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# HARD MINERALS ON THE DEEP OCEAN FLOOR: IMPLICATIONS FOR AMERICAN LAW AND POLICY

ROBERT F. PIETROWSKI, JR. \*

In May of 1977, the Third United Nations Conference on the Law of the Sea (UNCLOS)<sup>1</sup> reconvened for its sixth session.<sup>2</sup> The atmosphere of that session was one of optimism that the impasse on deep-sea mining issues could be overcome, thus facilitating the consensus-building needed for continued negotiations toward a law of the sea treaty. When the UNCLOS adjourned in July, however, the new Informal Composite Negotiating Text (ICNT),<sup>3</sup> successor to the 1975<sup>4</sup> and 1976<sup>5</sup> negotiating texts, was viewed widely as impairing prospects for agreement on an international deep-sea mining regime.<sup>6</sup> The head of the United States delegation to the UNCLOS recommended to the President that the United States carefully review both the substance and procedures of the Conference and consider whether the nation's interests were best served by continued negotiations.<sup>7</sup>

This Article provides a review of American deep-sea mining policy and maintains that, under existing international and domestic law, American companies legally may mine the seabed's resources. Moreover, because this nation depends on foreign sources for essential minerals that it otherwise might recover from the seabed, the

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1. The First UNCLOS met in 1958 and produced four conventions. *See* note 34 *infra*. The Second UNCLOS, convened by the General Assembly to define the limit of the territorial sea, adjourned unsuccessfully in 1961. *See* G.A. Res. 1307, 13 U.N. GAOR, Supp. (No. 18) 54, U.N. Doc. A/4090 (1953).

2. *See* notes 58-68 & accompanying text.

3. U.N. Doc. A/CONF. 62/WP. 10 (1977).

4. Single Negotiating Text, U.N. Doc. A/CONF. 62/WP. 8 (1975).

5. Revised Single Negotiating Text, U.N. Doc. A/CONF. 62/WP. 8/Rev. 1 (1976).

6. *See, e.g.*, Testimony of Ambassador Richardson at 14 before the Sen. Comm. on Energy and National Resources, 95th Cong., 1st Sess. (July 26, 1977) (unpublished transcript); N.Y. Times, July 21, 1977, at 2, col. 3; Wash. Post, July 17, 1977, at A18, col. 1.

7. Wash. Post, July 24, 1977, at A8, col. 1.

United States should undertake unilateral action to encourage and protect American deep-sea mining companies.

DEEP-SEA MINING IN PERSPECTIVE: AMERICAN HARD MINERAL SUPPLY DEFICITS AND THE TREND TOWARD CARTELIZATION

The 1973 Arab oil embargo and the 1977 natural gas crisis dramatically demonstrated the United States' vulnerability to curtailment of petroleum supplies. Nonetheless, this nation currently imports forty-two percent of its petroleum needs, an amount that has increased from thirty-six percent in 1973.<sup>8</sup> A situation of greater potential danger exists with steel, the cornerstone of industrialization and national wealth in the United States. Steel cannot be manufactured without manganese, and the United States has no known reserves of that mineral. In addition, many important steel alloys require cobalt and nickel, but the United States has no cobalt reserves and its nickel reserves are equivalent only to two years' consumption.<sup>9</sup>

The danger to the country's national security inherent in these mineral deficits is obvious. Moreover, the instability of present sources of these minerals compounds the risk. The United States imports manganese primarily from Gabon, Brazil, Zaire, France, India, and South Africa; nickel from Canada; cobalt from Zaire and Belgium; and copper from Chile, Peru, and Canada.<sup>10</sup> Of these nations, only Canada, Belgium, and France qualify as "secure" sources. Even Canada, however, has become an unreliable supplier of oil and natural gas, and the cobalt imported from Belgium actually is mined in Zaire.

More importantly, recent actions by the mineral exporting nations evidence a determination to cartelize and to follow the successful example of the Organization of Petroleum Exporting Countries (OPEC). For instance, Article 5 of the Charter of Economic Rights and Duties of States,<sup>11</sup> adopted by the United Nations General Assembly over the objections of the United States, asserts both a positive right to form producer cartels and a correlative duty not to resist the objectives of such ventures. The Charter further demonstrates that only developing countries may take advantage of the right and that the acquiescent duty binds only developed nations. Other examples of the intent of

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8. FEDERAL ENERGY ADMIN., ENERGY IN FOCUS: BASIC DATA 6 (1977).

9. BUREAU OF MINES, U.S. DEP'T OF THE INTERIOR, COMMODITY DATA SUMMARIES 42-43, 99, 112-13 (1976).

10. *Id.*

11. G.A. Res. 3281, 29 U.N. GAOR, Supp. (No. 31) 50, U.N. Doc. A/9631 (1974). Of the nine countries presently supplying more than 90 percent of the American imports of manganese, nickel, cobalt, and copper, none joined with the United States to vote against this resolution.

the country's present natural resource suppliers to form cartels abound.<sup>12</sup> Arguments that the member states of cartels will be incompatible and unable to interact cohesively simply are not persuasive; similar arguments were made with respect to OPEC eight years ago.<sup>13</sup>

In recent years, the recovery of manganese, nickel, and cobalt from manganese nodules found in seabed areas beyond the limits of national jurisdiction has created an alternative to dependence on foreign sources. The United States Department of the Interior estimates that this country can be virtually self-sufficient in manganese, nickel, cobalt, and copper within fifteen years if American companies pro-

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12. Examples include the Group of 77 Manila Declaration and Program of Action for Commodities, Trade Negotiations, Transfer of Resources and Technology, and Economic Cooperation, United Nations Conference on Trade and Development, TD/195 (4th Sess.) (1976), Manila Declaration and Programme, U.N. Doc. 77/MM (III)/49 (1976); the United Nations Industrial Development Organization Lima Declaration, ID/B/155/Add. 1 (1975); the Conference of Developing Countries on Raw Materials, TD/B/c. 1/L. 45 (1975); and the Program of Action on the Establishment of a New Industrial Order, A/RES/3202 (SVI) (1974).

Existing mineral producer cartels include the Intergovernmental Committee on Copper Exporting Countries, the Iron Ore Exporters Associations, the International Bauxite Association, the International Tin Council, the International Cadmium Institute, the International Association of Mercury Producers, the International Phosphate Rock Export Association, and the Primary Tungsten Association. Other cartels are being formed.

13. For example, a recent study prepared for the National Bureau of Standards concluded:

Formation of an effective formal manganese cartel officially sustaining a much higher price for higher grade manganese ore does not appear highly likely in the foreseeable future. . . . The two main deterrents to formation of an effective and aggressive manganese cartel are the incompatibility of those producers which must form the core of such a cartel at its inception, and the long-run elasticity of supply from noncartel producers. Noncartel producers would reap the largest benefit from the output restrictions and consequent higher prices of a cartel, since they can both increase their output and sell it at a higher price. It seems likely that if a cartel attempted to maintain a price of more than two or three times the competitive level enough manganese producers would follow the attractive option of nonparticipation eventually to kill the cartel.

