Booklet 06

Critical Minerals, NCMM, Offshore Mining & KABIL: India's Strategic Resources Framework

Critical Minerals, NCMM, Offshore Mining & KABIL: India's Strategic Resources Framework

National Critical Mineral Mission, 30 Critical Minerals, Offshore Areas Act, Deep Sea Mining and KABIL Overseas Acquisitions

Booklet VI of VI — Indian Mining Sector Legal Series

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CHAPTER ONE

Critical Minerals: The 2023 Amendment and Strategic Classification

MMDR Amendment 2023 Schedule Changes, 30 Critical Minerals, Central Government Auction, FIMI and Supply Chain Security

> *India's critical minerals framework — anchored in the MMDR Amendment Act 2023 and the National Critical Mineral Mission — represents one of the most strategically significant developments in Indian mining policy in decades. For mining sector practitioners and investors, understanding this rapidly evolving framework is essential for advising clients at the forefront of India's energy transition and defence manufacturing build-out.*

1.1 The 2023 Amendment: Adding Critical Minerals to the Sixth Schedule

The MMDR Amendment Act, 2023, enacted on 17 August 2023, made two categories of changes relevant to critical minerals. First, it amended the First Schedule to the MMDR Act to add six minerals — lithium, beryllium, niobium, titanium (in native form), tantalum, and zirconium — to the category of minerals whose concessions can only be granted by the Central Government. By adding these six minerals to the category previously occupied only by atomic minerals (uranium,

thorium, etc.) and coal/lignite (under the Coal Mines Act), the Amendment elevated their strategic status to one requiring centralised oversight and auction. Second, and separately, the Ministry of Mines published a list of 30 "critical minerals" for India — based on a methodology developed jointly by MoM, GSI, IBM, and KABIL — that identifies minerals essential for India's clean energy transition (lithium, cobalt, graphite, nickel), defence manufacturing (titanium, beryllium, tantalum, niobium), and strategic technology industries (rare earth elements, germanium, gallium, indium, selenium, tellurium) as priority minerals for domestic development and overseas acquisition. The 30 critical minerals list is the reference framework for India's Critical Mineral Mission's investment and policy priorities, though it does not by itself create additional regulatory consequences — the regulatory consequence of a mineral's criticality is determined by whether it is in the First Schedule (requiring Central Government auction) or listed under the Critical Mineral Mission's incentive and development programmes.

The six minerals added to the First Schedule (lithium, beryllium, niobium, titanium, tantalum, and zirconium) are now subject to a Central Government auction process that differs from the state-administered major mineral auction in several important respects. The Central Government conducts the auction through a competitive bidding process specified in the Mineral (Critical and Strategic Minerals Auction) Rules — rules that specify the eligibility criteria (with higher technical and financial qualification requirements than state mineral auctions, given the strategic sensitivity of the minerals and the large-scale mining and processing operations required), the pre-auction data development requirements (the Ministry of Mines coordinates detailed GSI and MECL exploration of identified mineral blocks before putting them to auction), and the bid evaluation criteria (which may include not just the premium over royalty but also commitments on downstream value addition, technology development, and mineral processing capacity establishment in India). The Central Government's oversight of these auctions — through the Ministry of Mines and with Cabinet-level approval for major concessions — ensures that strategic mineral development is coordinated with national security, energy, and technology policy priorities rather than being managed as a purely commercial matter by individual state governments.

1.2 India's 30 Critical Minerals: List and Classification

India's list of 30 critical minerals — published by the Ministry of Mines in 2023 — identifies the following minerals as critical for India's economic and strategic priorities: Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Nickel, Niobium, Phosphorus (as phosphate rock), Potash, Rare Earth Elements (REEs — Lanthanum, Cerium, Praseodymium, Neodymium, Samarium, Europium, Gadolinium, Terbium, Dysprosium, Holmium, Erbium, Thulium, Ytterbium, Lutetium, Scandium, and Yttrium), Rhenium, Silicon (as metallurgical silicon), Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, and Zirconium. The criticality assessment for each mineral considers:

supply concentration risk (whether a significant proportion of global production is concentrated in a single country, particularly if that country is a strategic competitor); demand growth outlook (projected increases in consumption driven by energy transition, defence, and technology manufacturing); domestic availability (whether India has significant domestic deposits that could reduce import dependence); and substitutability (whether alternatives exist if supply is disrupted). For the legal practitioner advising mining sector clients, the criticality list has immediate practical significance for: identifying which mineral projects qualify for NCMM incentives; determining whether an overseas mineral acquisition by KABIL or other Indian entities will receive government support; and anticipating where future MMDR Act revisions (adding more minerals to the First Schedule or the NCMM priority list) may alter the regulatory and commercial landscape for specific mineral projects.

