List of R&D projects of CIL completed since 1997 to 2014-15

Sl.No.	Title of the Project	Implementing Agency	Project Code	Approved Outlay (Rs. in lakh)
1	Liquidation of standing pillars at W-4 Panel in Jhanjra ECL	ECL	CIL/R&D/1/01/97	10.90
2	High capacity sand flushing through boreholes at Madhuband colliery, BCCL	BCCL	CIL/R&D/1/02/97	276.00
3	Resource survey characterisation and blending studies of low volatile coking coal for their use in steel industry	CMPDIL	CIL/R&D/1/03/97	457.00
4	Fire fighting for winning coal from developed pillars under fire by opencast method at Central sector of seclected Dhori	CCL	CIL/R&D/1/04/98	214.60
5	Depillaring by caving with yield pillar technique at Parascole Colliery, ECL	ECL	CIL/R&D/1/05/98	17.00
6	Depillaring with cable bolting using LHD at Madhusudanpur Colliery, ECL	ECL	CIL/R&D/1/06/98	40.75
7	Development of computerised continuous mining equipment condition monitoring system for maximum machine available time of working machines in mines-SECL/ CMRI	SECL/CMRI	CIL/R&D/1/07/99	29.00
8	Strata control, roof support design for development and depillaring operations at andsProject, Kanhan Area WCL with detailed geotechnical study including measurement of in-situ stress and its effect-WCL / CMPDI	WCL/CMPDI	CIL/R&D/1/08/99	249.90
9	Geomining statistical database of South Karapura Coalfields, CCL	CCL	CIL/R&D/1/09/99	215.93
10	Establishment of Longwall starta control services	CMPDI	CIL/R&D/1/10/01	62.50
11	Introduction of shortwall technology for extraction of standing pillars with power roof support in pillars of Passang seam of Balrampur underground project.	SECL	CIL/R&D/1/11/01	3513.05
12	Flyash hydraulic stowing at Jarangdih colliery, Kathara area, CCL near Bokaro Thermal Power Station	CCL	CIL/R&D/1/13/02	20.37

Sl.No.	Title of the Project	Implementing Agency	Project Code	Approved Outlay (Rs. in lakh)
13	Characterisation of cleats in coal from Raniganj and Jharia coalfield	CMPDI	CIL/R&D/1/14/02	240.35
14	Capacity building for creation of an e-information centre on coal & lignite	CMPDI	CIL/R&D/1/15/04	82.50
15	Interactive Geo-Mining and Hydro-Geological Models for Augumentation of coking coal and ground water resources at West Bokaro Coalfields	CCL	CIL/R&D/1/17/04	239.49
16	Development of accurate and rapid method of correlation survey of UG Mines	CMPDIL	CIL/R&D/1/20/04	181.85
17	Application of chemical treatment & centrifugation in environment friendly disposal of coal washery tailings / effluent slurry	CMPDI/CCL	CIL/R&D/2/01/99	798.41 R&D--289.52
18	Restoration of bio-diversity of OB dump and backfilled areas using integrated bio-technology	WCL / NEERI	CIL/R&D/4/01/97	21.43
19	Optimisation of ambient air quality monitoring network and application of mathematical models of air pollution control at North Karanpura Coalfields	CMPDI / BIT	CIL/R&D/4/02/97	29.94
20	Utilisation of OB materials through modification of physico-mechanical properties for the construction of haul road.	BIT/CMPDI	CIL/R&D/4/03/98	41.87
21	Determination of the efficacy of soil sediment etc for prevention of spontaneous heating in coal stock pile at Samleshwari OCP, MCL	MCL	CIL/R&D/4/04/99	4.28
22	Assessment of qualitative impacts of dust on the agriculture crops around Padampur OCP, WCL	WCL/NEERI	CIL/R&D/4/05/02	12.32
23	Assessment of assimilative capacity and resource apportionment analysis of air pollution in ambient air in Wardha Valley Coalfields	WCL	CIL/R&D/4/06/02	13.51
24	Resource Assessment and characterisation study of non-coking coals for sponge iron industries	CMPDIL	CIL/R&D/1/18/04	295.00
25	Application of high precision satellite imaging and DGPS Technology for online wide area subsidence monitoring study in Ranigunj area, ECL	ECL/ IIT KGP	CIL/R&D/1/19/04	242.42
26	Technical study for old & active OB dumps of open cast mines in WCL to determine stability characteristics and dimentional parameters	IIT Kgp./	CIL/R&D/1/21/05	359.65
27	Development of methodology for rapit volumetric analysis of excavated insitu overburden integrating high resolution satellite, air borne laser scanner data supported with ETS through digital photogrammetric technique.	CMPDIL/	CIL/R&D/1/24/06	388.00
28	Exploration and determination of coal fire hot spots to prepare the strategy to put off the fire in Nimcha & Samdih mines.	ECL / Ms DMT-Avantika, Hyderabad	CIL/R&D/1/29/08	444.23
29	Development of CIL/CMPDI's capacity for pursuing exploration of CBM in deep seated coal deposits of Jharia/Raniganj coalfields.	CMPDI & ONGC	CIL/R&D/1/16/04	1991.91
30	Inventory and monitoring of underground and surface coal mine fire for modelling fire dynamics and rate of fire movements, Jharia Coalfields, Jharkhand using satellite thermal remote sensing data .	Presidency College, Kolkata & BCCL	CIL/R&D/1/23/06	138.4