8 CHARLES RIVER ASSOCIATES, POLICY IMPLICATIONS OF PRODUCER COUNTRY SUPPLY RESTRICTIONS 3-4 (1976).

In 1970, the same organization made a similar argument with respect to OPEC's potential effectiveness as a cartel:

OPEC appears to be a loose cartel that will gradually disintegrate in the future. . . . [I]t appears extremely unlikely that OPEC members could cooperate effectively to achieve a price increase. . . . The assumption that OPEC nations would mistakenly decide on a disad-

ceed now with commercial recovery.<sup>14</sup> Although the requisite technology for seabed mining is available, the uncertainty of the ongoing UNCLOS negotiations is a deterrent to further substantial investment and development in ocean mining.

### EXISTING INTERNATIONAL LAW APPLICABLE TO DEEP-SEA MINING OPERATIONS

#### *Geologic and Geomorphic Preliminaries*

Because geologic and geomorphic considerations form the basis for much of the existing law of seabed jurisdiction, an understanding of seabed geology and geomorphology is a prerequisite to any discussion of the legal principles governing offshore mineral production.<sup>15</sup> The earth's outermost solid layer, or "crust," consists of a thin, dense layer of mafic rock in which thicker, less dense blocks of sialic material float in isostatic equilibrium. As relief features of the earth's surface, the sialic blocks form the continents, and the mafic layer forms the abyssal ocean floors. These two types of crust, referred to as "continental" and "oceanic," possess significantly different physical properties. The junction of continental and oceanic crust usually occurs at water depths of 4,000 meters or more. Hence, vast expanses of continental crust lie submerged beneath the world's oceans.

A typical profile of submerged continental crust contains a broad, flat "continental shelf" extending seaward from the shoreline and sloping downward at about 0.1 degree. This area comprises the geologic continental shelf, as distinguished from the legal continental shelf, which, as explained below, embraces the entire submerged prolongation of the continental landmass. At a distance from shore of about seventy-five kilometers and a depth of approximately 130 meters, the downward inclination of the typical continental landmass increases to about four degrees. This steeper incline, which is known as the "continental slope," begins at the frontal edge of the geologic continental shelf, and together these two areas constitute the "continental terrace." At a depth of about 4,000 meters, the continental

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vantageous price increase, even if they could enforce such an increase, also seems to be unlikely.

CHARLES RIVER ASSOCIATES, THE OIL IMPORT QUOTA 95-96 (1970).

14. *Deep Seabed Mining: Hearings on H.R. 1270, H.R. 6017, & H.R. 11879 before the Subcomm. on Oceanography of the House Comm. on Merchant Marine and Fisheries, 94th Cong., 1st & 2d Sess. 81 (1975-76).*

15. The information in this section is derived from Hedberg, *Continental Margins from Viewpoint of the Petroleum Geologists*, 54 AM. ASS'N OF PETROLEUM GEOLOGISTS BULL. 3 (1970).

slope meets the deep ocean floor, but an accumulation of sedimentary debris known as the "continental rise" often obscures this transition from continental crust to oceanic crust. The term "continental margin" embraces the geologic shelf and slope; the landward portion of the rise (that part of the rise overlying the foot of the continental slope) also is often included in the continental margin.

This general description of a typical continental shelf is subject to many exceptions. For example, some coastal states, such as Chile and Peru, have practically no continental shelf: their landmasses drop abruptly to the deep ocean floor within a few kilometers of the shoreline. In parts of the Soviet Union, conversely, the shelf extends seaward for hundreds of kilometers. Moreover, although the downward inclination of the continental slope is usually about four degrees, it may be as much as thirty degrees, and the width of the slope may range from twenty to more than 100 kilometers. Finally, where a continental rise exists, the junction of the rise and the slope may vary in depth from 1,500 to 3,500 meters.

#### *The Area of Coastal State Jurisdiction*

Under existing law a coastal state exercises exclusive rights to explore and exploit the natural resources of certain seabed areas that are adjacent to its coast and beyond its territorial sea.<sup>16</sup> This concept of exclusive seabed resource jurisdiction beyond the territorial sea is known as the doctrine of the continental shelf. Although the area encompassed by these rights generally is referred to as the "continental shelf," a state's exclusive seabed resource jurisdiction extends well beyond the geologic shelf previously described. Therefore, it is necessary to distinguish between the geologic and the legal continental shelf.

Article 1 of the 1958 Geneva Convention on the Continental Shelf defines "continental shelf" for purposes of resource jurisdiction as

the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas.<sup>17</sup>

The legislative history demonstrates clearly that the Article's definition of the continental shelf does not limit resource jurisdiction to the geologic shelf. For example, the International Law Commission,

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16. G. SCHWARZENBERGER, *A MANUAL OF INTERNATIONAL LAW* 138-39 (5th ed. 1967).

17. [1958] 15 U.S.T. 471, 499 U.N.T.S. 311, T.I.A.S. No. 5578.

which drafted the language of Article 1,<sup>18</sup> stated in its 1956 report to the United Nations General Assembly:

While adopting, to a certain extent, the geographical test for the "continental shelf" as the basis of the juridical definition of the term, the Commission therefore in no way holds that the existence of a continental shelf, in the geographical sense as generally understood, is essential for the exercise of the rights of the coastal State as defined in these articles. . . . [E]xploitation of a submarine area at a depth exceeding 200 metres is not contrary to the present rules, merely because the area is not a continental shelf in the geological sense.<sup>19</sup>

The construction of Article 1 most consistent with its legislative history and with state practice was articulated in a 1968 Joint Report to the House of Delegates of the American Bar Association, which took the position that a coastal state's exclusive seabed resource jurisdiction (its legal continental shelf) extends over the entire continental margin.<sup>20</sup> The International Court of Justice (ICJ) implicitly confirmed this interpretation in 1969 in the *North Sea Continental Shelf Cases*,<sup>21</sup> in which the ICJ held, *inter alia*, that a coastal state's resource

18. Report of the International Law Commission to the General Assembly, 11 U.N. GAOR, Supp. (No. 9) 1, U.N. Doc. A/3159 (1956), reprinted in [1956] 2 Y.B. INT'L L. COMM'N 296, U.N. Doc. A/CN. 4/SER. A/1957.

19. 11 U.N. GAOR, Supp. (No. 9), at 41.

20. As stated in the Joint Report:

The Convention's definition of the seaward extent of the coastal state's jurisdiction has been subjected to a number of interpretations.

Some argue that the factor of exploitability would carry the coastal nation's exclusive mineral jurisdiction to mid-ocean. We disagree. Others argue that it should be restricted to waters as shallow as 200 meters or 12 miles from shore. We disagree with this, too.

The better view, in our opinion, is that the "exploitability" factor of the Convention is limited by the element of "adjacency." The exclusive sovereign rights of the coastal nations to the exploration and exploitation of the natural resources of the seabed and subsoil encompass "the submarine areas *adjacent* to the coast but outside the area of the territorial sea." According to this view, therefore, *the exclusive sovereign rights of the coastal nations with respect to the seabed minerals now embrace the submerged land mass of the adjacent continent down to its junction with the deep ocean floor, irrespective of depth.*

AMERICAN BAR ASSOCIATION, JOINT REPORT OF SECTIONS OF NATURAL RESOURCES LAW, INTERNATIONAL AND COMPARATIVE LAW, AND THE STANDING COMMITTEE ON PEACE AND LAW THROUGH UNITED NATIONS, reprinted in SPECIAL SUBCOMM. ON OUTER CONTINENTAL SHELF, 91ST CONG., 2D SESS., REPORT TO THE SENATE COMM. ON INTERIOR AND INSULAR AFFAIRS 35, 37 (Comm. Print 1970), (emphasis supplied) [hereinafter cited as SPECIAL SUBCOMM. REPORT].

