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Government of India
Ministry of Mines
National Mineral Exploration and Development Trust

9th Floor, Jeevan Prakash Building,
25, K.G. Marg, New Delhi.
Date: 05.06.2026

Sub: Circulation of minutes of 2nd meeting of Inter Ministerial Project Sanctioning Committee of NCMM held on 24.04.2026-reg

Please find enclosed herewith the minutes of 2nd meeting of Inter Ministerial Project Sanctioning Committee of NCMM held on 24.02.2026, for kind information.

Encl: As above

राजिव कुमार

(Rajiv Kumar)
Joint Director (Admin. & Legal)
For Director (Projects) & HoD

To,

1. Joint Secretary, National Critical Mineral Mission, Ministry of Mines, New Delhi.
2. Director General, National Mineral Exploration and Development Trust, Ministry of Mines, 9th Floor, Jeevan Prakash, 25 K. G. Marg, New Delhi
3. Director, Jawaharlal Nehru Aluminium Research Development and Design Centre, Nagpur
4. Director (Technical), Ministry of Mines, New Delhi.
5. Director (Projects) & HoD, NMEDT, Ministry of Mines, New Delhi.
6. Deputy Secretary, IFD, Ministry of Mines, New Delhi.
7. Shri V.A.J. Aruna, Superintendent Officer (Ore Dressing), Indian Bureau of Mines, Nagpur
8. Dr. Karthik Dhandapani, Scientist-C, Department of Science and Technology, Technology Bhavan, New Delhi

Copy to:

1. Director, Indian Institute of Science (IISC), CV Raman Road, Bengaluru
2. Director General, Centre for Materials for Electronics Technology (C-MET), Phase-III, HCL Post, Cherlapalli, Hyderabad
3. Director, IIT Hyderabad, IITH Road, Near NH-65, Sangareddy, Telangana
4. Director, IIT Roorkee, Roorkee-Haridwar Highway, Roorkee, Uttarakhand
5. Director, IIT Bombay, Powai, Mumbai, Maharashtra
6. IIT ISM-Dhanbad, IIT ISM Rd, Sardar Patel Nagar, Kalyanpur, Dhanbad, Jharkhand
7. Director, NFTDC, Nagarjun Sagar, Ring Road, Kanchanbagh, Hyderabad, Telangana

8. Director, CSIR-IMMT, Bhubaneswar, Sachivalaya Marg, Doordarshan Colony, Odisha
9. Director, CSIR-National Mineral Laboratory, NML Gate-1 Road, Burma Mines Colony, Burma Mines, Jamshedpur, Jharkhand

Copy for information to:

1. PSO to Secretary, Ministry of Mines, GPOA-3, Netaji Nagar, New Delhi
2. PPS to Joint Secretary (FMN), Ministry of Mines, GPOA-3, Netaji Nagar, New Delhi

Ministry of Mines
National Mineral Exploration & Development Trust
Minutes of 2nd Project Sanctioning Committee (PSC) Meeting of NCMM
held on 24.4.2026 at 4:00PM

The meeting of the 2nd Project Sanctioning Committee (PSC) of the National Critical Minerals Mission (NCMM), constituted under the Guidelines for Pilot Projects for Recovery of Critical Minerals from overburden/tailings/fly ash/red mud etc., was held under the Chairmanship of Shri Sandeep Vasant Kadam, Joint Secretary (NCMM), Ministry of Mines on 23.04.2026 at Aluminium Hall (Mini Conference Hall), Ministry of Mines, GPOA-3, 4th Floor, Zone-3, Netaji Nagar, New Delhi in hybrid mode. The list of participants is given at Annexure-1.

Director, JNARDDC (PMA) presented a brief overview of the Pilot Project Scheme and outlined the agenda items before the Committee.

#	Agenda Item
1	Draft Application Format for proposal submission
2	Draft Annexure "Standard Operating Procedure (SOP) for Pilot Projects for Recovery of Critical Minerals from Overburden / Tailings / Red Mud / Fly Ash etc.

Discussion on Agenda Items:

Detailed deliberations were held on the proposed Application Format and Draft SOP Annexure.