1.3 Domestic Critical Mineral Resources

India possesses significant domestic resources of several critical minerals, though their development has lagged behind both the scale of the resources and the urgency of the demand. The most commercially significant domestic critical mineral resources include: rare earth elements (India holds approximately 35% of global REE reserves, primarily in the monazite-bearing beach sands of Kerala, Tamil Nadu, and Odisha, and in carbonatite deposits in Rajasthan — but REE production has been limited due to the concentration of REE extraction and separation technology in China and the challenges of developing a domestic REE processing chain); lithium (significant lithium deposits have been identified in Jammu and Kashmir (Reasi district) by the GSI, with resource estimates suggesting a potentially large deposit — though the resource is still being characterised and its commercial viability requires more detailed assessment); cobalt and nickel (limited domestic resources in laterite nickel deposits in Odisha and Andhra Pradesh); titanium (beach sand heavy mineral deposits in coastal states); and graphite (significant graphite resources in Rajasthan, Jharkhand, and Andhra Pradesh, with natural flake graphite deposits that could potentially supply battery anode materials for India's growing EV sector). The gap between India's domestic critical mineral resource potential and its current production reflects both the underdeveloped state of India's mineral exploration infrastructure (with many critical mineral deposits having been identified only at reconnaissance level rather than detailed resource assessment) and the absence until recently of a clear policy and incentive framework for critical mineral development that could attract the investment needed for large-scale mining and processing operations.

CHAPTER TWO

National Critical Mineral Mission (NCMM): Policy and Implementation

NCMM Architecture, Rs. 16,300 Crore Budget, Exploration Targets, Processing Incentives, Recycling and Circular Economy

2.1 NCMM: Mission Architecture and Objectives

The National Critical Mineral Mission (NCMM), approved by the Union Cabinet in February 2025 with a total outlay of Rs. 16,300 crore over seven years, is India's comprehensive policy response to the strategic vulnerability created by its dependence on imported critical minerals. The NCMM's objectives encompass the full critical mineral value chain: accelerating domestic critical mineral exploration (through enhanced GSI and MECL survey programmes targeting critical mineral prospective zones); auctioning identified critical mineral blocks on a fast-track timeline; developing domestic critical mineral processing and refining capacity (through incentives for mineral beneficiation and metallurgical processing); creating national critical mineral stockpiles; supporting recycling and urban mining of critical minerals from end-of-life electronics, batteries, and industrial equipment; and acquiring overseas critical mineral assets through KABIL and other government-supported vehicles. The NCMM is implemented through the Ministry of Mines as the nodal ministry, with coordination from MEITY (for electronics sector demand), the Ministry of New and Renewable Energy (for clean energy technology demand), the Ministry of Defence (for defence manufacturing requirements), the Ministry of Commerce (for trade and export dimensions), and the Department of Science and Technology (for technology development). The NCMM represents a significant step-up from India's previous approach to critical minerals — which was fragmented across multiple departments and lacked a dedicated financial commitment and implementation timeline — to a mission-mode programme with specific targets, timelines, and accountable implementing agencies.

The NCMM's exploration component — targeting 1,000 mineral blocks for detailed exploration and 500 mineral blocks for auction under the critical mineral framework within 7 years — requires a substantial increase in GSI's and MECL's exploration capacity, including: additional drilling equipment and field teams; expanded satellite and airborne geophysical survey programmes; development of new exploration techniques adapted to India's complex geological terrains; and engagement with international geological survey agencies and academic institutions for knowledge and technology transfer. The exploration programmes prioritised under the NCMM focus on: lithium in Jammu and Kashmir and Rajasthan; cobalt and nickel in laterite provinces; REE deposits in coastal placer sands and carbonatites; graphite in metamorphic belts; and vanadium in sedimentary sequences. The acceleration of GSI's geological mapping to cover critical mineral prospective zones at 1:10,000 scale (a much more

detailed scale than the standard 1:50,000 scale national mapping programme) is expected to generate resource estimates of sufficient quality to support competitive auctions for several critical mineral blocks within the NCMM's seven-year implementation window.

