

## Curriculum Vitae

### Dr. Anindya Sinha



*Former Director (Tech./Operations), Northern Coalfields Limited (NCL), CIL*  
*Former Project Adviser/ Joint-Secretary to Govt. of India, Ministry of Coal*  
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#### **Objective**

To share and utilize my extensive, enriched & abundant experience & learning spread across almost four decades in India's coal mining sector & abroad, that includes exploration, planning & design, development, execution, management and operation of coal mines contributing towards attaining country's sustainable energy security goals as well as aiming towards consistent development of India's power sector & core manufacturing sector. My present efforts aim to boost the economy in the backdrop of safe mining practices & protecting Planet Earth in coming times by charting the right pastures and utilizing opportunities that cross my path to nurture my passion for 'Greener Cleaner Coal' to reality and map a tomorrow that proudly states, "Green is the new Black".

#### **Educational Qualification**

Examination	Branch/ Specialization	College/University /Institute	Year	Percentage /Grade	Class/ Division
Bihar Secondary Board	Science	Pranjiwan Academy, Dhanbad	1977	67%	I
Intermediate Science	Mathematics, Physics, Chemistry, Biology	Raja Shiva Prasad College, Jharia, Dhanbad	1979	63%	I
B.Tech	Mining Engineering	Indian School of Mines, Dhanbad (presently IIT(ISM))	1984	OGPA 4.81 (out of max. of 5.00) (Batch Topper)	I (with distinction)
DISM (Post Graduate Diploma)	Mine Planning & Design	-Do-	1985	OGPA 5.00 (out of max. 5.00) (Batch Topper)	I (with distinction)
M.Tech	Mine Planning & Design	-Do-	1986	OGPA 5.00 (out of max. 5.00) (Batch Topper)	I (with distinction)
D.Sc (Doctor of Technical Science)	Mine Ventilation & Air Conditioning	University of Mining & Metallurgy (AGH), Krakow, Poland	1996	-	I (with distinction)
Management Course (PPDM)	Project Planning, Management & Development	Asian Institute of Management (AIM), Manila, Philippines	2008	-	Passed

**Professional Qualification**

Examination	Branch/ Specialization	College/University /Institute	Year
Second Class Mine Manager's Certificate of Competency	Coal	Directorate General of Mines Safety (DGMS), Dhanbad	1985
First Class Mine Manager's Certificate of Competency	Coal	Directorate General of Mines Safety (DGMS), Dhanbad	1988

**Special Awards/ Honours Received**

Year	Name of Award/ Honour	Name of Organization
1980	Dhar's Prize (As student scoring highest OGPA in science subjects)	IIT (ISM)
1981-84	RK Lal's Scholarship (As student being the year-wise topper of the Batch)	IIT (ISM)
1984	Pickering Medal (As student being topper of the Batch in Mining Engg. discipline)	MGMI
1986	ISM Gold Medal (As student being topper of DISM Batch)	IIT (ISM)
1993-96	Polish Govt. Fellowship (Selected through UPSC by Ministry of Education/ Foreign Affairs)	Govt. of India/ Govt. of Poland
2017	Eminent Engineer Award (in the field of Mining)	Institution of Engineers (India)
2021	Certificate of Appreciation from Hon. Minister of Coal, Mines & Parliamentary Affairs, Govt. of India	Ministry of Coal, Govt. of India
2024	MGMI Award of Excellence for Coal Mining for the year 2023-24 for outstanding contribution in the Coal Mining Industry	MGMI

**Details of Ph.D.**

Institute/ University	Title of Ph.D Thesis	Date of Enrolment in Ph.D	Date of Award of Ph.D
University of Mining & Metallurgy (AGH), Krakow, Poland	Variation of Temperature and Humidity of Cooled Air in Mine Dog Heading Galleries Ventilated through Leaky Duct Lines	May 1994	May 1996

**Details of Ph.D Supervision**

Sl. No.	No. of Ph.Ds Supervised/ Awarded as			No. of Ph.Ds Supervising as		
	Sole Guide	Joint Guide		Sole Guide	Joint Guide	
		Principal Guide	Co-guide		Principal Guide	Co-guide
1	-	-	1*	-	-	2#

\* IIT(ISM), Dhanbad; # IIT (BHU), Varanasi

**Details of Sponsored Projects (R&D and Consultancy)**

Sl. No.	Project Title	Role (PI/Co-PI)	Funding Agency	Duration	Status (Completed/ Ongoing)
1.	Development of Software Package (TERM) for auxiliary mine ventilation system	Co-PI	Polish Academy of Science (PAN), Krakow, Poland	1 year	Completed

### Details of Outreach Programs (Conference/Seminars Organized)

Sl. No.	Title	Funding Agency	Role (CI/ Co-CI)	Duration	Status
1	28 <sup>th</sup> National Convention of Mining Engineers & National Seminar on “Challenges for Sustainable Development of Mining Industry to meet Energy Security (MIES) 2017”	Institution of Engineers (India) (IEI), MGMI & CMPDI	CI	2 days	Physical mode
2	International Conference on Opencast Mining Technology and Sustainability (ICOMS) 2020	NCL	Co-CI	2 days	Hybrid mode
3	ICOMS 2021	NCL	Co-CI	2 days	Hybrid mode
4	ICOMS 2022	NCL	Co-CI	2 days	Hybrid mode
5	International conference on “Mine Ventilation & Environment for Green Mining (MVEGM 2024)”, Puri	IIT (ISM)	Member of Organizing Committee	2 days	Physical mode