- The PSC observed that the Application Format be modified to include clear funding timelines and milestone-linked industry contributions.
- The Chairperson, PSC suggested that criteria for evaluation of relevant and capable industry partners should be incorporated.
- Director, JNARDDC (PMA) assured that the TEC will examine these aspects during due diligence and incorporate relevant provisions suitably in the SOP.
- The Chairperson suggested that the timeline and structure of industry partner contribution should be clearly defined. The Committee emphasized that industry contribution should be linked to defined milestones and not be deferred to the end of the project. PMA was advised to incorporate this requirement clearly in both the Application Format and SOP.
- The Chairperson directed inclusion of a provision in the SOP stating that extension beyond 24 months may be considered only in exceptional cases, subject to:
 - Proper justification by the CoE
 - Technical review and recommendation by TEC
 - Final approval by PSC
 - PMA to suitably incorporate this clause in the SOP.
- The PSC suggested that PMA should include an indicative list of admissible overheads in the SOP, which should be illustrative and not exhaustive, and that

the actual overheads claimed by the CoE shall be reviewed by the TEC and approved by the PSC.

- It was further noted that while capping of overheads and contingencies may be prescribed in the Application Format, it should be clearly indicated that such provisions are subject to reduction during evaluation, based on the recommendations of the TEC and approval of the PSC.

Action Points

- PMA to update the Application Format to include clear funding timelines and milestone-linked industry contributions.
- PMA to revise and update the SOP incorporating all suggestions and submit for approval.

The meeting concluded with thanks to the Chair.

Annexure-1

List of participants

Sl No	Name	Designation	Mode of joining
1	Shri Sandeep Vasant Kadam Joint Secretary (NCMM)	Chairman	Physical
2	Smt. Geetika Sharma Director (Projects), NMEDT	Member Secretary	Physical
3	Dr Anupam Agnihotri Director, JNARDDC (PMA)	Member	Online
4	Shri Yogendra Singh Bhamboo Director (tech.)	Member	Physical
5	Representative of Dy. Secretary, IFD		
6	Shri Karthik Dhandapani Scientist-C, DST Representative of Dr. Manoranjan Mohanty, Head NAMD, DST	Member	Online
7	Shri V A J Aruna Superintending Officer (Ore Dresser), IBM	Member	Online
8	Shri Seababrata Das, Sr. Geologist (Nominee of Director General, NMEDT)	Member	Physical

APPROVED APPLICATION FOR PILOT PROJECTS UNDER THE MINISTRY OF MINES

(To be submitted by designated Centres of Excellence Hub of Ministry of Mines)

1 BASIC INFORMATION

1.1 Title of the Pilot Project

1.2 Name of the Lead Institution (CoE Hub)

1.3 Project Coordinator (Principal Investigator, CoE Hub)

Name	
Designation	
E-mail	
Mobile	
Institutional Address	

1.4 DETAILS OF INDUSTRY / ACADEMIC / R&D PARTNERS

Table A – Details of Partners

S No	Name of Institution / Partner	Category / Type (Industry Spoke / R&D–Academia Spoke / Other CoE Hub)	Complete Address (including City, State, PIN)	Project Coordinator / PI from Partner Institution (Name, Designation, Email, Mobile)

1.5 Proposed Duration of Pilot Project

Total Duration: ____ Months

2 TECHNOLOGY READINESS & JUSTIFICATION

2.1 Present TRL of the Technology

☐ TRL 5

☐ TRL 6

(Minimum TRL 5 is mandatory; attach supporting documentation)

2.2 Detailed technical project proposal with evidence Supporting TRL

(The uploaded technical note must clearly demonstrate TRL with supporting documentation.)

Attachments must include, but not be limited to:

- ☐ Laboratory validation data
- ☐ Publication(s) / Technical reports
- ☐ Bench-scale study reports
- ☐ Previous trials data
- ☐ Photographs / video evidence
- ☐ Test certificates

(Applicant must upload a consolidated TRL justification document as Annexure–TRL)

2.3 Commercialisation Target

(Upload a note detailing how the pilot will progress the technology to TRL 7–9 and eventual commercial deployment.)