21. [1969] I.C.J. 3.

jurisdiction embraced that part of the seabed constituting the "natural prolongation" of its land territory.<sup>22</sup>

Although the particular dispute in the *North Sea Cases* involved seabed areas primarily located in less than 200 meters of water, the court's opinion articulated general rules of continental shelf law that are applicable to seabed areas regardless of depth.<sup>23</sup> The ICJ identified the "most fundamental" of these rules:

[T]he rights of the coastal state in respect of the area of the continental shelf that constitutes a natural prolongation of its land territory into and under the sea exist *ipso facto* and *ab initio*, by virtue of its sovereignty over the land, and as an extension of it in an exercise of sovereign rights for the purpose of exploring the seabed and exploiting its natural resources. In short, there is here an inherent right. In order to exercise it, no special legal process has to be gone through, nor have any special legal acts to be performed. Its existence can be declared (and many states have done this) but does not need to be constituted. Furthermore, the right does not depend on its being exercised.<sup>24</sup>

The court considered the inherent right of a coastal state to exercise sovereignty over the natural prolongation of its land territory to be "enshrined" in, but quite independent of, the 1958 Geneva Convention on the Continental Shelf.<sup>25</sup> It held that international law confers *ipso jure* title to the continental shelf on coastal nations as merely an extension of the dominion that those states previously have established over their land territory.<sup>26</sup>

The ICJ's opinion also makes clear that the doctrine of the continental shelf is a recent phenomenon, having its inception in the Truman Proclamation of 1945.<sup>27</sup> Similarly, the Report of the Special

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22. *Id.* at 54.

23. See Jennings, *The Limits of Continental Shelf Jurisdiction: Some Possible Implications of the North Sea Case Judgment*, 18 INT'L & COMP. L.Q. 819 (1969).

24. [1969] I.C.J. at 22.

25. *Id.*

26. See *id.* at 31, 51.

27. Pres. Proc. No. 2667, 3 C.F.R. 437 (1949). Regarding the Truman Proclamation, the ICJ stated:

Although [the Truman Proclamation of 1945] was not the first or only one to have appeared, it has in the opinion of the Court a special status. Previously, various theories as to the nature and extent of the rights relative to or exercisable over the continental shelf had been advanced by jurists, publicists and technicians. The Truman Proclamation, however, soon came to be regarded as the starting point of the positive law on the subject, and the chief doctrine it enunciated, namely that of the coastal State as having an original, natural, and



Master in *United States v. Maine*<sup>28</sup> concluded that the doctrine was not "initiated" until 1945.<sup>29</sup> Thus, prior to 1945, a coastal state's exclusive rights to seabed resources terminated at the seaward limit of its territorial waters. Beyond that boundary, all seabed areas — the

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exclusive (in short a vested) right to the continental shelf off its shores, came to prevail over all others being now reflected in Article 2 of the 1958 Geneva Convention on the Continental Shelf.

[1969] I.C.J. at 32-33.

28. 420 U.S. 515 (1973).

29. Report of the Special Master at 79-80, *United States v. Maine*, 420 U.S. 515 (1973). The Special Master noted:

Prior to the [Truman Proclamation], rights to the resources of the seabed beyond territorial waters could be obtained only on the basis of prescription or actual occupation and neither the United States nor the defendant States had made any such claim.

The Truman Proclamation of 1945 for the first time claimed for the United States jurisdiction and control over the natural resources of the subsoil and seabed of the continental shelf beyond the three-mile limit of the territorial sea off the coasts of the United States. The Proclamation initiated a new rule of international law in this regard.

*Id.* Similarly, the Supreme Court of Canada, in *Reference re Ownership of Off-shore Mineral Rights*, 65 D.L.R.2d 353 (1967), also found that the principle of the continental shelf was a "recent development." The court premised its holding that Canada, and not British Columbia, had exclusive rights to explore, exploit, and legislate with respect to the continental shelf on a finding that the legal doctrine did not exist before the confederation of the Canadian provinces in 1871; therefore, British Columbia could not have acquired exclusive seabed resource jurisdiction prior to the confederation. The Court stated:

International Law in relation to the continental shelf is a recent development. Lord Asquith of Bishopstone said in the *Abu Dhabi Arbitration* that in the year 1939 it did not exist as a legal doctrine. It was foreshadowed by the agreement between Great Britain and Venezuela and the Truman Proclamation of 1945.

*Id.* at 376 (citations omitted).

The *Abu Dhabi Arbitration* involved a concession contract, entered into in 1939, which granted exclusive petroleum rights to Petroleum Development (Trucial Coast) Ltd. in "the whole of the lands which belong to the rule of the Ruler of Abu Dhabi and its dependencies and all the islands and the sea waters which belong to that area." *Petroleum Development (Trucial Coast) Ltd. v. Sheik of Abu Dhabi*, 1 INT'L & COMP. L.W. 247, 253 (1952) (Lord Asquith, Arb.). In holding that this concession granted no rights beyond Abu Dhabi's territorial waters, Lord Asquith commented upon the continental shelf doctrine:

I should certainly in 1939 have read the expression "the sea waters which belong to that area" not only as including, but as *limited to*, the territorial belt and its subsoil. At that time neither contracting as a legal doctrine did not then exist.

party had ever heard of the doctrine of the Continental Shelf, which

*Id.* at 253.

continental shelf, the continental slope, the continental rise, and the abyssal ocean floor — were legally identical. This fact is of critical importance to the determination of the existing law applicable to the abyssal ocean floor.

### *The Area Beyond National Jurisdiction*

#### *Customary Law: The Practice of States in Seabed Areas Beyond National Jurisdiction*

Although prior to the emergence of the doctrine of the continental shelf during the middle part of this century a coastal state's sovereign rights generally terminated at the seaward extent of its territorial waters, numerous nations nevertheless acquired exclusive rights beyond the territorial sea to such seabed resources as pearl, sponge, coral, oyster, and chank fisheries.<sup>30</sup> These rights had been exercised from time immemorial by certain nations. Immemorial usage was unnecessary to establish such rights, however, and states could obtain exclusive rights to specific deposits of resources (as distinguished from the overlying waters) through exploitation.<sup>31</sup> As the Special Master in *United States v. Maine* concluded: "claims to exclusive rights to the resources of the seabed at least beyond the territorial sea must be based on long enjoyment (prescription) or on actual exploitation (occupation)." <sup>32</sup> Thus, without reference to the doctrine

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30. Prior to the mid-twentieth century, states that exercised exclusive rights with respect to seabed resources beyond the limits of national jurisdiction included Algeria, Australia, Ceylon, Columbia, England, France, Ireland, Italy, Mexico, Panama, the Persian Gulf States (Oman and the Trucial Shaikhdoms), the Philippines, Scotland, Sicily, Tunisia, the United States, and Venezuela. See, e.g., I. BROWNIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 206n.1 (1966); C. COLOMBOS, THE INTERNATIONAL LAW 571 (1965); T. FULTON, THE SOVEREIGNTY OF THE SEA 696-98 (1911); M. McDUGAL, & W. BURKE, THE PUBLIC ORDER OF THE OCEANS 648 (1962); D. O'CONNELL, INTERNATIONAL LAW 571 (1965); E. VATTEL, THE LAW OF NATIONS OR THE PRINCIPLES OF NATURAL LAW 127 (J. Chitty ed. 1839).