Sl.No.	Title of the Project	Implementing Agency	Project Code	Approved Outlay (Rs. in lakh)
31	Investigation on augmentation of life of dump truck tyres through the improvement of tyre retreading compound and development of an optimum road maintenance management system.	IIT Kgp/ ECL/NCL	CIL/R&D/1/22/05	148.69
32	Indigenous development of PLC based integrated control and monitoring system for conveyors and other equipment of underground	RDCIS(SAIL) & CMPDI	CIL/R&D/1/26/06	182.00 RDCIS-151.50 CMPDI-31.50
33	Delineation of workings below railway lines near Ratibati colliery, stability analysis by numerical modeling and possible remedial measures.	CIMFR & ECL	CIL/R&D/1/31/08	20.90518
34	Development of immediate roof fall prediction system in U/G mines using wireless network	IIT, KGP and ECL	CIL/R&D/1/27/08	216.98
35	An investigation on Adsorption Characteristics of Indian coal and to ascertain recoverability of CBM from deep-seated coal and lignite resources.	CMPDI & IIT, KGP	CIL/R&D/1/40/10	98.07 CMPDI- 8.05 IIT, KGP- 90.07
36	Establshment of co-relation between physico-mechanical properties, chemical properties and bonding strenght of cement & resin capsule used in roof bolting.	UMD Deptt, CMPD	CIL/R&D/1/37/10	126.98