### Employment / Industrial Experience

Sl. No	Employer	Position held	Date of Joining	Date of Leaving	Pay Scale (Rs.)
1	Govt. of India/ Ministry of Coal (MoC), New Delhi	Consultant (CSS- Research & Development)	01.07.2024	Still continuing	4000 per day (sitting/visiting)
2	Indian Institute of Technology (Indian School of Mines), IIT(ISM), Dhanbad, Jharkhand	Professor of Practice (on Contract)	01.05.2024	Still continuing	1986924 (consolidated)
3	Ashoka Centre for a People-centric Energy Transition (ACPET), International Foundation for Research and Education (IFRE), New Delhi	Advisor	01.11.2023	31.03.2024	300000 per month (consolidated)
4	Govt. of India/ Northern Coalfields Limited (NCL), Singrauli, Madhya Pradesh	Director (Technical)	30.04.2020	30.06.2023 (Superannuated)	160000-290000
5	Govt. of India/ Ministry of Coal (MoC), New Delhi	Project Adviser (Joint Secretary-level post)	22.12.2017	30.04.2020	144200- 218200 (Revised) (Level-14 scale)
6	Coal India Limited (CIL), New Delhi	General Manager (Mining) & OSD(Tech) to Ministry of Coal	05.10.2017	21.12.2017	51300-73000 (with IDA)
7	Central Mine Planning & Design Institute Limited (CMPDIL)(HQ), Ranchi, Jharkhand	General Manager (S&T)/ HoD	22.08.2017	04.10.2017	-Do-
8	-Do-	General Manager (S&T/ Blasting)/ HoD	01.09.2016	22.08.2017	-Do-

Sl. No	Employer	Position held	Date of Joining	Date of Leaving	Pay Scale (Rs.)
9	Central Mine Planning & Design Institute Limited (CMPDIL), Ranchi, Jharkhand	Regional Director (RD), Regional Institute-3 (RI-3)	01.06.2012	31.08.2016	-Do-
10	-Do-	General Manager (GM), RI-3	14.05.2012	31.05.2012	-Do-
11	-Do-	GM, Underground Mining Division (UMD)/ HoD	01.07.2010	13.05.2012	-Do-
12	-Do-	Chief Mining Engineer, UMD	06.05.2008	30.06.2010	-Do-
13	CMPDIL(HQ), Ranchi, Jharkhand	Deputy Chief Mining Engineer, UMD	26.03.2003	05.05.2008	18500-23900
14	Mahanadi Coalfields Limited (MCL), Burla, Sambalpur, Odisha	Deputy Chief Mining Engineer, CP&P Division	16.12.2002	25.03.2003	-Do-
15	CMPDIL (HQ), Ranchi, Jharkhand	Superintendent of Mines (SoM), UMS&S Division	01.08.1997	15.12.2002	7500-9900
16	Bharat Coking Coal Limited (BCCL), Dhanbad, Jharkhand	SoM/ Manager, Kusunda Colliery, Kusunda Area	Sept. 1996	31.07.1997	-Do-
17	-Do-	SoM/ Asst. Colliery Manager (ACM) (In-charge), Khas Kusunda Colliery, Kusunda Area	Jun. 1996	Sept. 1996	7500-9900
18	University of Mining & Metallurgy (AGH), Krakow, Poland	Doctoral Student (under Polish Govt. Fellowship program) (under Study Leave from BCCL/CIL)	Feb.1993	Apr. 1996	Polish Govt. Fellowship
19	Bharat Coking Coal Limited (BCCL), Dhanbad, Jharkhand	Sr. Mining Engineer, Khas Kusunda Colliery, Kusunda Area	Sept. 1992	May 1996	1800-5500
20	-Do-	First Class Mining Engineer, Khas Kusunda Colliery, Kusunda Area	Nov. 1988	Aug. 1992	1130-1800
21	-Do-	Jr. Mining Engineer, Khas Kusunda Colliery, Kusunda Area	04.07.1985	Nov. 1988	1130-1800
22	-Do	Jr. Executive Trainee, Khas Kusunda Colliery, Kusunda Area	04.07.1984	03.07.1985	1030-1400

**Other Engagements:**

Sl. No	Organization/ Institute/ Agency	Position held	Date of Joining	Date of Leaving	Pay Scale (Rs.)
1	Indian School of Mines, IIT (ISM), Dhanbad, India	Post-Graduate Student (Part-time)	Nov. 1984	July 1986	-

Sl. No	Employer	Position held	Date of Joining	Date of Leaving	Pay Scale (Rs.)
2	University of Mining and Metallurgy (AGH), Krakow, Poland	Doctorate Student & Research Fellow (Full time under Study leave from CIL)	Mar. 1993	Apr. 1996	Polish Govt. Fellowship
3	CMPDIL, Ranchi, Jharkhand	Govt. Nominee Director on CMPDI Board of Directors	05.02.2018	30.04.2020	Additional Charge
4	SCCL, Kothagudem, Telangana	Govt. nominee Chief Nodal Officer	13.09.2018	30.04.2020	-Do-
5	Dept. of Science & Technology, New Delhi	Govt. nominee Expert Panel Member on Clean Coal Research and Development	12.02.2018	30.04.2020	-Do-
6	NITI Aayog, Energy & Climate Change Vertical, New Delhi	Govt. nominee Member of Technical Committee on Surface Coal Gasification	22.12.2017	30.04.2020	-Do-
7	Ministry of Petroleum & Natural Gas, New Delhi	Govt. nominee Member of Integrated Monitoring and Advisory Council (IMAC)	31.10.2018	30.04.2020	-Do-
8	Ministry of Labour & Employment, New Delhi	Govt. nominee Representative for framing National Occupational Safety & Health (OSH) Protocol	06.01.2018	30.04.2020	-Do-
9	NCL, Singrauli, MP	Director (Personnel)	01.06.2022	21.09.2022	Additional Charge

### Areas of Specialization

- Coal Mine Operation & Management - both Underground (UG) & Opencast (OC)
  - UG: Bord & Pillar (manual, Semi-mechanized SDL/ LHD & fully mechanized Continuous Miner mining with/ without sand stowing) & Powered support Longwall Mining,
  - OC: Manual, Mechanized & Highly Mechanized Mining
- Mine Planning & Design - both UG & OC,
- Geological Exploration & Reserve Estimation,
- UG Mine Ventilation,
- UG Strata Control & Monitoring,
- Mine Mechanization (both UG & OC),
- Mass Production Mining Technology,
- Mine Environment Planning & Management,
- Mine Sub-system Design,
- Mine Closure Planning.