31. For example, in his testimony before the Special Master in *United States v. Maine*, Philip C. Jessup, former judge on the ICJ, commented:

[Regarding] this concept of immemorial usage as an alleged source of rights under international law . . . the European powers seemed to acknowledge that East Asian native rulers had something recognizable as sovereignty which they could transfer. Thus, perhaps the Portuguese, Dutch and English acquired prescriptive rights in Ceylon and India from the native authorities.

Testimony of Philip C. Jessup before the Special Master, at 104, *United States v. Maine*, 420 U.S. 515 (1973).

32. *Id.* at 69. Other writers support this conclusion. See, e.g., L. OPPENHEIM, INTERNATIONAL LAW 628-29 (8th ed. 1955); Waldock, *The Legal Basis of Claims*

of the continental shelf, and long before the emergence of that legal principle in 1945, a coastal state unilaterally could acquire exclusive rights in the seabed beyond its national jurisdiction by exploiting the resources located in those areas. Moreover, although these claims technically attached to the resource rather than to the seabed, a necessary element of such rights was the authority to exclude others from the pertinent area and perhaps from the overlying waters as well,<sup>33</sup> which otherwise retained the status of high seas.

When the doctrine of the continental shelf began to emerge as a positive rule of international law in 1945, the resources traditionally harvested from seabed areas beyond the territorial sea became subject to national jurisdiction under this new principle. The doctrine, however, only extended national jurisdiction; it did not alter the international law applicable to state actions in that region of the seabed remaining beyond their jurisdiction, specifically the abyssal ocean floor. Thus, present customary law, unless changed since 1945, permits the unilateral exploitation and acquisition of valuable resources, such as manganese nodules, that are located on the deep ocean floor.

*Conventional Law Applicable to Seabed Areas Beyond National Jurisdiction*

No convention, either bilateral or multilateral, has yet dealt expressly with natural resources in seabed areas beyond the present limit of national jurisdiction. The 1958 Convention on the High Seas,<sup>34</sup>

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to the Continental Shelf, 36 GROTIUS SOCIETY 115, 118 (1951). See also O'Connell, *Sedentary Fisheries and the Australian Continental Shelf*, 49 AM. J. INT'L L. 185, 188-90 (1955).

33. S. SWARTZTRAUBER, *THE THREE-MILE LIMIT OF THE TERRITORIAL SEA* 95-97 (1972).

34. [1962] 13 U.S.T. 2312; 450 U.N.T.S. 82; T.I.A.S. No. 5200. The Convention on the High Seas was drafted by the International Law Commission, established by the United Nations General Assembly in 1947 to codify both existing and emerging international law. Between 1949 and 1956 the Commission prepared and revised numerous articles on the law of the sea, including a general regime for the high seas. The Commission submitted its final report to the General Assembly in 1956. Report of the International Law Commission to the General Assembly, 11 U.N. GAOR Supp. (No. 9), U.N. Doc. A/3159 (1956), reprinted in [1956] 2 Y.B. INT'L COMM'N 253, U.N. Doc. A/CN. 4/SER. A/1956/Add. 1. In 1958, the first United Nations Conference on the Law of the Sea met in Geneva to consider the Commission's draft articles and produced four conventions: the Convention on the Territorial Sea and the Contiguous Zone, [1964] 15 U.S.T. 1608, 516 U.N.T.S. 205, T.I.A.S. No. 5639; the Convention on the Continental Shelf, [1964] 15 U.S.T. 471, 499 U.N.T.S. 311, T.I.A.S. No. 5578; the Convention on Fishing and Conservation of the Living Resources of the High Seas, [1966] 17 U.S.T. 138, 559 U.N.T.S. 285, T.I.A.S. No. 5969; and the Convention on the High Seas.

however, presumably applies to such resources and, by implication, has codified the customary law permitting a state's acquisition of exclusive rights to seabed resources in areas beyond its jurisdiction. Article 2 of the Convention provides:

The high seas being open to all nations, no State may validly purport to subject any part of them to its sovereignty. Freedom of the high seas is exercised under the conditions laid down by these articles and by the other rules of international law. It comprises, *inter alia*, both for coastal and non-coastal States:

- (1) Freedom of navigation;
- (2) Freedom of fishing;
- (3) Freedom to lay submarine cables and pipelines;
- (4) Freedom to fly over the high seas.

*These freedoms, and others which are recognized by the general principles of international law, shall be exercised by all States with reasonable regard to the interests of other States in their exercise of the freedom of the high seas.*<sup>35</sup>

Although Article 2 does not mention expressly a right to exploit the seabed beneath the high seas, it clearly states that the four other freedoms listed are not exclusive. Moreover, the legislative history of Article 2, which derives its substance primarily from the 1955 draft article prepared by the International Law Commission,<sup>36</sup> demonstrates that the drafters considered exploitation of the subsoil beyond national jurisdiction to be a freedom acknowledged by the general principles of international law.<sup>37</sup> Modified slightly, the draft article appears in the Commission's 1956 report as Article 27.<sup>38</sup> In its commentary to Article 27, the Commission explains why exploitation of the ocean floor was not codified specifically as a freedom of the high seas:

The Commission has not made specific mention of the freedom to explore or exploit the subsoil of the high seas. It considered that apart from the case of the exploitation or ex-

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Fifty-five nations, including the United States, have ratified or acceded to the Convention on the High Seas, and therefore are bound in their relations with each other. Moreover, to the extent that they embody the customary law of the high seas, the terms of the Convention are binding on all other nations.

35. 13 U.S.T., at 2314 (emphasis supplied).

36. Report of the International Law Commission to the General Assembly, 10 U.N. GAOR, Supp. (No. 9) 1, U.N. Doc. A/2934 (1955), *reprinted in* [1955] 2 Y.B. INT'L L. COMM'N 21, U.N. Doc. A/CN. 4/SER. A/1955 /Add.1.

37. 10 U.N. GAOR, Supp. (No. 9), at 3.

38. Report of the International Law Commission to the General Assembly, 11 U.N. GAOR, Supp. (No. 9) 7, U.N. Doc. A/3159 (1956), *reprinted in* [1956] 2 Y.B. INT'L L. COMM. 278, U.N. Doc. A/CN. 4/SER. A/1956/Add. 1.

ploration of the soil or subsoil of a continental shelf exploitation has not yet assumed sufficient practical importance to justify special regulation.<sup>39</sup>

This report demonstrates that Article 2 of the 1958 Convention on the High Seas permits the unilateral recovery of manganese nodules from the abyssal ocean floor.<sup>40</sup> Moreover, in codifying existing customary law, Article 2 embraces the legal principle authorizing a state's acquisition of *exclusive* rights to those exploitable seabed mineral resources in areas beyond its national jurisdiction.