2.2 Processing and Beneficiation Incentives

A defining feature of the NCMM is its recognition that critical mineral supply security requires not merely access to raw mineral resources but the development of a complete domestic value chain — from ore extraction through mineral processing, metallurgical separation, and material refinement to the production of the purified mineral compounds and alloys used in batteries, magnets, semiconductors, and other advanced materials. China's dominance in critical mineral processing (particularly REE separation, battery-grade lithium and cobalt processing, and natural graphite purification) is the specific supply chain vulnerability that the NCMM aims to address, and the Mission's processing and beneficiation incentives are designed to catalyse domestic investment in processing facilities that would otherwise be uncompetitive against China's subsidised, integrated processing infrastructure. The NCMM's processing incentives include: production-linked incentives (similar to the PLI scheme in electronics) for domestic manufacturers of battery-grade critical mineral products (lithium carbonate, lithium hydroxide, cobalt sulphate, nickel sulphate, REE oxides and alloys); capital investment subsidies for critical mineral processing facilities of specified minimum capacity; and preferential procurement policies for government-funded green energy and defence projects that direct these captive demand pools to domestic critical mineral material suppliers. The combination of production incentives, capital subsidies, and captive government demand creates a viable business case for investment in critical mineral processing that market economics alone would not support in the current competitive environment — and legal practitioners advising investors in this space must understand the specific incentive frameworks applicable to their client's proposed processing activities.

CHAPTER THREE

KABIL: Overseas Critical Mineral Acquisition Framework

KABIL Structure, Country Partnerships, Argentina Lithium, Australia Cobalt-Cobalt-Lithium Agreements and Legal Framework for Overseas Mineral Assets

3.1 KABIL: Mandate and Structure

Khanij Bidesh India Limited (KABIL) — incorporated in August 2019 as a joint venture of three Central Public Sector Enterprises (NALCO: National Aluminium Company Limited, with 40% equity; HCL: Hindustan Copper Limited, with 30%; and MECL: Mineral Exploration and Consultancy Limited, with 30%) — was established with the specific mandate to identify, acquire, and develop critical mineral assets overseas to provide India with security of supply for minerals not available in adequate quantities domestically. KABIL operates as a commercially oriented SPV under the administrative oversight of the Ministry of Mines, with a defined mandate to acquire mineral assets through equity stakes in overseas mining projects, long-term offtake agreements with overseas producers, and joint venture arrangements with foreign government-owned or private mining companies. The legal framework for KABIL's overseas acquisition activities is provided by: the Ministry of Mines' guidelines for KABIL's operations; FEMA (Foreign Exchange Management Act) provisions governing overseas direct investment by Indian entities; the relevant foreign investment and mining laws of the countries where KABIL makes acquisitions; and bilateral investment treaties between India and the host countries that provide investment protection for KABIL's assets. KABIL's acquisitions are eligible for government support (including diplomatic facilitation through Indian embassies, export credit insurance from ECGC, and project financing support from EXIM Bank) that is not available to private sector overseas mineral investors, giving KABIL a potential competitive advantage in negotiating acquisition terms in countries where government-to-government engagement facilitates access to resource assets.

KABIL's most significant completed acquisition is its agreement with JEMSE (Jujuy Energía y Minería Sociedad del Estado) — a government-owned mining company in the Province of Jujuy, Argentina — for exploration rights in four lithium brine blocks in the Puna region of northwest Argentina. The Jujuy lithium brines are part of the "Lithium Triangle" (Argentina, Bolivia, Chile) that contains approximately 60% of the world's identified lithium resources in the form of high-concentration brines that are less expensive to extract and process than hard rock lithium (spodumene). The KABIL-JEMSE agreement provides India with its first direct stake in overseas lithium resources — an asset that could contribute to India's lithium supply chain for EV batteries as the blocks are developed through exploration to production. The legal structure of the KABIL-JEMSE deal involves: an exploration agreement under Argentine mining law; a joint

venture framework specifying KABIL's rights upon commercial discovery; an offtake agreement giving India preferential access to a portion of the lithium carbonate or lithium hydroxide produced from the blocks; and government-to-government framework agreements between India and Argentina supporting the investment.