### Professional Membership

#### Name of the Body

#### Status of Membership: Life/ Annual

Institution of Engineers (India) (IEI)	Life
Mining, Geological & Metallurgical Institute (MGMI)	Life
Indian Mine Managers Association (IMMA)	Life
Indian Institute of Coal Management (IICM)	Life

### Details of Administrative Experiences

SN	Name of the position hold	Duration	Year
1.	Manager/ Superintendent of Mines, Kusunda Colliery, Kusunda Area, BCCL, Dhanbad	1996-97	11 months
2.	General Manager/ HoD, Underground Mining Division (UMD), CMPDIL (HQ), Ranchi	2010-12	1 year 9 months
3.	Regional Director, Regional Institute-3, CMPDIL, Ranchi	2012-16	4 years 3 months
4.	General Manager/ HoD, S&T Division, CMPDIL (HQ), Ranchi	2016-17	1 year 2 months
5.	General Manager/ HoD, Blasting Cell, CMPDIL (HQ), Ranchi	2016-17	1 year
6.	General Secretary, MGMI, Ranchi Chapter	2016-17	2 years
7.	Project Adviser, Ministry of Coal, Govt. of India, New Delhi	2017-20	2 years 5 months
8.	Govt. Nominee Director, Central Mine Planning & Design Institute Limited (CMPDIL), Ranchi	2018-20	2 years
9.	Director (Technical), Northern Coalfields Limited (NCL), Singrauli	2020-23	3 years 2 months
10.	Director (Personnel), NCL, Singrauli (Additional charge)	2022-23	4 months

### Languages Known

- English, Hindi, Bengali and Polish.

### Personal Details

- Name: **Prof. (Dr.) Anindya Sinha**
- Sex: Male
- Father: Late Gunendu Sinha
- Mother: Late Chhaya Sinha
- Date of Birth: 1<sup>st</sup> July 1963
- Place of Birth: Dhanbad, Jharkhand
- Present Address: Department of Mining Engineering, IIT (ISM), Dhanbad – 826004, Jharkhand, India
- Permanent Address: Flat No. 604, Uma Shanti Apartment, Kanke Road, Ranchi - 834008, Jharkhand, India.
- Nationality: Indian
- Category: General

### Last Employment Details

- Designation: Professor of Practice
- Organization: Indian Institute of Technology (Indian School of Mines), IIT(ISM), Dhanbad
- Current Status: Post-Superannuation engagement (superannuated as Director(Technical), Northern Coalfields Limited (NCL), Coal India Limited (CIL) on 30.06.2023)
- Current emoluments: ₹ 165577 per month (Consolidated)
- Scale of Pay (at the time of superannuation): ₹ 160000–290000 per month
- Basic Pay (at the time of superannuation): ₹ 233480 per month
- Total Emoluments (at the time of superannuation): ₹ 402052 per month
- Total years of the experience after attaining essential qualification: 41 years

### Any Other Information

- A write-up in support of the Candidature of Dr. Anindya Sinha enclosed as **Annexure-1**.
- List of Publications of Dr. Anindya Sinha (as author/ Co-author) enclosed as **Annexure-2**.

**Declaration**

I hereby declare that the above provided information is true to my knowledge.



**Dr. Anindya Sinha**

**Dhanbad**

**Dated: 01.03.2025**



**A write-up in support of the Candidature of Dr. Anindya Sinha**

**A. Work Experience:**

1. Wide experience of around 41 years in coal sector at India & abroad:
  - Joined BCCL/CIL on 04.07.1984;
  - 1984-1993: **BCCL** : 8.5 yrs. of operation/management in UG/OC mines;
  - 1993-1996: **AGH, Poland**: 3 yrs. of Doctoral Research in AGH, Krakow, Poland;
  - 1996-1997: **BCCL** : 1 yr. of operation/management in UG/OC mines;
  - 1997-2002: **CMPDIL** : 5.5 yrs. in Planning & Design of UG coal mines;
  - 2002-2003: **MCL** : 0.5 yrs. in Corporate Planning;
  - 2003-2012: **CMPDIL** : 9 yrs. in Planning & Design of coal/non-coal mines;
  - 2012-2016: **CMPDIL** : 4 yrs. as Regional Director, Regional Institute - 3;
  - 2016-2017: **CMPDIL** : 1 yr. in Research & Development & Blasting;
  - 2017-2017: **CIL, Delhi** : 0.5 yrs. as Officer on Spl. Duty to Ministry of Coal;
  - 2017-2020: **MOC, Delhi** : 2.5 yrs. as Project Adviser (Joint Secretary-level post), Ministry of Coal; 2 yrs. as Govt. Nominee Director of CMPDIL;
  - 2020-2024: **NCL** : 3 yrs. 2 months as Director (Technical) & 4 months as Director (Personal) (Additional Charge), Superannuated from NCL/CIL on 30.06.2023.
  - 2023-2024: **ACPET, IFRE, New Delhi**: 5 months as Advisor (on contract) to Trans-mine Research Project
  - 2024-Todate: **IIT(ISM), Dhanbad** as Professor of Practice (On Contract) since 01.05.2024 & Consultant (CSS-R&D) to the **Ministry of Coal (MoC), Govt. of India, New Delhi** since 01.07.2024.
2. **As Consultant (CSS R&D), MoC (On Contract):**
  - Evaluation & Monitoring of ongoing R&D projects (funded through Central Sector Schemes (CSS) of MoC) to ensure whether they are aligned with set objectives, timelines and budget.
  - Preparing detailed report on the status of R&D schemes,
  - Review completed R&D projects for their wide application,
3. **As Professor of Practice, Department of Mining Engineering, IIT(ISM) (On Contract):**
  - Design, development, and offering of new practice-oriented courses;
  - Advise students in their projects linking them with appropriate external stakeholders;
  - Engage in department-building activities including the creation of new programs and Centers/Cells and enhancement of the scope and activities of the department;
  - Develop Continuing Education Programs, undertake outreach activities, and conduct extension programs;
  - Encourage students in innovation and entrepreneurship projects and provide necessary mentorship for these activities; and
  - Contribute to enhanced industry-academia collaborations.
4. **As Advisor, ACPET, IFRE, New Delhi (On Contract):**
  - Assisted in completion of Phase-I of the project titled "Transitioning Mining Communities to Sustainable Lives and Livelihoods (Trans-Mine)" to aid mining communities in India toward sustainable futures.
  - The project focuses on several key areas: analyzing current mine closure practices, understanding impacts of coal mine closures, evaluating community readiness and aspirations for development including earning opportunities and careers, co-designing closure plans, and influencing policy decisions around the people centric transition requirements and support. It emphasizes community-specific strategies to ensure economic viability, social responsibility, and environmental sustainability in transitioning away from coal mining, aligning with India's commitment to balanced energy transition, economic growth, and social equity.
5. **As Director (Tech./Operations), NCL:**
  - Assisted NCL to be a 130 MT+ coal producing subsidiary company of CIL & NCL to be only CIL Company to achieve more than targeted coal and overburden (OB) production maintaining the legacy of NCL (during



2020-23). 18% of coal production of CIL comes from NCL.