#### PROPOSED CHANGES OF EXISTING LAW: THE DETERRENT TO DEEP-SEA MINING

##### *The Common Heritage of Mankind Concept*

On August 17, 1967, United Nations Ambassador Arvid Pardo of Malta submitted a *note verbale* to the Secretary General requesting that the General Assembly include in its agenda an item entitled "Declaration and treaty concerning the reservation exclusively for peaceful purposes of the seabed and of the ocean floor, underlying the seas beyond the limits of national jurisdiction, and the use of their

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39. U.N. GAOR, Supp. (No. 9), at 24.

40. This view has been asserted on numerous occasions by the United States Department of State. For example, in 1970, John R. Stevenson, Legal Adviser, stated:

In the event that [United States] nationals should desire to engage in commercial exploitation prior to the establishment of an internationally agreed regime, we would seek to assure that their activities are conducted in accordance with relevant principles of international law, including the freedom of the seas, and that the integrity of their investment receives due protection in any subsequent international agreement.

*Hearings before the Special Subcomm. on the Outer Continental Shelf of the Sen. Comm. on Interior and Insular Affairs*, 91st Cong., 1st & 2d Sess. 210 (1969-70). And, in 1973, Charles N. Brower, Acting Legal Adviser, reiterated the Department's position that "under international law or the High Seas Convention . . . anyone who has the capacity to engage in mining of the deep seabed [may do so] subject to the proper exercise of high seas rights of other countries involved." *Deep Seabed Hard Minerals: Hearings on H.R. 9, H.R. 7732, and H.R. 12233 before the Subcomm. on Oceanography of the House Comm. on Merchant Marine and Fisheries*, 93d Cong., 1st & 2d Sess. 50 (1973-74). Again, in 1974, John Norton Moore, Chairman of the National Security Council Interagency Task Force on the Law of the Sea, stated: "The Executive Branch continues to hold the view that deep seabed mineral exploitation constitutes a reasonable use of the high seas and is presently permitted under international law." *Mineral Resources of the Deep Seabed: Hearings on S. 1134 before the Subcomm. on Minerals, Materials and Fuels of the Senate Comm. on Interior and Insular Affairs*, pt. 2, 93d Cong., 2d Sess. 994 (1974) [hereinafter cited as *Hearings on S. 1134*].

resources in the interests of mankind.”<sup>41</sup> The *note verbale* included a memorandum declaring the mineral wealth of the deep seabed to be the “common heritage of mankind,” a concept that Pardo reiterated when he later addressed the General Assembly on the matter of a new legal regime for the abyssal ocean floor. According to one commentator, “[t]he General Assembly was electrified by [Pardo’s] elaborate, scholarly assertion of riches on the seabed to be readily harvested with immediate profit.”<sup>42</sup> Although Pardo’s assertions were exaggerated, his assessment of the wealth to be obtained from the ocean floor infused the common heritage concept with immediate and substantial momentum.

Many developing countries that produce minerals for consumption by industrialized nations were alarmed by Pardo’s speech; they perceived the deep seabed as an alternative source for certain minerals and a threat to their export earnings. These states, however, considered Pardo’s proposed regime a means to control the threat. In contrast, other developing countries supported Pardo’s suggestion as a device through which they might share in the enormous profits that, according to Pardo, could be reaped from exploitation of the oceans’ subsoil.

The 1967 General Assembly subsequently established an Ad Hoc Committee to Study the Peaceful Uses of the Deep-Seabed.<sup>43</sup> The following session created a standing committee—the Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor Beyond the Limits of National Jurisdiction—to study the “legal principles and norms which would promote international co-operation in the exploration and use of the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction.”<sup>44</sup> Then, on December 15, 1969, the General Assembly approved the “Moratorium Resolution,” which called for a cessation of all exploitation in seabed areas beyond national jurisdiction pending the establishment of a new international regime to govern such activities.<sup>45</sup>

One year later, the General Assembly passed the “Declaration of Principles,” which provided the following guidelines to govern activities in seabed areas:

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41. U.N. Doc. A/6695 (1967).

42. E. WENK, *THE POLITICS OF THE OCEAN* 260 (1972).

43. G.A. Res. 2340, 22 U.N. GAOR, Supp. (No. 16) 14, U.N. Doc. A/6716 (1967).

44. G.A. Res. 2467A, 23 U.N. GAOR, Supp. (No. 18) 15, U.N. Doc. A/7218 (1968).

45. G.A. Res. 2574D, 24 U.N. GAOR, Supp. (No. 30) 11, U.N. Doc. A/7630 (1969). The resolution was approved by a vote of 62 to 28, with 28 abstentions. The United States and other industrialized nations opposed its passage.

1. The sea-bed and ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction (hereinafter referred to as the area), as well as the resources of the area, are the common heritage of mankind.

2. The area shall not be subject to appropriation by any means by States or persons, natural or juridical, and no State shall claim or exercise sovereignty or sovereign rights over any part thereof.

3. No State or person, natural or juridical, shall claim, exercise or acquire rights with respect to the area or its resources incompatible with the international régime to be established and the principles of this Declaration.

4. All activities regarding the exploration and exploitation of the resources of the area and other related activities shall be governed by the international régime to be established.<sup>46</sup>

To assist in the formulation of an international regime the General Assembly also called for the convening of a Third United Nations Conference on the Law of the Sea.<sup>47</sup>

#### *The 1970 United States Draft Treaty*

On August 3, 1970, the Department of State, over the objections of the ranking members of the Senate Committee on Interior and Insular Affairs,<sup>48</sup> presented a document entitled "Draft United Nations Convention on the International Seabed Area" (Draft Treaty)<sup>49</sup> at a meeting of the United Nations Seabed Committee in Geneva. The Draft Treaty proposed replacing the doctrine of the continental shelf (as it applies beyond the 200 meter isobath) and the freedom of the high seas doctrine (as it applies to the abyssal ocean floor) with a new legal regime,<sup>50</sup> vesting control over the seabed and its resources

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46. G.A. Res. 2749, 25 U.N. GAOR, Supp. (No. 28) 24, U.N. Doc. A/8028 (1970). The Declaration of Principles was adopted by a vote of 108 to 0, with 14 abstentions; the United States supported the resolution.

47. G.A. Res. 2750c, 25 U.N. GAOR, Supp. (No. 28) 26, U.N. Doc. A/8028 (1970).

48. See SPECIAL SUBCOMM. REPORT, *supra* note 20, at 25.

49. U.N. Doc. A/AC.138/25 (1970).

50. Article 1 of the 1970 United States Draft Treaty provided in part: "1. The International Seabed Area shall be the common heritage of all mankind. 2. The International Seabed Area shall comprise all areas of the seabed and subsoil of the high seas seaward of the 200 meter isobath adjacent to the coast of continents and islands." Article 2 further provided:

1. No State may claim or exercise sovereignty or sovereign rights over any part of the International Seabed Area or its resources. Each Contracting Party agrees not to recognize any such claim or exercise of sovereignty or sovereign rights.