3 PROJECT TEAM – HUB AND SPOKE COMPOSITION

3.1 Participation of Hub-and-Spoke Members

List entities participating in the project:

TABLE A – Roles & Responsibilities of Participating Entities

Sr. No.	Name of Institution / Partner	Category (CoE Hub / CoE Spoke / Industry Partner / PSU / R&D Institution)	Role in the Pilot Project (Technical, Operational, Facility Support, Raw Material Supply, Site Hosting, Testing, Scale-up Engineering)	Specific Responsibilities	Financial Commitment (₹ Lakhs) (Industry only)

4 DETAILED PROJECT PROPOSAL (DPP)

(To be submitted as a comprehensive technical document and attached. The attachment must address ALL items listed below.)

The Detailed Project Proposal shall include, but not be limited to, the following:

4.1 Project Summary (≈250 words)

A concise description of objectives, novelty, relevance, and expected outcomes.

4.2 Comprehensive Technical Description of the Process / Technology

(The uploaded DPP must include the following mandatory annexures:)

Mandatory Technical Annexures to Upload:

- ☐ Process Flow Diagrams (PFDs)
- ☐ Mass & Energy Balances (basis of design, yield assumptions, stoichiometry)
- ☐ Pilot-Scale Engineering Design Drawings
- ☐ Feedstock Assurance Letters from Industry Partner(s)
- ☐ Risk Assessment / HSE Plan

Optional but Recommended Technical Annexures:

- ☐ Scale-up methodology and modelling results
- ☐ Photographs of lab/bench-scale setups (TRL evidence)
- ☐ Dataset supporting mass balance, simulations or trials

4.3 Feedstock / Raw Material Requirement

(Attach a sheet which must include source, composition, quantity, logistics plan, and risk-mitigation strategy.)

4.4 Expected Output and Performance Benchmarks

(The uploaded DPP must explicitly quantify each of the following; attach calculations wherever applicable.)

- Mineral recovery (%)
- Product purity (%)
- Reagent consumption norms (kg/tonne, L/tonne etc.)
- Energy consumption norms (kWh/tonne or MJ/tonne)
- Waste generation & disposal plan
- Environmental compliance parameters (emissions, effluents, solid waste)

5 IMPLEMENTATION PLAN & MILESTONES

TABLE C – MILESTONE, DELIVERABLE AND TIMELINE

Milestone	Deliverables (to be defined by applicant)	Timeline (from T_0 = <i>Date of Fund Receipt</i>)	Indicative Industry Contribution for the Milestone (% / ₹ Lakhs)*
Milestone 1 Scale-up R&D & Engineering Preparation		$T_1 \rightarrow T_0 + M_1$	
Milestone 2 Fabrication & Installation		$T_2 \rightarrow T_1 + M_2$	
Milestone 3 Commissioning, Trials & Pilot Production		$T_{\#} \rightarrow T_2 + M_3$	

*The above values represent indicative industry contribution expected to be realised by the end of each milestone. These are not strict disbursement conditions; however, the CoE shall ensure that the committed contribution is progressively realised and documentary proof is submitted along with Utilisation Certificate (UC) for release of subsequent instalments

6 BUDGET AND FINANCIAL DETAILS

TABLE D – SUMMARY OF BUDGET

Sr. No.	Budget Head	Description	Estimated Cost (₹ Lakhs)	MoM Grant (₹ Lakhs)	Industry Contribution (₹ Lakhs)
1.	Pilot Plant Fabrication & Equipment				
2.	Process Equipment Modification				
3.	Utilities & Consumables				
4.	Feedstock / Raw Material for Trials				
5.	Testing & Analytical Charges				
6.	Safety & Environmental Compliance				
7.	Engineering Consultancy				
8.	Technical Manpower (Project-Specific)				
9.	Scale-up R&D Support				
10.	Overhead				
11.	Contingency (max 5%)				
TOTAL PROJECT COST			₹		

Note:

- *Overhead charges are permitted towards meeting institutional support expenses at the host institute, including provision of infrastructural facilities and administrative support required for execution of the project. These may cover costs related to utilities, office space, IT and communication facilities, accounting and administrative services, and other general institutional support functions.*
- *Overheads and contingencies, though capped as per prescribed limits, shall be subject to reduction during evaluation based on recommendations of TEC and approval of PSC*

