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U.S. Interest in Seabed Mining in Areas Beyond National Jurisdiction: Brief Background and Recent Developments

In 1980, Congress passed the Deep Seabed Hard Mineral Resources Act (DSHMRA; P.L. 96-283) as an interim measure to allow the United States to proceed with seabed mining activities in areas beyond national jurisdiction (ABNJ) until an international regime was in place (i.e., the United Nations Convention on the Law of the Sea [UNCLOS]). DSHMRA established a framework for authorizing U.S. citizens (e.g., individuals, corporations) to explore for and recover minerals from the seabed in ABNJ. In general, *exploration* means the at-sea observation and evaluation of seabed mineral resources and the taking of the resource as needed to design and test mining equipment, and *commercial recovery* (or *exploitation*) means the actual at-sea mining and processing of seabed minerals for the primary purpose of commercial use (30 U.S.C. §1403).

Congress authorized the Administrator of the National Oceanic and Atmospheric Administration (NOAA) to issue exploration licenses and commercial recovery permits to U.S. citizens for seabed mining activities in ABNJ (30 U.S.C. §1412). By contrast, for seabed areas within national jurisdiction (i.e., on the U.S. outer continental shelf), the Department of the Interior's Bureau of Ocean Energy Management (BOEM) regulates mineral-related activities. On April 24, 2025, as part of a broader national effort to secure reliable supplies for critical minerals, President Trump issued an executive order (E.O.) titled "Unleashing America's Offshore Critical Minerals and Resources."

Background on UNCLOS and the International Seabed Authority

UNCLOS was adopted in 1982, establishing a comprehensive international legal framework to govern activities related to the global ocean, including seabed mining. In 1994, the Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea (commonly known as the 1994 Agreement) substantially modified the seabed mining provisions of UNCLOS to address concerns held by many industrialized nations. After the adoption of the 1994 Agreement, UNCLOS received the necessary number of signatories for the agreement to enter into force. The United States is not a party to UNCLOS or the 1994 Agreement.

UNCLOS also established the International Seabed Authority (ISA), an autonomous organization that regulates parties to UNCLOS conducting mineral-related activities in ABNJ. The ISA came into existence with the adoption of the 1994 Agreement and became fully operational in 1996. The United States participates as an observer state in the ISA but, as a non-party, has no vote in ISA business and cannot apply for or obtain a contract for seabed mining exploration or exploitation through the ISA. To date, the ISA has issued 31 exploration contracts. China holds five contracts, the most of any country party to UNCLOS.

The ISA has not issued any contracts for exploitation. The ISA is working toward finalizing exploitation regulations. ISA draft exploitation regulations state that exploitation applications will be examined in the order in which they are received. The Metals Company (TMC), a Canadian company, has two ISA exploration contracts through sponsorships with the Pacific Island countries of Nauru and Tonga.

Exploration Licenses Issued Under DSHMRA

In 1984, NOAA issued exploration licenses for four sites located beyond U.S. jurisdiction within a 1.7-million-square-mile-area of the seafloor in the Pacific Ocean, known as the Clarion-Clipperton Zone (CCZ). The CCZ is estimated to contain more cobalt, manganese, and nickel than all known land deposits combined. NOAA issued exploration licenses to four U.S. mining consortia, three of which were multinational private-sector consortia with participating American companies. Under DSHMRA, exploration licenses are initially issued for 10 years (30 U.S.C. §1417(a)). NOAA issued

- **USA-1** to Ocean Minerals Company, comprising Cyprus Minerals and Lockheed Martin Corporation (both American companies);
- **USA-2** to Ocean Management, Inc., comprising Schlumberger Technology (an American company) and Canadian, German, and Japanese companies;
- **USA-3** to Ocean Mining Associates, comprising Essex Minerals Co. and Sun Ocean Ventures, Inc. (both American companies) and Belgian and Italian companies; and
- **USA-4** to Kennecott Consortium, comprising Kennecott Utah Copper Corporation (an American company) and British, Canadian, and Japanese companies.

NOAA issued these four exploration licenses 10 years before UNCLOS entered into force and 12 years before the ISA became operational. NOAA has not issued any exploration licenses since 1984, although the agency has approved extension requests. A license can be extended by five-year periods (30 U.S.C. §1417(a)). NOAA has not issued any commercial recovery permits.

Two of the four exploration licenses issued by NOAA have been surrendered. In 1997, Ocean Mining Associates relinquished USA-3. In 1999, Ocean Management, Inc., the holder of USA-2, dissolved and, because the conditions for holding an exploration license were no longer met, NOAA considered USA-2 relinquished (64 *Federal Register* 3563).

USA-1 and USA-4 remain the only active exploration licenses issued by NOAA pursuant to DSHMRA. Lockheed Martin currently holds both exploration licenses; it became the sole holder of these licenses by different means. In 1993, Kennecott Consortium relinquished USA-4 to NOAA (58 *Federal Register* 33933). Ocean Minerals Company, the consortium including Lockheed Martin, applied for USA-4 (58 *Federal Register* 34782), and NOAA issued the license in 1994 (59 *Federal Register* 66942). In 1995, Cyprus Minerals withdrew from Ocean Minerals Company, leaving Lockheed Martin as the sole company overseeing USA-1 and USA-4.