2. No State has, nor may it acquire, any right, title, or interest in

in an International Seabed Resource Authority.<sup>51</sup>

In return for their renunciation of sovereign rights to the continental margin beyond the 200 meter isobath, the Draft Treaty offered coastal states a "trusteeship" in this area.<sup>52</sup> As trustee, the coastal state could license exploration and exploitation operations in the areas in which it formerly had exercised exclusive continental shelf jurisdiction.<sup>53</sup> Each nation would retain only part of the revenues generated through its licensing activities, however; the remainder would belong to the International Seabed Resource Authority.<sup>54</sup> With respect to activities on the abyssal ocean floor, the Draft Treaty provided that exploration and exploitation could be conducted only pursuant to licenses issued by the International Seabed Resource Authority.<sup>55</sup> Although the Authority also would be funded in part by revenues produced by these activities,<sup>56</sup> members of the Senate Interior and Insular Affairs Committee recognized that the leasing activities of the immense bureaucracy proposed by the Draft Treaty could not generate sufficient revenues to fund the organization.<sup>57</sup>

#### *The SNT, the RSNT, and the ICNT*

Not surprisingly, the Draft Treaty's proposal regarding the continental margin received little discernible endorsement by the other nations represented at the UNCLOS, nearly eighty percent of whom were coastal states that were unwilling to surrender their sovereign rights to that area. The proposal for the creation of a powerful International Seabed Resource Authority as a means to control access to the ocean's mineral wealth on the seabed beyond the continental margin, however, was embraced by the developing countries. As a result, refinement of this concept has been an integral part of the subsequent work of the UNCLOS.

Following a procedural session in 1973, the first substantive session of the UNCLOS convened in Caracas in June, 1974. The Conference

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the International Seabed Area or its resources except as provided in this Convention.

U.N. Doc. A/AC. 138/25, arts. 1-2.

51. *Id.* art. 5.

52. *Id.* art. 13.

53. *Id.*

54. *Id.* art. 14.

55. *Id.* art. 13.

56. *Id.* art. 14.

57. Letter from Sens. Henry Jackson, Gordon Allott, Lee Metcalf, and Henry Bellmon of the Senate Comm. on Interior and Insular Affairs to Secretary of State William Rogers (July 21, 1970).



distributed its work among three committees: Committee I was to draft proposals for the deep seabed; Committee II was to prepare draft articles relating to the territorial sea, the contiguous zone, the continental shelf, the high seas, and the settlement of disputes; and Committee III was to prepare draft articles on the marine environment, scientific research, and the transfer of technology.<sup>58</sup>

At the conclusion of the third session of the UNCLOS in May, 1975, the chairmen of the three committees released the "Single Negotiating Texts" (SNT).<sup>59</sup> Committee I's SNT consisted largely of a revision of the 1970 United States Draft Treaty. It retained the concept of the International Seabed Authority, composed of an Assembly, a Secretariat, three Commissions, and a Tribunal,<sup>60</sup> which would be vested with absolute control over deep-sea mining.<sup>61</sup> The SNT also provided for revenue sharing,<sup>62</sup> and by virtue of its voting provision placed control over the Authority in the hands of the third world nations.<sup>63</sup> Supplementing the Draft Treaty, however, the SNT also established an "Enterprise" to mine the deep seabed on behalf of the Authority<sup>64</sup> and authorized the transfer of technology from industrialized nations to third world countries.<sup>65</sup>

In 1976, the chairmen of the three committees and the President of the UNCLOS prepared a "Revised Single Negotiating Text" (RSNT)<sup>66</sup> to serve as a basis for continued negotiations.<sup>67</sup> At the completion of the sixth session of the UNCLOS in July, 1977, the President of the Conference released yet another revised text, the "Informal Composite Negotiating Text" (ICNT).<sup>68</sup> Similar to its predecessors,

58. Johnston, *Geneva Update*, in *THE LAW OF THE SEA: U.S. INTERESTS AND ALTERNATIVES* 177, 180, 186 (R. Amacher & R. Sweeney eds. 1975).

59. U.N. Doc. A/CONF. 62/WP. 8 (1975) [hereinafter cited as SNT].

60. *Id.* art. 24.

61. *Id.* art. 21.

62. *Id.* art. 23, ¶ 3.

63. *Id.* art. 25, ¶ 5. This provides that "[e]ach member of the Assembly shall have one vote."

64. *Id.* art. 35.

65. *Id.* art. 11.

66. U.N. Doc. A/CONF. 62/WP. 8/Rev. (1976) [hereinafter cited as RSNT].

67. *Id.* at 1.

68. U.N. Doc. A/CONF. 62/WP. 10 (1977) [hereinafter cited as ICNT]. The ICNT was the result of a major revision of several compromise articles drafted by Jens Evensen of Norway. Although Ambassador Richardson had stated that substantial differences remained between the United States' position and the "Evensen text," the Carter Administration was prepared to accept much of Evensen's work. Nevertheless, after the compromise articles were passed to the Committee I chairman, Paul Bamele Engo of Cameroon, and the Conference had adjourned, the resulting ICNT replaced much of the Evensen text. See McCloskey & Losch, *Congress and the Law of the Sea Conference*, 63 A.B.A.J. 1479 (1977).

the ICNT did not purport to articulate a consensus on the subjects covered; it was to serve only as a basis for further negotiations.<sup>69</sup>

The possibility that the ICNT will become law, however, has adversely affected American companies. Not only has the ICNT deterred some companies from entering the ocean mining business; in addition, pending a final UNCLOS treaty, those corporations conducting preparatory operations are prejudiced severely in their efforts to obtain outside financing. Moreover, the economic threat posed by the ICNT impedes project managers from adequately justifying to their boards of directors the additional investment of corporate funds in ocean mining research and development. Initially, these problems derive from the UNCLOS' failure to protect deep-sea mining investments made before the ratification of any treaty, thereby subjecting those business ventures to the full authority of the proposed regime.<sup>70</sup> Of greater significance, the ICNT effectively would prevent the United States and other major mineral importing nations from ever achieving self-sufficiency with respect to minerals in the deep seabed.

#### *Structure of International Sea-Bed Authority*

The ICNT would establish an International Sea-Bed Authority (Authority) to administer the resources in the deep seabed.<sup>71</sup> The structure of the Authority would afford broad regulatory power over deep-sea mining to the developing countries, who would control its actions. For example, the Authority's proposed legislative body, the Assembly, consists of all parties to the treaty, each of whom is entitled to one vote.<sup>72</sup> Possessing greater authority than the United Nations' General Assembly,<sup>73</sup> the Authority's Assembly would promulgate binding substantive rules upon approval by a two-thirds majority of the members present and voting.<sup>74</sup> As evidenced by their recent tendency to vote as a block in the General Assembly, the developing countries, would be able to amass the required percentage of votes to control the legislative actions of the Authority.

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*See also* Statement of Ambassador Richardson before the Sen. Comm. on Energy and Natural Resources, 95th Cong., 1st Sess. (July 26, 1977) (unpublished transcript).

69. U.N. Doc. A/CONF. 62/WP. 10/Add. 1 (1977).

70. The ICNT not only lacks a "grandfather clause": it expressly declares that no claims except those acquired in accordance with the treaty shall be recognized. ICNT, *supra* note 68, art. 137, ¶ 3.

71. *Id.* art. 154, ¶ 1; *id.* art. 155, ¶ 1.

72. *Id.* art. 157, ¶¶ 1, 5.

73. *See* note 115 *supra* & accompanying text.