7 DETAILED TABLES (Mandatory Attachments)

7.1 Detailed Equipment List – for pilot plant

S No	Equipment Name	Qty	Unit Cost	Total Cost	Essential for Pilot (Y/N)

7.2 Detailed Equipment List – for testing & characterisation

S No	Equipment Name	Qty	Unit Cost	Total Cost	Essential for Pilot (Y/N)

7.3 Raw Material / Feedstock Details

S No	Type of Feedstock	Source	Quantity	Cost (₹)	Transport/Handling Cost (₹)	Industry Partner Assurance (Y/N)

7.4 Manpower for Pilot Project

S No	Designation	No. of Persons	Duration (Months)	Monthly Cost	Total Cost	Justification

7.5 Consumables

S No	Name of Consumable / Reagent / Chemical	Purpose / Use in Process	Estimated Quantity	Total Cost (₹)

7.6 Environment & safety Requirements

S. No.	Environment / Safety Item	Purpose / Use	Quantity	Total Cost (₹)

Scale-up R&D

S. No.	Activity / Item	Description	Estimated Cost (₹ Lakhs)

SECTION 8: DECLARATIONS

8.1 Declaration by CoE (On letter head)

We certify that:

- The project meets the minimum TRL requirement (TRL 5 at application stage).
- All partners are declared upfront as per the Hub-and-Spoke model.
- The proposed expenditures comply with eligible/non-eligible categories.
- Milestones and timelines proposed are realistic and based on internal assessment.
- All submitted data, drawings, and commitments are true to the best of our knowledge.

Signature of Project Lead
Name:
Date:

Signature of the Head of the Institute
Name:
Date:
Seal:

Annexure

Approved Standard Operating Procedure (SOP) for Pilot Projects for Recovery of Critical Minerals from Overburden / Tailings / Red Mud / Fly Ash etc.

1 Purpose

This Standard Operating Procedure (SOP) lays down the operational framework for processing, evaluating, funding, monitoring and closing pilot projects under the “Guidelines for Pilot Projects for Recovery of Critical Minerals from Overburden / Tailings / Red Mud / Fly Ash etc.”

2 Key Definitions

- CoE: Centre of Excellence designated by Ministry of Mines.
- Hub-and-Spoke Network: The structured network of hub (CoE) and associated spokes (industry, academia/R&D partners) identified for a given CoE.
- TRL (Technology Readiness Level): Scale of technology maturity; TRL 5 denotes bench scale validation, TRL 7–9 denotes pilot / pre-commercial / commercial deployment.
- Project Management Agency (PMA): JNARDDC, Nagpur – responsible for coordination, scrutiny, monitoring and reporting.
- TEC: The Technical Experts Cost Committee (TEC), constituted by Ministry of Mines with PMA as a nodal.
- PSC: Project Sanctioning Committee, empowered to accord administrative & financial approval and take decisions on modifications/closures.
- T₀: Zero Date, defined as the date on which the 1st instalment of funds is credited to the CoE’s designated project bank account.

3 Eligibility of Proposals and Number of Projects per CoE

3.1 Eligible Applicant

- As defined under Clause 3A.7.1 of the Guidelines, only the designated Centres of Excellence (CoEs) of Ministry of Mines are eligible to apply as Lead Applicants.
- In addition, proposals must be submitted in partnership with at least one industry partner, preferably from the Hub-and-Spoke network of the applying CoE.

3.2 Minimum TRL Requirement

- The technology must have minimum TRL 5 at the time of application, as established through prior laboratory studies, validation data or technical publications.
- The pilot project shall specifically aim to progress the technology towards TRL 7–9 and eventual commercialisation through industry adoption.

4 Industry Partners and Hub-and-Spoke Participation

4.1 Participation of Hub-and-Spoke Members

- Participation by Hub-and-Spoke members of the respective CoE shall be preferred for all pilot projects, given their formal association and defined roles.
- Their roles, responsibilities and contributions (technical, infrastructural, logistical, financial) shall be clearly defined in the application and detailed project proposal.