3.2 Australia, South Africa and Global Partnerships

Beyond Argentina, KABIL has entered into exploration agreements or MoUs with mineral-rich countries to develop critical mineral supply chains: with Australia (a major producer of lithium, cobalt, nickel, and REEs, and India's partner under the India-Australia Critical Minerals Investment Partnership) for access to Australian critical mineral assets; with African countries (including South Africa, Zambia, and the DRC for cobalt and copper) for government-to-government agreements supporting Indian investment in African mining; and with Canada (through bilateral investment promotion channels) for access to Canadian lithium, cobalt, and REE assets. These international partnerships are supported by India's "Mineral Security Partnership" (MSP) engagement — India was invited to join the US-led Minerals Security Partnership in June 2022, a coalition of like-minded countries (including the US, EU, UK, Australia, Canada, Japan, and South Korea) committed to diversifying critical mineral supply chains away from China-concentrated processing. MSP membership provides India with access to shared geological data, technical assistance, and investment co-ordination mechanisms that can facilitate KABIL's overseas acquisition programme alongside the commercial activities of private Indian and partner-country mining companies.

CHAPTER FOUR

Offshore Areas Mineral (Development and Regulation) Act 2002

OAMDR Act Framework, Territorial Waters, EEZ, Continental Shelf, Offshore Concession Types, 2023 Amendments and Regulatory Architecture

4.1 OAMDR Act: Legal Framework for Offshore Mining

The Offshore Areas Mineral (Development and Regulation) Act, 2002 (OAMDR Act) governs the exploration and development of minerals in India's offshore areas — comprising territorial waters (12 nautical miles from the baseline), the contiguous zone (24 nautical miles), the exclusive economic zone (EEZ: 200 nautical miles), and the continental shelf (where it extends beyond 200 nautical miles, to a maximum of 350 nautical miles, as determined under the UN Convention on the Law of the Sea (UNCLOS)). India's offshore areas cover approximately 2.2 million sq. km of ocean floor — an area larger than India's land area — with significant potential for mineral resources including: polymetallic sulphides (copper, zinc, lead, gold, and silver in seafloor hydrothermal vent deposits); polymetallic nodules (manganese, nickel, copper, and cobalt in deep-sea sediment deposits); cobalt-rich ferromanganese crusts (cobalt, nickel, platinum, and REEs in seamount deposits); and heavy mineral-bearing beach and shallow-water placers (titanium, zirconium, rare earths in nearshore sediments). The OAMDR Act was largely inactive for the twenty years following its enactment, with very few concessions granted and minimal exploration activity in India's offshore mineral zones, due to the absence of a supporting regulatory framework and the high technical and financial barriers to offshore mineral exploration and development. The 2023 MMDR Amendment's changes to the OAMDR Act — introducing mandatory competitive bidding for offshore mineral blocks, establishing a dedicated offshore mineral regulatory unit within MoM, and simplifying the concession grant procedure — are intended to activate the dormant offshore mineral sector and attract the international deep-sea mining companies that have the technology and expertise needed for commercial offshore mineral development.

4.2 Offshore Concession Types and Grant Procedure

The OAMDR Act provides for two types of offshore mineral concessions: an Offshore Reconnaissance Permit (ORP), which authorises the holder to conduct geological and geophysical surveys of a designated offshore area to assess its mineral potential, without conducting any extraction or drilling; and an Offshore Mining Lease (OML), which authorises the holder to conduct mineral extraction operations in the designated area using approved mining methods and equipment. The 2023 Amendment introduced competitive bidding for OML grants — the Ministry of Mines notifies offshore mineral blocks for auction (through a process similar to

the onshore ML auction), evaluates bids, and grants the OML to the highest bidder on the basis of the specified bid parameter. The OAMDR Act's provisions on the environmental framework for offshore mining — requiring an Environment Management Plan as a condition of the OML, compliance with the Environmental Impact Assessment procedures adapted for offshore contexts, and specific provisions for protecting marine ecosystems and fishing communities — provide a basic environmental governance structure that will need to be elaborated through detailed regulations as offshore mining activity develops. The interaction between OAMDR Act concessions and India's obligations under UNCLOS and the International Seabed Authority (ISA) conventions — particularly for mining in the "Area" (the seabed beyond national jurisdiction, where the ISA regulates all mineral extraction under the common heritage of mankind principle) — requires ongoing attention from Indian marine law practitioners.