74. ICNT, *supra* note 68, art. 157, ¶ 6.

The prejudicial attitude toward developed nations also inheres in the ICNT's provisions establishing the Council, the Authority's executive branch. The Council will consist of thirty-six members elected by the Assembly from five categories of interests.<sup>75</sup> Moreover, neither the United States nor any other nation will possess a permanent membership or a veto power over the Council's activities. Although decisions by the Authority's Council on substantive matters will require a three-fourths majority of the members present and voting,<sup>76</sup> the Council's membership formula does not guarantee that the noncommunist, industrialized states will control a sufficient number of votes to defeat prejudicial actions sponsored by developing nations. Conversely, favorable action will be difficult, if not impossible, to enforce.

*Contractual Arrangements with the Authority*

Requiring that all deep-sea ocean mining be conducted on behalf of the Authority,<sup>77</sup> the ICNT would extinguish the right to mine the ocean floor that presently exists under customary law and that was incorporated in the 1958 Convention on the High Seas. To acquire rights

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75. The Council will be comprised of:

(a) four members from among countries which have made the greatest contributions to the exploration for, and the exploitation of, the resources of the Area, as demonstrated by substantial investments or advanced technology in relation to resources of the Area, including at least one State from the Eastern (Socialist) European region.

(b) four members from among countries which are major importers of the categories of minerals to be derived from the Area, including at least one State from the Eastern (Socialist) European region.

(c) four members from among countries which on the basis of production in areas under their jurisdiction are major exporters of the categories of minerals to be derived from the Area, including at least two developing countries.

(d) six members from among developing countries, representing special interests. The special interests to be represented shall include those of States with large populations, States which are land-locked or geographically disadvantaged, States which are major importers of the categories of minerals to be derived from the Area, and least developed countries.

(e) eighteen members elected according to the principle of ensuring an equitable geographical distribution of seats in the Council as a whole, provided that each geographical region shall have at least one member elected under this subparagraph. For this purpose the geographical regions shall be Africa, Asia, Eastern Europe (Socialist), Latin America and Western Europe and others.

*Id.* art. 159, ¶ 1.

76. *Id.* art. 159, ¶ 7.

77. *Id.* art. 151, ¶ 2.

to minerals located in seabed areas beyond its national jurisdiction a state must comply with the provisions of the proposed treaty,<sup>78</sup> which promote the creation of "joint venture" relationships between contractors and the Authority. Although the President of the UNCLOS has asserted that the ICNT will not "automatically impose joint venture arrangements,"<sup>79</sup> the proposal provides the Authority with discretion to require this type of business association as a condition of awarding a contract.<sup>80</sup> Moreover, in its rules, regulations, and procedures promulgated to govern the financial terms of mining contracts and in its negotiation of such contracts, the Authority must provide incentives for potential miners to undertake joint arrangements with the Enterprise, the entity that will mine the seabed on behalf of the Authority,<sup>81</sup> and developing countries.<sup>82</sup> Further, if the Authority receives competing applications for a particular area, it must give reasonable priority to the parties who are prepared to enter into joint arrangements with the Enterprise.<sup>83</sup> These requirements are consistent with the ICNT's objective of facilitating the rapid creation of a viable Enterprise,<sup>84</sup> which will make available to developing countries the technical expertise they presently lack.

#### *Powers of the International Sea-Bed Authority*

The ICNT would subject "all stages of operations" to the Authority's control.<sup>85</sup> Neither the RSNT, which initially included this provision,<sup>86</sup> nor the ICNT defines this phrase. The Introductory Note to the RSNT prepared by the Committee I chairman, however, stated:

As to the associated activities relating to exploration and exploitation, attention is drawn to paragraph 5 of annex I. This paragraph clearly states that normally a contract covers all stages of operations, although a Contractor may apply for a specific stage or stages. By implication, such stages as feasibility study, construction of facilities, processing, transportation and marketing are clearly not excluded. Thus, the

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78. *Id.* art. 137, ¶ 3.

79. U.N. Doc. A/CONF. 62/WP. 10/Add. 1, at 6 (1977).

80. ICNT, *supra* note 68, Annex II, ¶ 5(i). For a discussion of the distinctions between joint ventures, product sharing agreements, and service contracts see Ely & Pietrowski, *Changing Concepts in the World's Mineral and Petroleum Development Laws*, 1976 B.Y.U.L. REV. 9, 24-34.

81. ICNT, *supra* note 68, art. 169.

82. *Id.* Annex II, ¶ 7(a)(iv).

83. *Id.* ¶ 5(g).

84. ICNT, Explanatory Memorandum by the President, U.N. Doc. A/CONF. 62/WP. 10/Add. 1, at 6 (1977).

85. ICNT, *supra* note 68, Annex II, ¶¶ 3(b), 3(c)(ii).

86. RSNT, *supra* note 66, Annex I, ¶¶ 5, 6.

Authority shall decide what stages of operations are to be included in a contract.<sup>87</sup>

If the Chairman's interpretation is correct, the powers granted to the Authority by the ICNT are all-encompassing and extend to such matters as price control and processing plant location. Moreover, the ICNT provisions directing the Authority's use of its power implement a policy that unmistakably promotes the interests of the developing countries by authorizing discrimination in their favor and restraints on the production and marketing of seabed minerals. The results of this policy are detrimental to the economic interests of the United States.

#### *Power to Deny Access to the Seabed*

The provisions of the ICNT provide the Authority with discretion to deny any state the right to mine the deep seabed. The Authority must negotiate with an applicant only after determining<sup>88</sup> that the resulting contract would ensure "the protection of developing countries from any adverse effects on their economies or on their earnings resulting from a reduction in the price of an affected mineral, or in the volume of that mineral exported, to the extent that such reductions are caused by activities in the Area."<sup>89</sup> Because any production from the ocean floor, in theory, would cause a reduction in the mineral export earnings of landbased producers, the Authority would possess ample authority for denying any particular contract it chooses. Undoubtedly, the proposed regime would exercise its rights of nonnegotiation to further the interests of its majority constituents, the developing nations.

#### *Required Technology Transfers and Compensatory Payments*

The Authority could require industrialized states and their nationals to make direct transfers of technology to the Enterprise as a condition of acquiring rights to mine the deep seabed.<sup>90</sup> The ICNT also specifies that the United States and other industrialized nations shall

87. U.N. Doc. A/CONF. 62/WP. 8/Rev. 1/Part I, at 5 (1976).

88. ICNT, *supra* note 68, Annex II, ¶ 5(c).

89. *Id.* art. 150, ¶ 1(g).

90. *See, e.g., id.* art. 151, ¶ 2(ii); *id.* Annex II, ¶¶ 4(c)(ii), 5(d)(iv). The only requirement for these transfers is that terms be "fair and reasonable," *id.*, a phrase the third-world-dominated Authority will have discretion to construe. In addition to the obligation of contracting parties to transfer mining technology, the ICNT creates a general responsibility for all of its members to cooperate in equitably distributing all pertinent scientific knowledge among themselves and the Enterprise. *See id.* art. 144.

compensate developing countries for their reductions in mineral export earnings resulting from deep-sea mining.<sup>91</sup> Although the ICNT does not expressly identify the source of the funds for this compensatory system, the payments apparently will qualify as “[e]xpenses . . . incurred by the Authority in carrying out the functions entrusted to it under . . . the Convention.”<sup>92</sup> These expenses will be paid from both the General Fund, which consists of the Authority’s receipts from all mining activities,<sup>93</sup> and contributions by members of the Authority as assessed by the Assembly.<sup>94</sup> Because the industrialized nations will generate the receipts arising from mining activities and will be assessed for any required contributions, those countries will bear the burden of replacing the losses of the mineral-exporting nations. In effect, the compensation system penalizes countries such as the United States for engaging in deep-sea mining activities and attempting to achieve a degree of self-sufficiency with respect to certain minerals.