- Control & maintain a fleet of 1200+ HEMMs inclusive of 23 Draglines (33 m<sup>3</sup>/ 24 m<sup>3</sup>/ 20 m<sup>3</sup>/15 m<sup>3</sup>) , 120 shovels (20 m<sup>3</sup>/10 m<sup>3</sup>/ 5 m<sup>3</sup>), 550 dumpers (190 T/ 100 T/ 85 T) & 8 surface miners.
- Contract finalized for 9 nos. FMC (First mile Connectivity) coal evacuation projects (63.5 MTPA capacity, Rs. 3100 Crores CAPEX) and under installation/ commissioning.
- Through IT initiate implemented (100%) boom barriers, geo-fencing, RFID tagging, CCTV camera surveillance, online weigh bridge monitoring in all mines & OITDS in 5 mines of NCL.
- To promote eco-tourism in NCL region developed a detailed plan of "Singrauli Eco-tourism Circuit" in association with Madhya Pradesh State Tourism Development Corporation
- Instrumental in attaining 1st Position in India in Star Rating assessment by Ministry of Coal - 5 Star rated (06 mines) & 4 Star rated (04 mines).
- Instrumental in introduction of ERP system at NCL and digital transformation in 4 mega mines of NCL.
- NCL's effort was recognized through various awards viz. ICC PSE Excellence Award, Corporate Performance Award 1st Prize by CIL, First Prize overall by GeM Portal Award, Coal Ministry Award-2020/2021/2022/2023 for Best Performance, Safety awards, etc.

**My experience as Director (Technical) / Nominated Mine Owner has helped me to nurture Team Spirit and be ever ready to serve the country to fulfill the coal demand and Energy Security by improving standard of mechanization, digitization environment and safety.**

**6. As Director (Personnel), NCL (Additional Charge):**

- Assisted NCL to resolve Personnel-related issues (like Executive/ Non-Executive matters, Industrial Relations, welfare Measures, Corporate Social Responsibility (CSR), Recruitment, Provident Fund/ Pension etc.);
- Looked after health care issues of the employees and others through efficient management of 3 hospitals & 10 dispensaries of NCL;
- Instrumental in introduction of Hospital Management System at NCL hospitals.

**It was a great opportunity to dig into the personnel, welfare and Industry Relation matters as Director (Personnel) which has helped me to deal with socio-political issues prevailing in the remote part of Madhya Pradesh and be an instrumental to CSR activities in and around Singrauli reaching out to the needy down-trodden.**

**7. As Project Adviser (Joint Secretary-level), Ministry of Coal (MoC):**

- Prepared & implemented the revised Mining Plan Guidelines to make it user friendly with introduction of the online system;
- Formulated criteria and classified coal mines/ coal blocks for auction and allotment;
- Instrumental in formulation & implementation of "Star Rating Policy" for Coal Mines & 'Washery Reject Policy';
- Instrumental in re-categorisation of coking coal leading to addition of 2 grades (W-V & W-VI)
- Planned exploration projects to be taken up for funding through NMET as a member of Executive Committee of NMET;
- Instrumental in developing/ promoting exploitation of CBM in CIL held areas, Underground Coal Gasification (UCG) & Surface Coal Gasification & construction of coal washeries;
- Convened High Powered Central Committee (HPCC) meetings under the chairmanship of Secretary (Coal) to monitor the status of implementation of Jharia & Raniganj Master Plan for fire effected/ unstable mining area;
- Rendered services as Govt. Nominated Director in the Board of CMPDIL since Feb. 2018 & helped CMPDIL in achieving "Excellent" MOU rating and also rendered services as Govt. Nominated Chief Nodal Officer of SCCL;
- Represented MoC as member of various high-powered committees in NITI Aayog, MoRly, MoP&NG, MoS, MoP, MoM, DST, DoT etc. and different Working Groups/ Committees (Bilateral/Multilateral);
- Assisted MoC in dealing with parliamentary matters including Rajya Sabha/ Lok Sabha questions,

assurances, examination of Demand for Grants, meetings of different Parliamentary Standing Committees and Consultative Committees.

**Being directly involved in policy making and working as National Coal Adviser for all coal & lignite mines and related infrastructures, my experience helped me to understand the control and monitoring of Coal Ministry and Country's highest body, the Parliament.**

**8. As General Manager, S&T Division and Blasting Cell at CMPDIL:**

- **Research & Development:**
  - Enhancing R&D activities – 45 nos. of new proposal scrutinised, 6 nos. of new projects approved & started, 30 nos. of on-going projected monitored and 6 nos. completed;
  - Web-link developed for inviting suggestions for enhancing field-oriented replicable research;
  - Initiated a project on “coal slurry pipeline transportation” as an alternative mode of coal transport;
  - Thrust for dissemination of research findings & replication for the benefit of mining sector;
- **International Cooperation:**
  - Monitoring the issues considered in various Common Working Groups for CIL;
  - Various proposals initiated under Indo-US, Indo-Australia, Indo-Polish CWGs;
- **Explosive & Blasting:**
  - Achieved all time highest in consultancy jobs related to blasting (60 nos. – 15 nos. external);
  - Helped coal companies in resolving all pending blasting issues;
  - Imparted training to CIL mine officials in the use new blast monitoring equipment;

**This experience helped me to understand the gamut of the research and development framework governing the company as well as the coal industry as well gained an expertise in explosives & blasting.**

