

पश्चिमबङ्ग पश्चिम बंगाल WEST BENGAL

AG 949554

**MEMORANDUM OF UNDERSTANDING (MOU)**

This MEMORANDUM OF UNDERSTANDING ("MOU" in short) is entered into the 12<sup>th</sup> day of August at Kolkata by and between:

**Indian Institute of Technology (Indian School of Mines) [IIT-ISM] Dhanbad** is an Institute of National Importance established under the Indian Institute of Management Act 2017 located at Dhanbad- 826004, Jharkhand, India.

**AND**

**Coal India limited**, a company incorporated under the Companies Act, 1956 and a public sector undertaking having registered office at Coal Bhawan, Block AF-III, Action Area I, New Town Rajarhat, Kolkata-700156, India (hereinafter called as "CIL" which expression shall unless repugnant of the context or meaning thereof be deemed to mean and include its successors and assign) of the Third Part.

Whereas CIL is interested to train maximum 100 executives from different disciplines through IIT(ISM) on a specifically designed customized training program (as enclosed in ANNEXURE-I) on "Investigation into accidents/ incidents in mines based on root cause analysis techniques".

The training shall be implemented in the following manner and under the following terms:

1. The project shall be governed by the terms and conditions specified in this MoU signed between CIL and IIT(ISM). Agreements already in force between IIT(ISM) and CIL/subsidiaries shall not form part of this project.

**E.D (S&R), CIL**

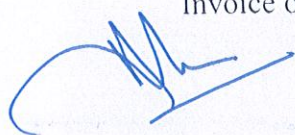




2. Training will be imparted at the IIT-ISM Campus.
3. The candidates for training shall be identified/nominated by CIL.
4. Cost shall remain uniform for up to 100 numbers of trainees.
5. Per person training cost as admitted by both parties is as follows:

Sl No.	Head	Rate
A.	Course fee per participant (in Indian Rupees) (inclusive of GST) The Course fee shall include Course Delivery, Course venue, Course materials, Issue of Course Certificates.	Rs. 41,300/-
B.	Accommodation in single AC Room and fooding for the days of training.	Rs. 13,412/-
C.	Total of (A) and (B) above in Indian Rupees per participant	Rs. 54,712/-

6. The price charged for the training under this program by IIT(ISM) shall in no event exceed the lowest price at which IIT(ISM) will provide such training of identical description and conditions to any party. In case it comes to knowledge during the execution of this project that the per person training rate for an identical course offered by IIT(ISM) is lower than what is agreed under this MoU, CIL shall make the payment at that lower rate for this project.
7. Certificate will be issued to candidates on attending the course for the entire duration and obtaining a minimum 60 marks out of 100 marks in the test. Grade A+ will be given to candidates who scored more/or equal to 85 marks and Grade A will be issued to candidates who score 60 to 84 marks.
8. If a trainee fails to pass the examination, one more chance to appear for the examination should be given to pass the examination.
9. Candidates passing the exam will be awarded a certificate by IIT-ISM in format attached as Annexure A.
10. The total number of trainees may vary. However, the upper limit is 100 trainees.
11. Payment for training of candidates shall be released by CIL directly to IIT(ISM) on a per person basis for a batch.
12. Representatives of CIL/subsidiaries may visit the IIT(ISM) where training activities will be undertaken, for monitoring of training as and when required from commencement of the program to conclusion of the program.
13. On completion of every training program, IIT(ISM) shall submit a report to HRD Department, CIL.HQ towards successful completion of training program along with Invoice of the program & original attendance sheet.

  
E.D (S&R), CIL

  
Sagar





14. IIT(ISM) shall ensure that post training feedback is collected from all the candidates. IIT(ISM) shall send the candidate wise feedback along with necessary details (Name, EIS No., place of posting, etc.) to HRD Department of CIL.
15. Any dispute and differences arising out of this MOU in implementation of the project shall be settled under jurisdiction of Kolkata High Court.
16. There is no principal – agent relationship between CIL/Subsidiaries and IIT(ISM) and thus CIL/Subsidiaries shall not be liable for any act/conduct of IIT(ISM). This MoU is entered only for the purpose of training up to 100 executives of CIL.

IN WITNESS WHEREOF the parties hereto have SIGNED, SEALED AND DELIVERED THE MEMORANDUM OF UNDERSTANDING ON \_\_\_\_\_ at KOLKATA/DHANBAD.


