THE STANDING COMMITTEE ON COAL AND STEEL (2020-2021) HELD ON MONDAY, THE 15TH MARCH, 2021 FROM 1500 HRS. TO 1600 HRS. IN HON'BLE CHAIRPERSON'S CHAMBER, ROOM NO. '210', B-BLOCK, PHA EXTENSION BUILDING, NEW DELHI.

PRESENT

Shri Rakesh Singh - Chairperson

Lok Sabha

2. Shri Vijay Kumar Hansdak
3. Shri Chandra Prakash Joshi
4. Smt. Riti Pathak
5. Dr. Lorho S. Pfoze
6. Shri Chunni Lal Sahu
7. Shri Arun Sao
8. Shri Pashupati Nath Singh
9. Shri Sunil Kumar Singh
10. Shri Sushil Kumar Singh
11. Dr. Beesetti Venkata Satyavathi

Rajya Sabha

12. Shri Anil Desai
13. Dr. Vikas Mahatme
14. Shri Prashanta Nanda
15. Shri Samir Oraon
16. Shri B. Lingaiah Yadav

SECRETARIAT

1. Shri Pawan Kumar - Joint Secretary
2. Shri Arvind Sharma - Director
3. Shri Uttam Chand Bhardwaj - Additional Director
4. Smt. Geeta Parmar - Additional Director

2. At the outset, the Chairperson welcomed the Members to the sitting of the Committee. The Committee thereafter considered and adopted the following Reports without any amendments:-

(i) ** ** ** **

(ii) ** ** ** **

(iii) ** ** ** **

(iv) Draft Report on the subject "Coal Conservation and Development of Infrastructure for Transportation of Coal Across the Country" relating to the Ministry of Coal; and

(v) ** ** ** **

3. The Committee then authorized the Chairperson to finalise the Reports in the light of the factual verification received from the concerned Ministries and present/lay the same in both the Houses of Parliament.

The Committee, then, adjourned.