**9. As Regional Director, Regional Institute-3, CMPDIL:**

- Led a multi-disciplinary team (~450 persons) for geological exploration, mine planning & design, mine sub-system designing, environment management and mine closure planning in CCL command area facilitating coal production for achieving targeted production of CCL;
- Building harmonious relationship and an atmosphere of trust through constant interaction with the villagers living in the coalfields. This had led to safe and smooth exploration operations, boosting drilling performance in these areas. The institute achieved new record in the field of exploration consecutively during 2012-16, registering unprecedented growth in drilling (around 40%) in spite of law & order problems in CCL command area;
- Preparation of geological reports for estimation of coal reserves in CCL command area.
- Planning & design support to CCL for achieving its targeted coal production, & to meet CIL's 1 Billion Tonne coal production target;
- Instrumental in planning & design of large OC coal mines of CCL like Magadh (51 MTY), Amrapali (25 MTY);
- Mine closure planning for CCL mines;
- Preparation of EIA/EMP/Form-I reports assisting CCL to obtain EC/FC for mining projects from MoEF&CC as EIA Coordinator;
- North Karanpura Coalfield is emerging out to be the major coal producing area of CCL; involved in comprehensive planning, design and layout of infrastructure (CHP/Washery), coal evacuation network (rail, road & conveyor);
- Introduced DGPS survey for geo-referencing of all coal blocks in CCL;
- Introduced TLS (Terrestrial Laser Scanner) survey at RI-3, CMPDIL;
- CSR (Corporate Social Responsibility) and sustainability activities in the remote localities/ villages in and around the exploration sites which have invited positive response from the neighbouring village communities.
- Foster the sports spirit amongst the employees, RI-3 has been organising sports activities and tournaments regularly.

**This experience has helped me to understand the gamut of the technical, managerial, administrative and legal framework governing the company as well as the coal industry imparted a boost to my team building and leadership capabilities.**

**10. As Nodal Officer (CSR & Sustainability), CMPDIL (Additional Charge):**

- CMPDIL was awarded as the best subsidiary of CIL in CSR initiatives & fund utilization (FY16);
- Waste Paper Recycling Plant installed/ made operational-1<sup>st</sup> of its kind in Jharkhand.

**As the Nodal Officer for Corporate Social Responsibility (CSR) and Sustainability, I was involved in organizing and coordinating various activities related to CSR and Sustainability which not only helped me to know the stake-holders of the company but also be helpful in building up the company's image.**

**11. As General Manager (Mining) at CMPDIL:**

- Preparation of mining plan, project report, feasibility report, revised cost estimates and action plans for UG coal and non-coal mines;
- Study for introduction of new technology for steep seam mining;
- Mine sub-system planning and design inclusive of reserve estimation and mine capacity assessment for virgin blocks, ventilation network analysis and ventilation planning, planning and designing of stowing system;
- Performance analysis of UG mine equipment/ machinery;
- Preparation and scrutiny of Global Bid Document for selection of mine developer and operator/ JV partner for UG coal mines;
- Execution of CCDA (Coal Conservation and Development Authority) related jobs like study for reduction of stowing cost by improving efficiency of the existing stowing systems;
- Provided consulting services for non-coal mines of MOIL (Manganese Ore India Limited) and HCL (Hindustan Copper Limited) during 2011-12, and for sand mining of CIL – sand being required for stowing in UG mines;
- Estimation of normative cost of sand stowing/ transportation completed successfully for 106 stowing mines and 2 ropeways (for different coal companies) on behalf of CCDA;
- Involved in estimation of coal reserves during the preparation of Red Herring Prospectus for the Initial Public Offering (IPO) or stock market launch of CIL;
- Preparation of base paper for XII Five-year plan document;
- Design and conducting training workshop on 'UG mine planning and design' for mine managers/ planners;
- Conduct departmental inquiries as Inquiring Authority.

**Interfacing with other PSUs has been a very rewarding experience as it has provided an insight into their management practices. It has also provided an opportunity to share my experience in project planning & implementation in coal & non-coal mining sectors.**

**12. Experience in Underground Planning and Design at CMPDIL:**

**A. As Chief Mining Engineer (CME):**

- Preparation of Mining Plan and Project Report of Sitanala Coking Coal Block, SAIL (Steel Authority of India Limited). [The Job of preparation of Mining Plan and Project Report was a challenging assignment due to complexities involved in it. It was the first UG Mining Plan prepared by CMPDIL (as per the new guidelines of the MoC, Govt. of India) & subsequently approved by MoC.]
- Evaluation of Global EOI (expression of interest) floated by CIL for selection of Joint Venture Partner for Salvaging, Rehabilitation and Operation of 18 abandoned/ derelict coal mines and subsequent tendering process. [The job was unique in nature as it involved preparation of Global Bid Document for selection of Joint Venture Partner.]
- Preparation of Marginal Scheme for opening an UG Coal Mine in North eastern Coalfields (NEC), Assam;
- Preparation of a Project Report for Establishment of a Training Institute for Workmen's Inspectors (as per Mines Rule, 1955);
- Preparation of note on Lubhuku Project, Swaziland, South Africa for the viability of UG mining.

**B. As Deputy Chief Mining Engineer (Dy. CME):**

- Preparation of Approach Note on mechanization of underground projects of CIL. [A technical committee was constituted by CMPDIL for carrying out in-depth study to identify the mines suitable for introduction of modern mass production technologies to enhance the UG coal production and productivity in UG mines of CIL based on international best practices vis-à-vis Indian geo-mining conditions. The undersigned was the Member Secretary of the committee which submitted the approach note as per the timeline assigned.]
- India-UK CBM (Coal Bed Methane) Technology Transfer Project as mining expert.
- Member of Sub-Group V of the Working Group on coal and lignite assisting the MoC for preparation of XI five-year plan document for coal and lignite in the year 2006.

**C. As Superintendent of Mines (SoM):**

- Preparation of report on Long Term Technology Forecast for CIL;
- Preparation of Conceptual Engineering Note for Godavari Valley Coalfield of SCCL (The Singareni Collieries Company Limited, Andhra Pradesh);
- Study/ re-appraisal of RK-New Tech Project of SCCL. [Semi-mechanised Bord & Pillar method of mining using SDLs (Side Discharge Loaders) / LHDs (Load Haul Dumpers) in the UG coal mines was introduced by SCCL based on this report.]
- Preparation of conceptual report for introduction of mass production technology in CIL mines;
- Study of technical preparedness for deployment of continuous miners in CIL subsidiary companies;
- Preparation of approach note for revival of Moonidih Mine of BCCL;
- EMSC (Environmental Mitigation & Subsidence Control) Project: Identification & categorization of subsidence prone areas in BCCL (under Jharia Action Plan).