CHAPTER FIVE

Deep Sea Mining and India's EEZ Mineral Potential

Polymetallic Nodules in the Central Indian Ocean, India's ISA Contract, NCPOR, Deep-Sea Mining Technology and Environmental Considerations

5.1 India's Deep Sea Mining Programme

India's deep-sea mineral exploration programme — coordinated through the National Centre for Polar and Ocean Research (NCPOR) under the Ministry of Earth Sciences — has been active in the Central Indian Ocean Basin since 1987, when India became one of the first countries to register an exploration claim for polymetallic nodules with the International Seabed Authority. India holds an ISA exploration contract for a 75,000 sq. km block in the Central Indian Ocean Basin (the Indian Ocean Nodule Field), where geological surveys have identified significant quantities of polymetallic nodules — potato-sized concretions lying on the ocean floor at depths of 5,000–6,000 metres — containing manganese, nickel, copper, and cobalt in economically interesting concentrations. India's estimated nodule resource in its ISA exploration area is approximately 380 million tonnes, containing approximately 4.7 million tonnes of nickel, 4.3 million tonnes of copper, and 0.65 million tonnes of cobalt — quantities that would significantly contribute to India's critical mineral supply security if commercially extracted. The Deep Ocean Mission, launched by the Ministry of Earth Sciences in 2021 with a budget of Rs. 4,077 crore over five years, provides funding for the development of India's deep-sea mining technology capability — including development of a domestically designed and built deep-sea nodule collection system, a nodule transport system, and an onshore processing pilot plant — as a prerequisite for commercial deep-sea mining operations that India hopes to commence by the late 2020s.

5.2 International Seabed Authority Framework

The International Seabed Authority (ISA), established under UNCLOS and headquartered in Kingston, Jamaica, regulates all mineral resource activities in the "Area" (the seabed and subsoil beyond the limits of national jurisdiction). India is a member of the ISA and participates in the ISA's Council and Assembly deliberations on deep-sea mining regulation. The ISA is currently finalising the "Mining Code" — the comprehensive set of regulations, recommendations, and procedures that will govern the exploitation of mineral resources in the Area, including polymetallic nodules, seafloor massive sulphides, and cobalt-rich ferromanganese crusts. The final Mining Code, expected to be adopted by the ISA Assembly after extended negotiations that have reflected tensions between developing countries seeking benefit-sharing from Area resources and industrialised countries seeking commercially viable exploitation frameworks, will determine the legal and financial terms under which India's ISA contractor can proceed from

exploration to commercial extraction of nodules from the Central Indian Ocean Basin. For legal practitioners advising on deep-sea mining, the ISA Mining Code's provisions on: exploitation licence requirements; environmental impact assessment for deep-sea mining; financial terms (royalties, benefit-sharing, and contractor responsibilities); and liability for environmental damage are the primary legal instruments governing commercial deep-sea mineral activity.

5.3 Environmental Considerations in Deep Sea Mining

Deep-sea mining — particularly the collection of polymetallic nodules from the abyssal plains — raises serious and still incompletely understood environmental concerns that are the subject of active scientific debate and have significantly influenced the ISA's cautious approach to finalising the exploitation Mining Code. The principal environmental concerns include: destruction of benthic (seabed) habitats and communities that have evolved over millions of years in the cold, dark, high-pressure environment of the deep ocean, and which recover extremely slowly (on timescales of decades to centuries) from physical disturbance; generation of sediment plumes from the nodule collection process that may spread over vast areas of the ocean floor, smothering benthic organisms over areas much larger than the directly mined zone; and the long-term cumulative impacts of multiple mining operations on the deep-sea ecosystem, including potential impacts on commercially important fish species whose deep-water habitat may be affected by mining-related disruption. These environmental concerns are addressed in the ISA's environmental management framework — which requires Environmental Impact Assessments, baseline surveys of the regional marine environment, monitoring programmes, and adaptive management obligations — but the scientific uncertainties about deep-sea ecosystem responses to mining disturbance remain significant, and the ISA's precautionary approach to exploitation licensing reflects the recognition that once a deep-sea ecosystem is disturbed by commercial mining, it cannot be quickly restored to its pre-mining state.