4.2 Participation of External Partners

- If participation of any additional entity such as industry, academia, R&D institution, PSU, private laboratory, etc., is required for implementation of the pilot project, such entity shall first be formally included as a Spoke under the respective CoE/Hub, as per the applicable approval mechanism.
- Only after its formal inclusion as a Spoke, the entity may participate in the proposal/application under this scheme, with its role and responsibilities clearly defined in the application.

4.3 Financial Provisions for Partners

- All financial implications for academic or R&D partners shall be borne by the Lead CoE within the sanctioned project funds under the Scheme.
- Project funds shall be released only to the CoE Hub's designated no-lien project account. No funds will be transferred directly to any partner institution.
- If funds are internally transferred by the CoE Hub to partnering institutions for specific activities, the CoE shall:
 - maintain appropriate records;
 - ensure compliance with eligible expenditure norms; and
 - obtain separate Utilisation Certificates (UCs) and supporting documents from each participating institution or partner.

4.4 Accountability and Documentation

- The CoE Hub shall remain fully accountable for financial management, utilisation, and reporting of the entire project, including the activities executed by Spokes.
- PMA/TEC may seek partner-wise UCs, activity reports, or verification documents at any stage.

4.5 Roles and Responsibilities of Industry Partners

- Industry partners are expected to play at least one of the following roles (as applicable):
 - Supply of feedstock/raw material,
 - Provision of site / land and basic utilities for installation of pilot modules,
 - Provision of operational manpower / operator support,
 - In-kind / financial contribution (co-funding, facilities, equipment access),
 - Testing and validation support,
 - Support for post-pilot scale-up / commercialisation.

These details shall be captured in the Partner Details Table of the Application Form.

- The CoE Hub shall be responsible for securing, tracking and ensuring timely realisation of committed industry contributions (financial and/or in-kind). Any delay or shortfall in such contributions shall be the responsibility of the CoE.

5 Application Format and Mode of Submission

5.1 Standard Application Format

- All CoEs shall submit proposals only in the prescribed Application Format (Annexure–I of the Guidelines / Scheme document).

5.2 Download Link for Application Format

- The Application Format is available in the link give below:
Application Form Download Link: <https://jnarddc.gov.in/en/Schemes/pilot-projects-for-CoEs.aspx>

5.3 Mode of Submission (Interim – Before Portal Integration)

- Until an online portal is notified, completed applications (with all annexures and signatures) shall be submitted in soft copy (single PDF) to:
Email: director@jnarddc.gov.in.

6 Screening and Evaluation Process

6.1 PMA (JNARDDC) – Preliminary Scrutiny

Upon receipt of application, PMA shall conduct preliminary scrutiny for:

- completeness of application,
- adherence to eligibility (CoE, TRL, partnership),
- presence of all mandatory annexures / letters,
- basic compliance with budget norms and milestones.

Incomplete proposals may be returned for rectification within a specified time frame.

6.2 TEC Evaluation using Standard Criteria

- Eligible proposals shall be placed before TEC for technical and financial evaluation.
- TEC shall evaluate proposals using the Evaluation Criteria for CoE-led Pilot Project Proposals based on following parameters:

Criterion	Description	Max marks	Minimum marks for eligibility
Technical Maturity & Readiness Level (TRL)	Demonstrated lab-scale success; completeness of experimental evidence; readiness for pilot deployment ($\geq$ TRL 5)	25	20
Engineering Feasibility & Pilot Design	Quality of process flow-sheet, mass balance, equipment design, safety/environmental considerations, integration with partner facilities	25	15
Relevance, Strength and Capability of Industry Partner	Relevance of the industry partner to the proposed pilot project; prior experience in the concerned sector/technology area; technical and operational capability; availability of site/facilities; ability to provide feedstock/waste/material support; financial commitment/co-funding; clarity of roles and responsibilities; and potential to support scale-up/commercial deployment	20	10

Economic Viability & Scale-up Potential	Capex/opex reasonableness; expected mineral yield and purity; commercial pathways; long-term impact on Indian supply chain	20	10
Capability & Track Record of CoE	Relevant research experience; past work in critical minerals; available infrastructure; technical manpower	10	5
		100	60

- TEC shall evaluate the criterion “Relevance, Strength and Capability of Industry Partner” out of 20 marks as per the detailed sub-criteria given below.