**This experience has enabled me to feel confident to take up any challenge regarding mine planning and design.**

**13. Experience as Dy. CME in Corporate Planning & Projects Division at MCL:**

- Preparation of mine-wise 12-months rolling plan & 5-years rolling plan of MCL;
- Monitoring and facilitating timely completion of on-going projects.
- Monitoring of mine wise coal production & OB removal targets and taking corrective measures to ensure achievement of targets. It involved day to day interaction with the mine officials.
- Review/ appraisal of various technical reports prepared by CMPDIL and other external agencies, and coordinate with CMPDIL for timely formulation of project reports and processing for their competent approval.

**My involvement at the corporate level in strategizing, planning, project implementation and production has enriched my experience.**

**14. Experience in Khas Kusunda Colliery and Kusunda Colliery of BCCL:**

- Details of my field experience in coal mines of BCCL are as follows:

Post held	Nature of Duties
Superintendent of Mines	Supervision and management of mechanized opencast mine (producing more than 1.0 million tonne per annum (MTY)) & semi-mechanized bord & pillar (B&P) mine workings (3 production units producing more than 0.3 MTY) – as Colliery Manager at Kusunda Colliery/OCP.
Superintendent of Mines	Supervision and management of mechanized opencast mine & conventional bord & pillar (B&P) mine workings including coal dispatch & quality—as ACM-in-charge at Khas Kusunda Colliery.

<b>Post held</b>	<b>Nature of Duties</b>
Sr. Mining Engineer	Supervision and management of bord & pillar mine & mechanized opencast workings - as Ventilation Officer, Safety Officer & ACM (Opencast) at Khas Kusunda Colliery.
First Class Mining Engineer	Supervision and management of bord & pillar mine workings & opencast mine workings - as 1 <sup>st</sup> Class ACM, Ventilation Officer & Safety Officer at Khas Kusunda Colliery.
Jr. Mining Engineer	Supervision and management of bord & pillar mine workings (both development & depillaring with caving and/or stowing) and opencast mine workings – as Assistant Colliery Manager (ACM) at Khas Kusunda Colliery.
Jr. Executive Trainee	Induction training, Technology appreciation course, Supervision & Management course.

**My experience in operations of both underground and opencast mining with various method of mining has enabled me to manage all the aspects of coal mining from the grass-root level in organizing, planning, managing and implementing with due consideration to safety.**

**15. Visit to Mongolia to attend World Mining Congress Meeting:**

Being the member of the International Organizing Committee (IOC) of World Mining Congress (WMC) attended the 103<sup>rd</sup> IOC WMC Meeting during 10-14<sup>th</sup> July 2022 in Ulaanbaatar, Mongolia. During this period joined the celebration of the 100<sup>th</sup> Anniversary of Establishing the Mining Sector in Mongolia.

**The above experience provided me an opportunity to build a network with experts having domain knowledge in the mining industry worldwide. It was turned out to be beneficial for Indian Coal Industry as a whole.**

**16. Visit to Switzerland to attend UNECE program at Geneva:**

As a member of the Indian Delegation attended “UNECE Resource Management Week” in April 2018 and April 2019 consecutively at Palais des Nation, Geneva, Switzerland and also the 10<sup>th</sup> Session of Expert Group on Resource Management (2019) organized by Sustainable Energy Division, United Nations Economic Commission for Europe (UNECE).

Experts from 96 countries participated in the 10<sup>th</sup> Session of EGRC, UNECE. Participation was also from UN Economic Commission for Africa, IAEA, ILO, European Commission, International Energy Agency, OECD Nuclear Energy Agency, etc. Private sector was represented by experts from 50 countries. Academia was represented by 25 universities and institutes.

Also attended a high-level meeting on 1<sup>st</sup> May 2019 at Palais des Nations, Geneva between Director, UNECE and Secretary (Coal), Ministry of Coal, Govt. of India in the presence of Program Coordinator, UNECE, Head of Chancery, PMI, Geneva and Indian Delegation.

**The above experience provided me an opportunity to build a network with experts having domain knowledge in the mining industry worldwide and an exposure to the functioning of United nation Organization (UNO).**

**17. Visit to Steep Seam Coal Mines in Spain:**

Under an initiative of Indo-EU Working Group on Coal & Clean Coal Technologies, the undersigned along with the Manager, Tipong Colliery, NEC was sent to Spain in November 2011 with the project proposal for introduction of a new mining technology at Tipong UG Mine, NEC. The team visited three underground steep seam coal mines, namely Emilio del Valle Mine of SAHVL, San Nicolas Shaft Unit and Montsacro Shaft Unit of Sueros Colliery, HUNOSA and had extensive discussions with the mine officials. The team also visited the offices of SADIM (the Mining, Technical Services and Consultancy Centre of HUNOSA Group) and AITEMIN

(an Association for the Research & Industrial Development of Natural Resources) regarding steep seam coal mining in Spain & its potential applicability in Tipong Colliery of NEC/ CIL. This is an on-going effort.

**The above experience resulted in providing exposure to various operating methods of steep seam coal mining with international entities as well as familiarity with project execution abroad in an extremely tight production and time schedule under adverse geo-mining conditions in Spanish coalfields.**

**18. Experience at Asian Institute of Management, Manila, Philippines:**

Attended a management course titled "The 18th Project Planning, Development & Management (PPDM) Course" at Asian Institute of Management (AIM), Philippines from November 10th to December 5th 2008 which was designed to impart comprehensive practitioner-oriented knowledge on all facets of the project planning, development and management with a good blend of theory and related case studies.

**It was a very fruitful occasion wherein the team got opportunity to learn theoretical underpinnings, concepts and approaches to project planning, development and management of various programs and projects. It also provided me with an exposure to sharpen my management and leadership skills.**

**19. Experience at University of Mining and Metallurgy (AGH), Krakow, Poland:**

During 1992-93, I was selected by the Ministry of Education, Government of India through UPSC for pursuing my doctoral studies under Polish Government Scholarship/ Fellowship supported by study leave granted by CIL. In the University of Mining and Metallurgy (AGH), Krakow, Poland during 1993-96, I researched in mine ventilation and air conditioning of underground coalmines on the topic titled "Variation of Temperature and Humidity of Cooled Air in Mine Dog Heading Galleries Ventilated through Leaky Duct Lines". During this period, I visited and conducted experiments related to my research in some of the best mechanized longwall mines in Poland. During that period, I had published a number of research papers and was a co-worker in developing a software package (named 'TERM') applicable to the system of auxiliary mine ventilation - in collaboration with Mine Ventilation Section of Polish Academy of Science (PAN), Krakow, Poland. I was awarded with the degree of D.Sc. (Technical Science) by AGH in 1996.