Booklet VI Key Takeaways: India's critical minerals framework — combining the MMDR Act 2023 amendments, the National Critical Mineral Mission (Rs. 16,300 crore over 7 years), KABIL's overseas acquisition programme, the OAMDR Act's activated offshore mining framework, and India's deep-sea mining programme — represents a comprehensive national strategy for critical mineral supply security that spans domestic development, overseas acquisition, recycling, and deep-sea extraction. The 30 critical minerals list and the six First Schedule additions define the regulatory and commercial priority landscape. KABIL's Argentina lithium and Australia cobalt agreements are the first concrete steps in India's overseas mineral acquisition strategy. The NCMM's processing and beneficiation incentives aim to develop a domestic value chain, reducing dependence on Chinese processing. Legal practitioners advising in this space require integrated expertise across mining law, environmental law, international investment law, UNCLOS, and ISA regulatory frameworks to provide comprehensive guidance.

EXTENDED ANALYSIS

Critical Minerals and Strategic Resources: Advanced Legal Issues

NCMM Implementation, KABIL Transaction Structures, International Mineral Law, Deep-Sea Mining Legal Framework and India's 2030 Resource Targets

F.1 NCMM Investment: Legal Structures for Private Sector Participation

The National Critical Mineral Mission's objectives require substantial private sector investment alongside government-funded exploration and processing programmes — the government's Rs. 16,300 crore commitment over seven years cannot by itself develop the comprehensive critical mineral value chain that India needs for energy transition and strategic manufacturing security. Private sector participation in critical mineral development will be structured through: concession agreements for Central Government-auctioned critical mineral blocks (under the Mineral (Critical and Strategic Minerals Auction) Rules); joint venture or strategic partnership agreements between private companies and government entities (KABIL, MECL, state mining corporations) for specific critical mineral projects; processing facility investments (by domestic and international battery materials companies, REE separation companies, and specialty metals processors) qualifying for NCMM's processing incentives; and recycling and urban mining businesses (collecting end-of-life electronics, batteries, and industrial equipment for critical mineral recovery) qualifying for NCMM's recycling support. Legal practitioners advising private sector investors in critical minerals must structure investments that: maximise the investor's access to the applicable NCMM incentives (including PLI-type production incentives for processing and capital subsidies for processing facility development); manage the regulatory risk of government policy changes affecting critical mineral concession terms or processing incentive rates; protect the investor's IP in proprietary processing technology or exploration methodology; and provide appropriate exit mechanisms if the investment thesis changes (through transferable concession rights and buyout provisions in JV agreements with government partners).

F.2 International Mineral Acquisition Law: FEMA and Sectoral Regulations

KABIL's overseas mineral acquisitions — and the broader category of Indian private sector overseas mineral investments — are governed by the Foreign Exchange Management Act, 1999 (FEMA) and the Reserve Bank of India's regulations on Overseas Direct Investment (ODI). The RBI's ODI framework permits Indian companies to make overseas equity investments, acquire overseas assets, and incorporate or acquire overseas subsidiaries within specified financial limits and approval requirements. "Automatic route" ODI is available for most commercial overseas investments without RBI prior approval, subject to total ODI not exceeding 400% of the

investing company's net worth; investments beyond this limit or in specific sectors require RBI prior approval. KABIL's investments in overseas mineral assets — being investments by Central PSEs with government backing — are processed through the FEMA automatic route for government-supported ODI with Ministry of Finance concurrence. For private sector Indian mining companies making overseas acquisitions, the FEMA ODI framework, combined with the income tax implications of overseas income (under the applicable tax treaty between India and the host country), the repatriation of dividends and capital gains, and the transfer pricing obligations on any intra-group transactions between the Indian parent and the overseas mining subsidiary, creates a complex multi-jurisdictional tax and regulatory compliance framework that requires integrated legal and tax advisory support across both India and the host country jurisdictions.

F.3 UNCLOS and the Legal Framework for EEZ Minerals

India's exclusive economic zone (EEZ) — extending 200 nautical miles from the baseline along India's 7,516 km coastline — is one of the largest EEZs in the world, covering approximately 2.37 million sq. km of ocean space. Under the UN Convention on the Law of the Sea (UNCLOS), to which India acceded in 1995, India has "sovereign rights" over the EEZ for the purpose of exploring and exploiting, conserving and managing the natural resources (both living and non-living) of the waters superjacent to the seabed and the seabed and its subsoil. These sovereign rights over EEZ minerals are the constitutional and international law basis for the OAMDR Act's regulatory jurisdiction over offshore mineral development within India's EEZ. The distinction between "sovereign rights" (the right to exclude others from exploiting EEZ resources and to regulate EEZ resource exploitation) and full territorial sovereignty (which applies only to India's territorial waters and land territory) has practical implications for the enforcement of the OAMDR Act against foreign vessels that may conduct unauthorised mineral sampling or survey activities in India's EEZ — while India can prohibit and penalise such activities as violations of its EEZ sovereign rights, the enforcement options in the offshore environment are more limited than for violations within India's territorial waters or on its land territory. The development of India's offshore mineral regulatory capacity — including the coast guard and maritime patrol capabilities needed to monitor and enforce against unauthorised offshore mineral activities — is a prerequisite for effectively implementing the OAMDR Act's concession framework as the offshore mineral sector develops.