Sub-criteria for “Relevance, Strength and Capability of Industry Partner”	Max marks
Relevance of industry partner to the proposed pilot project / technology area	4
Technical capability and prior experience in relevant sector	4
Infrastructure / site readiness / facility support (if applicable)	3
Feedstock / raw material / sample / testing / validation support, wherever applicable	3
Financial commitment / co-funding / in-kind contribution	3
Clarity of role, responsibility and potential for scale-up / commercialization	3
Total	20

- TEC may consider the applicability of each sub-criterion based on the nature of the proposal and the role of the industry partner; however, the industry partner shall obtain a minimum of 10 marks out of 20 under this criterion for eligibility.
- In cases where the proposed industry partner does not obtain the minimum 10 marks under this criterion, the inclusion of such industry partner shall be subject to the specific recommendation of the TEC and subsequent approval of the PSC.
- TEC may seek clarifications, call for additional presentations, and/or arrange site visits if needed.
- TEC shall record its assessment and recommendations in a structured format (including suggested modifications to milestones, budget heads, and timelines) and forward them to PSC.

7 Financial Norms – Eligible and Non-Eligible Expenditures

7.1 Eligible Expenditures

7.1.1 Pilot-scale Plant Establishment & Engineering

- a) Fabrication, erection, installation and commissioning of pilot-scale modules.
- b) Procurement, modification or refurbishment of process equipment.

7.1.2 Utilities & Operational Inputs

- a) Consumables required for pilot trials like reagents, acids, organic solvents extractants, precipitants, adsorbents catalysts, membranes, filter media etc.
- b) Feedstock / raw material required for trials, including mine tailings, red mud, ash, overburden samples, industrial/e-waste feedstock for critical mineral extraction, etc.

7.1.3 Testing, Characterisation & Analytical Facilities

- a) Testing and analytical equipment required for process / product validation
- b) Charges for testing at external accredited labs.

7.1.4 Safety, Monitoring & Compliance

- a) Safety, environmental monitoring instruments, PPE, emission analysers, gas scrubbers, effluent treatment provisions.
- b) Temporary safety equipment required to run pilot operations.

7.1.5 Engineering & Technical Support

- a) External engineering consultancy (process design, PFD/P&ID, material balance, pilot layout, scale-up modelling).
- b) Hiring of specialised technical manpower only for pilot operations (Salary of permanent institutional staff is non-permissible.)

7.1.6 Scale-up R&D Supporting Activities

- a) Research activities directly supporting scale-up.
- b) Consumables and accessories needed to run intermediate scale experiments.
- c) Field visits, sample collection, logistics essential to pilot deployment.

7.2 Non-Eligible Expenditures

- Basic research, exploratory work or routine academic R&D.
- Construction of new buildings, laboratories, office spaces, roadworks.
- Permanent staff salaries, administrative staff.
- Routine administrative expenses (telephone, stationery, office equipment).

- Foreign travel (unless uniquely required & specifically approved).
- Outsourcing the entire pilot execution to a third party.

7.3 Budget Ceilings / Reasonableness

- The following indicative sub-ceilings are prescribed to ensure balanced allocation of the Ministry's grant across major expenditure heads and to maintain uniformity and financial discipline across all pilot project proposals.

Budget head / Expenditure category	Sub-Ceiling / Limit
Raw Materials / Feedstock for Trials	Max 10%
Consumables, Reagents, Chemicals, Expendables	Max 10%
Characterisation / testing equipment	Max 10%
Scale-up R&D	Max 10%
Contingency	Max 10% or ₹ 75 lakhs whichever is lower
Overheads	Max 5% or ₹ 50 lakhs whichever is lower

- Overheads and contingencies, though capped as per prescribed limits, shall be subject to reduction during evaluation based on recommendations of TEC and approval of PSC.
- Overhead charges are permitted towards meeting institutional support expenses at the host institute, including provision of infrastructural facilities and administrative support required for execution of the project. These may cover costs related to utilities, office space, IT and communication facilities, accounting and administrative services, and other general institutional support functions.