Sl.No.	Project Name	Implementing Agency	Project Code	Approved Outlay (Rs. in lakh)
37	GPS based production reporting system in OCP Project Code: CIL/R&D/1/33/09	Systems Department CIL (HQ),Kolkata/ BCCL	CIL/R&D/1/33/09	54.00
38	Development of CMPDIL capacity for delineation of viable coal mine methane (CMM)/ Abandoned mine methane (AMM) blocks in the existing and would be mining areas having partly de-stressed coal in virgin coal seams	CMPDI, Ranchi	CIL/R&D/1/28/08	522.00
39	Generation/analysis of coalfield wise database of physico-mechanical charecteristics of rock/coal and representative numerical models for appropriate solution to strata control problems.	UMD Deptt, CMPDI	CIL/R&D/1/36/10	241.8
40	Development of guidelines for safe dragline dump profile under varying geo-engineering condition in opencast coal mines of Coal India	BIT, Mesra and CMPDI, Ranchi	CIL/R&D/1/38/10	75.60 BIT, Mesra-59.00 CMPDI-16.60
41	Eliminating the possibility of ignition of gas and incidences of explosion in underground coal mines due to electrical faults by application of innovative technology of fault diversion.	Safety & Rescue Division (S&R), CIL, Kolkata & Society for Mining Research Sustainable Development and Environment , Kolkata	CIL/R&D/1/44/10	11.022
42	Development of Indigenous tool for carrying out Random Sampling & Testing of Explosives and Accessories used in mines of Coal India Limited.	Blasting Cell, CMPDI(HQ), Ranchi and IIT, KGP	R&D/1/50/2012	428.06 CMPDI - 130.00, IIT, KGP-298.06
43	Analysis of in-situ stress for CBM exploration in Jharia Coalfield	CMPDI & ISM , Dhanbad	CIL/R&D/1/32/09	41.06679 ISM- 34.9419 CMPDI-6.12489
44	Effective utilization of low rank and low volatile high rank Indian coking coals for Blast Furnace (BF) coke making	CMPDI, Ranchi and (SAIL), Ranchi	CIL/R&D/3/1/09	265.00 CMPDI-245.00 RDCIS - 20.00
45	Assessment of performance of explosives/ blast results based on explosive energy utilisation	Blasting Cell, CMPDIL & NITK, Surathkal	CIL/R&D/1/41/10	236.35 CMPDI- 107.44 NITK-128.91
46	Investigations of Bolt Behaviour in Development and Depillaring Panels under Blast Induced Dynamic Loading.	CMPDI, Ranchi IIT, Kharagpur and RDCIS, Ranchi	CIL/R&D/1/42/10	491.08 CMPDI-198.50 IIT,KGP-229.54 RDCIS(SAIL)-63.04
47	Feasibility study of High Angle Conveying System (HAC) in Open Cast Coal Mines by Computer Modeling and Simulation.	Open cast Division CMPDI, Ranchi and E&M Department , CMPDI , Ranchi	CIL/R&D/1/43/10	211.5
48	Investigation on augmentation of life of dump truck tyres through the improvement of the tyre retreading compound and development of an optimum road maintenance management system-Phase-II	IIT, Kharagpur and BCCL, Dhanbad	CIL/R&D/1/45/10	64.37
49	Development of a notch cutting machine to facilitate construction of stoppings in underground coal mines.	Safety and Rescue (S&R)Division, CIL, Kolkata & Society for Mining Research Sustainable Development and Environment , Kolkata	CIL/R&D/1/47/11	11.15

Completed during 2014-15

Sl.No.	Project Name	Implementing Agency	Project Code	Approved Outlay (Rs. in lakh)
50	Studies on determination of free silica(α-quartz) content in respirable air borne dust in coal mines and preparation of data bank of free silica and other minerals present in dust as well as in coal.	CIMFR, Dhanbad and S&R Deptt., CIL, Kolkata	CIL/R&D/1/39/10	353.82 CIMFR- 353.82 S&R(CIL)- Nil
51	. Assessment of prospect of shale gas in Gondwana basin with special reference to CIL areas.	CBM(Cell), CMPDI(HQ), Ranchi and Advance Resources International, Washington, DC, USA	CIL/R&D/1/46/11	512.20 For CMPDI- 424.90 For ARI, USA- 87.30
52	Indigenous development of Integrated Dumper Collision Avoidance system for opencast mines.	Mine Electronics Deptt, CMPDI(HQ), Ranchi and BEL, Panchkula, Haryana	CIL/ R&D/1/51/2012	354.51 CMPDI - 60.00, BEL, Panchkula-294.51
53	Studies on shrinkage swelling characteristics of some Indian coals to ascertain recoverability of CBM from deep seated coal and shale resources. Project Code:.	CBM Cell, CMPDI, Ranchi and IIT, Kharagpur	CIL/ R&D/1/53/2013	182.60 CBM, Cell, CMPDI- 55.70 IIT, Kharagpur- 126.90
54	Research and development on efficient energy management pilot study and action plan. Project Code:. Impl. agencies:	Indian Institute of Social Welfare and Business Management (IISWBM), Kolkata and DFIC Management Consultants Pvt. Ltd., Kolkata	CIL/ R&D/1/55/2013	66.19 IISWBM-21.94 DFIC-44.25