On behalf of CIL

  
Narayan Dash

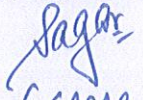
Executive Director (S&R), CIL

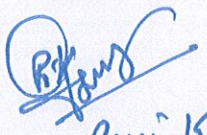
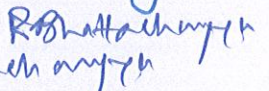
Signed and sealed in presence of:

1. नारायण दाश / NARAYAN DASH  
कार्यकारी निदेशक (सुरक्षा एवं विकास)  
Executive Director (S&R)
2. कोल इण्डिया लिमिटेड / Coal India Limited  
राजराहट, कोलकाता-700156  
Rajarhat, Kolkata-700156

  
(R. C. Nagar)

On behalf of IIT(ISM)

  
Dean (Research & Development)  
Indian Institute of Technology  
(SAGAR PAL) (Indian School of Mines)  
Dean (R&D) Dhanbad - 826004 (INDIA)  
IIT(ISM) Dhanbad

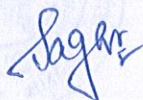
1.   
Ravi Kumar Gangwar
2.   
R. M. Bhattacharyya



## TRAINING PROGRAM ON ACCIDENT INVESTIGATION BASED ON ROOT CAUSE ANALYSIS

Sl. No.	Syllabus & Contents	
1.	INTRODUCTION	Definition: ACCIDENT / INCIDENT / NEAR MISS/ HIGH POTENTIAL INCIDENTS
		Objectives of accident investigation
		Why Investigate?
2.	STEPS OF INVESTIGATION	<b>IMMEDIATE ACTIONS</b> <ul style="list-style-type: none"> <li>• Securing the site</li> <li>• Notification</li> </ul>
		<b>INVESTIGATIONS PLANNING</b> <ul style="list-style-type: none"> <li>• Determining level of investigation</li> <li>• Roles and Responsibilities</li> </ul>
3.	INVESTIGATION PROCESS FLOW CHART	<b>INVESTIGATIONS PLANNING</b>
		<b>DATA COLLECTION</b>
		<b>DATA ORGANISING</b>
		<b>DATA ANALYSIS</b>
		<b>RECOMMEND AND REPORT</b>
4.	INVESTIGATION PROCESS	Site Inspection
		Planning meeting
		Team Safety
5.	INVESTIGATIONS PLANNING	Determining level of investigation
		Investigation Team
		Roles and Responsibilities
6.	INVESTIGATION PROCESS	Gathering information from the incident scene <ul style="list-style-type: none"> <li>• Photography</li> <li>• Preserving evidence</li> <li>• Interviews</li> </ul>
7.	INTERVIEWS	General Principles of Interviewing
		Conducting Interviews
		Witness Statement
		Important points to be considered while interviewing
8.	COLLECTION OF RELEVANT DATA	<ul style="list-style-type: none"> <li>• People related</li> <li>• Environment related</li> <li>• Equipment related</li> <li>• Procedures related</li> <li>• Organization related</li> </ul>

  
E.D (S&R), CIL







17.	RECOMMENDATIONS	Characteristics of Recommendations
		Corrective Action Development
		Hierarchy of Controls
		Tracking Recommendations
		Impact and Potential Benefit Assessment
18.	CONCLUDING THE INVESTIGATION	
19.	TEMPLATE OF ACCIDENT / INCIDENT INVESTIGATION REPORT	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Incident Description</li> <li>3. Events timeline</li> <li>4. Accident causation pathway</li> <li>5. Key Findings <ul style="list-style-type: none"> <li>• Basic cause (i.e. "Why did the incident occur?").</li> <li>• Contributing factors <ul style="list-style-type: none"> <li>○ Absent or failed defences</li> <li>○ Individual or team actions</li> <li>○ Task or environmental condition</li> <li>○ Organisational factors.</li> </ul> </li> </ul> </li> <li>6. Conclusion and Observations</li> <li>7. Recommendations</li> <li>8. Significant Learnings <ol style="list-style-type: none"> <li>a. Accident Analysis</li> <li>b. Corrective Action Plan <ul style="list-style-type: none"> <li>• Recommendation</li> <li>• Responsible Department</li> <li>• Responsible Person</li> <li>• Completion <ul style="list-style-type: none"> <li>• Date</li> <li>• Sign off</li> </ul> </li> </ul> </li> </ol> </li> <li>9. Report Sign-off</li> </ol>
20.	CASE STUDIES	

  
E.D (S&R), CIL

  
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LOGO OF INSTITUTE

Certificate  
Of  
Successful Completion

This is to certify that  
Name: XXXXX

has successfully completed the "Training Program on Accident  
Investigation based on Root Cause Analysis" with assessment and  
examination for the

**'Certified Enquiry Officers'**

Grade: XXXXX

Certificate Number: XXXXX

Course Number: XXXXX

Certified by: Name of Institute

Course Dates: 00/00/2022 to 00/00/2022


Venue: XXXXX

Signature of RCA trained faculty

Signature on behalf of the Institute

Date of Issue of Certificate:

Institute Name & Address

  
F.D (S&R), CIL