USA-1 and USA-4 are expected to remain in effect through June 2, 2027 (87 *Federal Register* 52743). However, in December 2021, the ISA designated an area of the CCZ that partially overlaps with USA-1 as an *Area of Particular Environmental Interest* (APEI 13), thereby precluding seabed mining activities from taking place in the area. This APEI designation appears to demonstrate that NOAA-issued seabed mining exploration licenses for ABNJ do not have international recognition. This likely would be true for any future NOAA-issued commercial recovery permits. As a non-party to UNCLOS, U.S. citizens may face challenges to protect their claim to explore and/or recover seabed minerals in ABNJ.

Actions taken by Lockheed Martin suggest the company may be divesting from seabed mining. In March 2023, a Norwegian company (Loke Marine Minerals) acquired 100% of UK Seabed Resources, a subsidiary of the United Kingdom-based arm of Lockheed Martin. This acquisition also included the transfer of UK Seabed Resources' two ISA-issued exploration contracts to Loke Marine Minerals. Loke Marine Minerals has since filed for bankruptcy, reportedly in part due to difficulties to raise capital. Other seabed mining companies have struggled to secure investors, leading some to suggest that the "industry is not economically viable."

To extend USA-1 and USA-4 beyond June 2, 2027, Lockheed Martin would need to submit an extension request to NOAA at least six months prior to the expiration date. If the licenses were not extended, U.S. entities could request a transfer of USA-1 and/or USA-4 and NOAA would process the request pursuant to the requirements of 15 C.F.R. §970.516. According to NOAA, the agency may choose not to actively solicit offers for the transfer of these licenses. Congress could consider whether to direct NOAA regarding the solicitation of DSHMRA exploration licenses. Congress also could consider whether to seek information from NOAA, the U.S. Department of State (State), and/or other stakeholders on NOAA's regulatory role in seabed mining as a non-party to UNCLOS.

The E.O., "Unleashing America's Offshore Critical Minerals and Resources," directs NOAA, in consultation with State and BOEM, to expedite the process for reviewing and issuing exploration licenses and commercial recovery permits under DSHMRA, among other actions. Prior to the release of the E.O., TMC announced that its U.S. subsidiary, The Metals Company USA LLC (TMC USA), had formally initiated a process with NOAA to apply for exploration licenses and commercial recovery permits under DSHMRA. As TMC holds two ISA exploration contracts in the CCZ, some speculate that TMC USA's request for a pre-application consultation with NOAA may be part of "a tactic to put pressure on the ISA" to adopt its exploitation regulations.

Recent Congressional Interest

Congress may continue to consider seabed mining issues in the context of TMC and its partners planning to pursue ISA exploitation contracts as well as NOAA exploration licenses and commercial recovery permits later in 2025. Some Members in the 118th Congress called for the Senate to take up UNCLOS, contending that as a party to UNCLOS, the United States would be able to participate in setting and voting on ISA policies. Other Members in the 118th Congress called on the ISA to adopt its regulations, claiming critical minerals collected from ABNJ "will enable America to regain reliable and responsible supply chains," independent of China. No such legislation has been introduced in the 119th Congress to date. Congress could weigh the advantages and disadvantages of giving U.S. entities access to ISA contracts through U.S. accession to UNCLOS as a means to diversify its critical mineral supply chain. As a non-party to UNCLOS, Congress may consider any potential geopolitical consequences of NOAA issuing commercial recovery permits outside the ISA framework.

In the 119th Congress, some Members introduced legislation (H.R. 664) to prohibit NOAA from issuing licenses and permits for seabed mining activities in ABNJ until more scientific information is known about its potential impacts. This bill also would direct NOAA, along with the National Academies of Sciences, Engineering, and Medicine, to study the environmental impacts of mining activities. H.R. 663 would instruct the President to call for an international seabed mining moratorium until the ISA adopts a regulatory framework based on comprehensive scientific understanding of the potential impacts on the ocean.

Other Members have considered the potential for additional supply of critical minerals that could be achieved through the domestic processing and refining of seabed minerals. H.Rept. 118-125, the House Armed Services Committee (HASC) report accompanying its reported version of the National Defense Authorization Act for Fiscal Year 2024 (P.L. 118-31), directed the Department of Defense (DOD) to submit a report to the HASC assessing the processing of polymetallic nodules (PMNs), a type of seabed mineral deposit, in the United States. The joint explanatory statement accompanying the Service Member Quality of Life Improvement and National Defense Authorization Act for Fiscal Year 2025 (P.L. 118-159) authorized a DOD study to assess the feasibility of improving U.S. capabilities for refining PMNs for defense applications. Some Members introduced legislation in the 118th Congress that would have supported sourcing PMNs from allied countries and developing infrastructure to process and refine critical minerals in the United States. Also, some Members in 2023 asked DOD to support TMC USA's grant application to assess the feasibility of developing a refinery for PMN-derived intermediate products in Texas.

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