**Poland (with more than two centuries old mining history with 1000m as average depth of mining) is known world-wide for its coal mining expertise in advance mine planning & operation and as a supplier of mining equipment/ machinery. Pursuing doctoral studies in a country like Poland was a boon for me. During my studies, I was exposed to a higher level with academic blend in engineering which has provided me to develop my understanding towards various aspects of mining being developed world-wide.**

**B. Other Initiatives:**

- Govt. nominated 'Recognized Qualified Person (RQP)' of Ministry of Coal (MoC) for preparation of Mining Plan/ Project Report of CMPDIL;
- QCI-NABET accredited 'EIA Co-ordinator' for preparation of EIA/EMP/Mine Closure Plans of CMPDIL;
- Authored/ co-authored more than 41 technical papers;
- Visiting faculty at IICM, CMPDIL & CCL;
- "Eminent Engineer" awardee of IEI, Jharkhand State Centre in 2017 in mining;
- Honorary Secretary, MGMI, Ranchi Branch in 2016-17 – the branch won the MGMI best "Activity Branch" award (2016-17).
- MGMI Excellence Award winner for outstanding contribution to the coal mining industry for 2023-24.



## List of publications of Dr. Anindya Sinha (as Author/ Co-author):

Sl. No	Publication Details (Author's Name, Title of the Paper, Journal Name, Volume, No., Year of Publication, Page No.)
1.	Anindya Sinha; A Heat Balance Study in Road Header Headings in Moonidih Colliery; Thesis/Dissertation for fulfilment of B.Tech (Mining) Degree, IIT (ISM), Dhanbad, March 1984 Thesis Guide: Prof. SP Banerjee
2.	Anindya Sinha; A Computer Application in Prediction of Mine Climate; Thesis/Dissertation for fulfilment of M.Tech (Mine Planning & Design) Degree, IIT (ISM), May 1986 Thesis Guide: Prof. SP Banerjee
3.	Anindya Sinha, Bernard Nowak; Dynamic mathematical model of temperature and humidity of air in blind heading galleries ventilated by forcing duct ventilation (in Polish language); Archives of Mining Science, Cracow, Poland, 1994
4.	Anindya Sinha, Bernard Nowak; Variation of temperature and humidity of air in dog heading gallery ventilated by forcing duct ventilation (in Polish language); Archives of Mining Science, Cracow, Poland, 1995
5.	Anindya Sinha, Bernard Nowak; Temperature and humidity of air in mine galleries with auxiliary exhaust ventilation (in Polish language); Archives of Mining Science, Cracow, Poland, 1995
6.	Anindya Sinha, Bernard Nowak; Specification of microclimate parameters in mine galleries with auxiliary exhaust ventilation (in Polish language); Archives of Mining Science, Cracow, Poland, 1996
7.	Anindya Sinha; Variation of Temperature and Humidity of Cooler Air in Mine Dog Heading Galleries ventilated through Leaky Duct Lines; Thesis/Dissertation for fulfilment of D.Sc (Technical Sciences) Degree in Mine Ventilation and Air Conditioning, University of Mining & Metallurgy (AGH), Krakow, Poland, Jan. 1996 Thesis Guide: Prof. Bernard Nowak, AGH, Krakow, Poland
8.	Anindya Sinha, Bernard Nowak; Variation of temperature and humidity of air in airways ventilated by direct ventilation with installed air cooler; 6 <sup>th</sup> International Mine Ventilation Congress, Pittsburg, 1997
9.	Anindya Sinha, JK Prasad, Utpal Roy; Underground Coal Mining – a Millennium Vision; Journal of The Institute of Engineers (India), Volume 82, August 2001
10.	NC Jha, Dr. A. Sinha; Mining Planning and Economics; Proceedings of 5 <sup>th</sup> Coal Trans Conference, 2006, New Delhi
11.	Dr. A. Sinha; Mechanization of Underground Coal Mines – A Techno-economic Overview; Proceedings of National seminar on “Mechanization of Underground Coal Mines – Challenges and Technical Options”, 2006, Bilaspur
12.	SR Ghosh, Dr. A. Sinha; Productivity Benchmarking of Underground Coal Mines – An Approach; Proceedings of 2 <sup>nd</sup> Indian Mineral Congress and Exhibition, 2007, Dhanbad
13.	SR Ghosh, Dr. A. Sinha; Standardization of Man and Machine Productivity in Underground Coal Mines; Proceedings of World Confederation of Productivity Seminar, June 2007, Missouri