F.4 Rare Earth Elements: India's Supply Chain Opportunity

India's rare earth element (REE) resources — estimated at approximately 6.9 million tonnes of REO (rare earth oxide) equivalent, making India the fourth largest REE resource holder globally — represent both a strategic supply security asset and an under-exploited commercial opportunity. Indian Rare Earths Limited (IREL), a government enterprise under the Department of Atomic Energy, currently dominates India's REE production through its monazite separation

operations at beach sand processing plants in Kerala, Odisha, and Tamil Nadu. However, India exports most of its REE production in the form of rare earth concentrates or individual oxide powders rather than as the high-purity rare earth alloys, magnets, or catalyst materials that carry significantly higher value — essentially exporting the raw material for value addition that occurs primarily in China. The NCMM's processing incentive framework and the global diversification push by industries dependent on rare earths (automotive (NdFeB magnets for EV motors and wind turbines), electronics (phosphors, catalysts, and polishing compounds), and defence (guidance systems, sonar transducers)) create a window of opportunity for India to develop a domestic REE separation and value-addition chain that could capture a significant share of the growing global REE materials market. Legal practitioners advising REE sector investors — domestic and international — must understand the interface between the Atomic Energy Act's control over monazite (which accompanies all Indian beach sand REE production), the MMDR Act's concession framework for REE deposits (now under Central Government auction for the six First Schedule minerals), and the NCMM's processing incentives, to structure commercially viable and legally compliant REE value chain investment projects.

F.5 India's 2030 Critical Mineral Targets and Legal Preparedness

India's National Critical Mineral Mission and its associated policy commitments establish specific quantitative targets for critical mineral development by 2030: development of at least 500 critical mineral blocks through auction; establishment of domestic processing capacity for at least 20 critical minerals; creation of a strategic mineral stockpile equivalent to 90 days of consumption for specified critical minerals; acquisition of overseas critical mineral assets with an aggregate resource value of specified thresholds; and development of a commercial-scale deep-sea nodule collection and processing demonstration system. Meeting these targets by 2030 — which is less than 6 years from the NCMM's approval — requires accelerated implementation across every dimension of the critical mineral framework: geological exploration, regulatory processing, environmental clearance, project financing, technology procurement, and workforce development. Legal practitioners advising government agencies, mining companies, and investors in the critical minerals space must develop the specialised expertise to support this accelerated development agenda: deep knowledge of the auction framework for First Schedule minerals, OAMDR Act offshore concessions, KABIL's acquisition structures, NCMM incentive programmes, international mineral agreements and technology transfer law, and the environmental and social compliance framework for critical mineral projects in sensitive terrains. The intersection of mining law, environmental law, investment law, international trade law, and energy law in the critical minerals sector creates a uniquely challenging and commercially significant legal practice opportunity that is at the cutting edge of India's strategic resource development agenda.

> **Booklet VI — Complete Summary:** India's critical minerals legal framework is the most

dynamic and rapidly evolving dimension of Indian mining law, reflecting the intersection of domestic industrial policy (energy transition, defence manufacturing, semiconductor development), strategic supply chain security (reducing China-dependence in critical material processing), international resource competition (KABIL overseas acquisitions, Minerals Security Partnership), and frontier resource development (offshore mining, deep-sea nodule exploration). The MMDR Act 2023 amendments, the National Critical Mineral Mission (Rs. 16,300 crore), KABIL's overseas acquisition programme, the OAMDR Act's activated offshore framework, and India's deep-sea mining programme collectively define a comprehensive national critical mineral strategy whose legal implementation will require sustained expertise across multiple legal disciplines for the decade ahead. India's success in executing this strategy will significantly determine its ability to achieve energy transition, defence manufacturing, and strategic technology goals — making critical minerals law one of the most commercially and strategically important specialisations in Indian mining law practice.