8 Fund Disbursement and Milestone Framework

8.1 Zero Date (T_0)

- T_0 is defined as the date on which the 1st instalment of funds (40% of sanctioned cost) is credited to the CoE's designated no-lien project bank account.

8.2 Instalment Structure

- Fund release shall follow the four-instalment, milestone-based framework described in the Guidelines:

Instalment	Trigger for Release	% of MoM Grant
1 st	Signing of Agreement	40%
2 nd	Completion of Milestone 1 + Audited UC submission	20%
3 rd	Completion of Milestone 2 + Audited UC submission	20%
4 th	Completion of Milestone 3 + Final Report + Audited UC submission	20%

8.3 Mandatory Milestones

- All projects shall be structured into three mandatory engineering milestones:
 - Milestone 1: Scale-up R&D & Engineering Preparation – design, layout, procurement planning, initial raw materials & equipment.
 - Milestone 2: Fabrication & Installation – fabrication/modification of pilot modules and installation with utilities.
 - Milestone 3: Commissioning, Trials & Pilot Production – commissioning, pilot operation for agreed duration, data collection and validation.

Milestone	Deliverables	Timeline (<i>from T_0 = Date of Fund Receipt</i>)	Indicative Industry Contribution for the Milestone (% / ₹ Lakhs)*
Milestone 1: Scale-up R&D & Engineering Preparation	To be defined by Applicant	$T_0 + M_1$	
Milestone 2: Fabrication & Installation	To be defined by Applicant	$T_0 + M_2$	
Milestone 3: Commissioning, Trials & Pilot Production	To be defined by Applicant	$T_0 + M_3$	

- The CoE shall define specific deliverables and M_1 , M_2 , M_3 timelines in the Application Form; TEC may modify or refine these.

- Release of subsequent instalments shall be subject to submission of UC along with verifiable proof of industry contribution corresponding to the stage of project implementation. Non-submission of such proof may lead to withholding or deferment of further fund release.

8.4 Compliance & Verification

- PMA shall verify milestone completion through reports, data, photographs / videos and, where necessary, site visits.
- Submission of Utilisation Certificate (UC) for each instalment shall be accompanied by documentary proof of corresponding industry contribution (cash and/or in-kind), including bank statements, invoices, purchase orders, or certified valuation of in-kind contributions.
- TEC shall record milestone satisfaction before recommending next instalment.
- Final instalment shall be contingent on verified pilot performance, final report and audited utilisation certificates.

9 Project Duration and Extensions

- The maximum duration of a pilot project under the Scheme shall be up to 24 months from T_0 .

9.1 Extension Beyond 24 Months

- Extension of project duration beyond 24 months may be considered only in exceptional cases, subject to: (i) submission of proper justification by the CoE; (ii) technical review and recommendation by TEC; and (iii) final approval by PSC.

10 Project Bank Account and Financial Management

- Each CoE sanctioned a pilot project shall open and maintain a separate no-lien project bank account exclusively for receipt and utilisation of Scheme funds.
- All receipts and payments related to the pilot shall be routed only through this account.
- CoE shall maintain separate ledgers, vouchers and records for the project to facilitate audit.
- Annual and final Utilisation Certificates (UCs) and audited statements shall be submitted as per timelines specified by PMA.

11 Monitoring, Reporting and Outcome Documentation

- CoEs shall submit quarterly progress reports (technical and financial) to PMA.

- PMA shall compile and place monitoring reports before TEC/PSC at appropriate intervals.
- On completion, CoE shall submit:
 - final technical report,
 - performance data (yield, purity, energy, reagents, etc.),
 - environmental and waste management outcomes,
 - commercialisation / scale-up plan with industry partner.

12 General Provisions

- Any matter not explicitly covered in this SOP shall be decided by the PMA / TEC / PSC / Ministry of Mines, and such decision shall be final.
- This SOP may be revised or updated from time to time based on experience with the Scheme, feedback from CoEs, TEC and PSC.