Sl. No	Publication Details (Author's Name, Title of the Paper, Journal Name, Volume, No., Year of Publication, Page No.)
14.	Ashok Kumar Das, Dr. Anindya Sinha; Energy Benchmarking for Ventilation in Underground Coal Mines; Proceedings of 9 <sup>th</sup> International Mine Ventilation Congress, 2009, New Delhi
15.	Dr. Anindya Sinha, Satish Kumar Sinha; Coal Mine Methane – Reaping Rewards; Proceedings of 9 <sup>th</sup> International Mine Ventilation Congress, 2009, New Delhi
16.	Dr. Anindya Sinha; Underground Coal Mining: Technology-wise Financial Analysis; Proceedings of 22 <sup>nd</sup> National Convention of Mining Engineers and National Seminar on Challenges in Development of Mining Blocks to meet National objectives”, The Institution of Engineers (India), Mar.2011, Ranchi
17.	Dr. Anindya Sinha; Steep Seam Coal Mining in Spain: An Experience Sharing; Proceedings of Seminar conducted by MGMI Ranchi Chapter, Mar. 2012, Ranchi
18.	Dr. Anindya Sinha; Technological Issues in Coal Sector; Proceedings of Mining Exploration Convention and Trade Show, Mining MAZMA 2012, Aug. 2012, Bengaluru
19.	Dr. Anindya Sinha, Jayant Chakravarty, Prasoon Kumar Sinha; Opportunities and Challenges in North Karanpura Coalfield of CCL; Proceedings of National Seminar on “Challenges and Opportunities in Exploration & Mining of Coal”, Society of Geo-Scientists, Jun. 2013, Ranchi
20.	Dr. Anindya Sinha, Bratin Basu; Prospects of Enhancing Productivity in Slim-hole Exploratory Drilling through Technical Measures; Proceedings of National Seminar on “Challenges and Opportunities in Exploration & Mining of Coal”, Society of Geo-Scientists, Jun. 2013, Ranchi
21.	Dr. Anindya Sinha; Perspective of Planning & Design for Sustainable and Inclusive Growth in Mining Sector – A case Study; Proceedings of National seminar, IEI, Jun. 2014, Ranchi
22.	Dr. Anindya Sinha; New Technology Requirements in Coal Sector; Proceedings of 4 <sup>th</sup> Annual Conference on Mining Technology in India : Emerging Requirements, New Challenges and Best Practices; Indian Infrastructure, April 2015, New Delhi
23.	Binay Dayal, Dr. Anindya Sinha, Ashish Das; Coking Coal as Raw Material in the Indian Steel Industry – A Way Forward; Proceedings of 30 <sup>th</sup> National Convention of Metallurgical and Materials Engineers & National Seminar on Challenges & Opportunities to produce 300 MTPA Steel – 2030 (COPS 2017); The Institution of Engineers (India), Jan. 2017, Ranchi
24.	Dr. Anindya Sinha; Challenges for sustainable Development of Mining Industry to Meet Energy Security of the Country; Proceedings of 28 <sup>th</sup> National Convention of Mining Engineers & National seminar on “Challenges for Sustainable Development of Mining Industry to Meet Energy Security”(MIES 2017), IEI, Feb. 2017, Ranchi
25.	Dr. Anindya Sinha; Optimum Utilization of Coal for Sustainable Development of the Energy Sector; Proceedings of Conference on Energy Sustainability, July 2017, New Delhi
26.	Dr. Anindya Sinha, Ashish Das, Pritiranjana Singh, Dayamoy Garai; Application of Precise Initiation System and Artificial Neural Network in Open Pit Coal Mine for Controlled Blasting Method; Proceedings of 7 <sup>th</sup> Asian Mining Congress & Exhibition, Nov. 2017, Kolkata



Sl. No	Publication Details (Author's Name, Title of the Paper, Journal Name, Volume, No., Year of Publication, Page No.)
27.	Dr. Anindya Sinha; Indian Coal sector – Challenges and Way Forward; Proceedings of 7th Annual Conference on Mining Tech. in India, 2018, New Delhi
28.	Dr. Anindya Sinha; Indian Coal sector – Challenges and Way Forward; Proceedings of 18th Coal Trans Conference, 2019, New Delhi
29.	Dr. Anindya Sinha; Indian Coal sector – An Outlook; 8 <sup>th</sup> Annual Conference on Mining Technology in India, Mar. 2019, New Delhi
30.	Dr. Anindya Sinha; Indian Coal sector – An Overview; Proceedings of International Workshop on Optimum Utilization of CMM/CBM in India; April 2019, Ranchi
31.	Dr. Anindya Sinha Indian Coal Sector: Balancing Environment & Energy Sustainability; Proceedings of Conference on Mining Technology in India, Jun. 2019, New Delhi
32.	Dr. Anindya Sinha; Prospects of Underground Coal Gasification (UCG) in India; Proceedings of International Workshop on UCG, Ministry of Coal, Nov. 2019, New Delhi
33.	Dr. Anindya Sinha; Indian Coal Sector towards diversified usage of coal; Proceedings of 10 <sup>th</sup> World Petro Coal Congress 2020; Feb. 2020, New Delhi
34.	Dr. Anindya Sinha, P.D. Rathi, Pradeep Kumar, Nandan Kumar Choudhury; SARAS-NCL's approach towards Innovation and Sustainable Development through Scientific Research; Proceedings of 3 <sup>rd</sup> International Conference on Opencast Mining & Sustainability (ICOMS), Jan. 2021, Singrauli
35.	Dr. Anindya Sinha, Prof Arif Jamal, Shiv Raj Singh Environmental Externality for Economic Evaluation of Coal Mining projects; Proceedings of 4 <sup>th</sup> International Conference on Opencast Mining & Sustainability (ICOMS), Dec. 2021, Singrauli
36.	Dr Anindya Sinha, P D Rathi, Nandan Kumar Choudhury, Pradeep Kumar; Converting Waste to Resource – Way to Sustainable OC mining in NCL; Proceedings of 4 <sup>th</sup> ICOMS, Dec. 2021, Singrauli
37.	Dr Anindya Sinha, P D Rathi, Nandan Kumar Choudhury, Subodh Kumar Bhakat, Abhyudaya Saxena, Samprit Bose; Prospecting the implications of UAVs in Mining Industry; Proceedings of 4 <sup>th</sup> ICOMS, Dec. 2021, Singrauli
38.	Dr Anindya Sinha, Sayeed Ghor, Suman Sourabh, Rajen Mech, Devang Dave; Examination of discomfort level from blasting vibrations: Case study of NCL Mines; Proceedings of 4 <sup>th</sup> ICOMS, Dec. 2021, Singrauli
39.	Dr. Anindya Sinha, Satish Jha, Himanshu Wadhwani; Dump Management in NCL mines to accommodate Multistage Expansion with Ever-increasing Stripping Ratio; Proceedings of 5 <sup>th</sup> ICOMS, April 2023, Singrauli
40.	Dr. Anindya Sinha, Suchandra Sinha, Manish Tiwari; Coal to Energy paradigm redefined: 'green' is the new 'black'; Proceedings of 5 <sup>th</sup> International Conference on Opencast Mining & Sustainability (ICOMS), April 2023, Singrauli
41.	Dr. Anindya Sinha, Suchandra Sinha, COAL treads the path of CO2 reduction on its journey of climate transition risk mitigation: 'Green' is the new 'Black'; Proceedings of 1st International Conference on "Mine Ventilation & Environment for Green Mining (MVEGM 2024)", December 2024, Puri.