*Power to Establish Production Controls, Quotas, and Cartels*

To maintain world mineral prices, the ICNT permits the Authority to employ several different techniques that control the level of deep-sea mining activities. The most direct restraint requires the Authority to limit the production of manganese nodules: for the first seven years of a period of indeterminate length, production cannot exceed the “projected cumulative growth segment of the world nickel demand”; thereafter the Authority must restrict the permissible nodule yield to sixty percent of this figure.<sup>95</sup> The ICNT contains a mathematical formula for calculating the cumulative growth segment.<sup>96</sup> Presently, however, the extent to which this provision might impede nodule production has not been determined, and the President of the Conference has recognized that “the quantitative aspects of the specific measures to protect developing countries from adverse effects require further negotiations.”<sup>97</sup>

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91. *Id.* art. 150, ¶ 1(g) (D).

92. *Id.* art. 172, ¶ 1.

93. *Id.* art. 170, ¶ 2.

94. *Id.* art. 172, ¶ 2.

95. *Id.* art. 150, ¶ (1) (g) (B) (i). At the conclusion of the first seven years of the interim period, production may not exceed 60 percent of the “cumulative growth segment of the world nickel demand.” *Id.* Moreover, with respect to the production of minerals from sources other than nodules, the Authority may regulate production through any method it deems appropriate. *Id.* art. 150, ¶ (1) (g) (C).

96. *See id.* art. 150, ¶ (1) (g) (B) (iii)-(iv).

97. ICNT, Explanatory Memorandum by the President, U.N. Doc. A/CONF. 62/WP. 10/Add. 1, at 6-7 (1977).

Contemplating another method of production restraint, the ICNT foresees the future inclusion of a quota provision that would limit the number of ocean mining operations in which any nation may engage.<sup>98</sup> Given the Authority's virtually unlimited discretion to deny mining contract applications,<sup>99</sup> however, a quota limitation appears to be superfluous.

The ICNT also authorizes the formation of cartels to manage the marketing of resources produced from the ocean floor.<sup>100</sup> To protect the interests of developing states, the proposed treaty expressly permits the Authority to participate in cartel arrangements.<sup>101</sup> Moreover, the scope of the Authority's participation in a cartel encompasses all mineral production from the seabed, including any production by United States companies.<sup>102</sup>

These three restraints on deep-sea mining all are designed to protect third world countries from the potentially adverse economic effects accompanying a grant to the developed nations of unrestricted access to the ocean floor.<sup>103</sup> Through its provisions limiting mineral recovery and authorizing cartels, the ICNT would perpetuate the United States' dependence on developing nations for its supplies of manganese, nickel, and cobalt.

### *The Banking System*

The ICNT's "banking system" removes one-half of the ocean floor from the recovery opportunities of industrialized countries. The proposed treaty requires that all successful applicants for mining rights submit two potential sites of equal estimated commercial value to the Authority, which will designate the area of its choice for future exploitation by the Enterprise or developing countries.<sup>104</sup> Significantly

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98. ICNT, *supra* note 68, Annex II, ¶ 5(1). See also ICNT, Explanatory Memorandum by the President, U.N. Doc. A/CONF. 62/WP. 10/Add. 1, at 9 (1977).

99. See text accompanying notes 88-89 *supra*.

100. ICNT, *supra* note 68, art. 150, ¶ 1(g)(A).

101. *Id.*

102. *Id.* The relevant text provides: "The participation by the Authority . . . shall be in respect of the production in the Area [seabed] . . ." In contrast, the RSNT authorized the Authority only to participate in cartels "in respect of its production in the Area." RSNT, *supra* note 66, Part I, art. 9, ¶ 4(i).

103. ICNT, *supra* note 68, art. 150, ¶ (1)(g).

104. *Id.* Annex II, ¶ 5(j)(i). This provision provides:

The proposed contract area shall be sufficiently large and of sufficient value to allow the Authority to determine that one half of it shall be reserved solely for the conduct of activities by the Authority through the Enterprise or in association with developing countries. Upon such determination by the Authority the Con-

increasing the exploration costs of applicants, the banking system will require them to spend millions of dollars and years of work to discover and map mine sites that they can never use. Moreover, to demonstrate that both sites are equal in value, an applicant must design mining equipment tailored to the topography and other physical characteristics of each area, conduct the research necessary to discover the most efficient refining process for particular ores, and devise the plans for the necessary processing plants. Because the Authority could not make an intelligent choice between the two tendered sites without a similar expenditure of money and time, the applicant would lose not only half of his investment in prospecting and research activities but also the time required for the Authority's evaluation. In contrast, the Enterprise, the applicant's competitor, would receive the benefits of this expenditure of money and time as a windfall.

#### *Express Power to Discriminate*

In addition to the foregoing burdens placed by the ICNT upon the United States and other industrialized nations, the proposed treaty expressly permits the Authority to favor developing countries in its actions. Although the proposed regime cautions the Authority to avoid discrimination,<sup>105</sup> it defines that term to exclude any special consideration that is given to the developing countries.<sup>106</sup> Thus, in resolving conflicts between industrialized and third world nations, regardless of the merits, the Authority has discretion to attach the amount of additional favoritism that it deems advisable<sup>107</sup> to the position of the developing states. Because this result benefits those countries presently controlling most of the world's supplies of manganese, nickel, cobalt, and copper,<sup>108</sup> the discrimination provision would strengthen further

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tractor shall indicate the co-ordinates dividing the area into two halves of equal estimated commercial value and the Authority shall designate the half which is to be reserved. The Contractor may, alternatively, submit two non-contiguous areas of equal estimated commercial value, of which the Authority shall designate one as the reserved area. The designation by the Authority of one half of the area, or of one of two non-contiguous areas, as the case may be, in accordance with the provisions of this subparagraph, shall be made as soon as the Authority has been able to examine the relevant data as may be necessary to decide that both parts are equal in estimated commercial value.

105. *Id.* art. 150, ¶ 2(a).

106. *Id.* art. 150, ¶ 2(b).

107. The ICNT permits application of this special consideration with no apparent limitation.

108. These countries include: Brazil (manganese), Chile (copper), Cuba (nickel), Gabon (manganese), India (manganese), Morocco (cobalt), New



the third world's already impressive control of many critical mineral resources.

### *Lack of Competent Judicial Review*

The proposed treaty provides exclusive jurisdiction to resolve disputes between member states or their nationals and the Authority to the Sea-bed Disputes Chamber.<sup>109</sup> Contravening fundamental principles of United States administrative law, however, the ICNT expressly withholds from the Chamber jurisdiction to nullify actions by the Council or Assembly that are either ultra vires or an abuse of discretion.<sup>110</sup> In effect, the ICNT's judicial review provisions permit the Authority to promulgate rules, regulations, and procedures that are contrary to the provisions of the treaty.

### *Lack of Right of Withdrawal*

Because the Authority, in effect, may alter the terms of the treaty after its adoption, an express right of withdrawal from the proposed regime should be an essential requirement of the developed nations. Although withdrawal from a treaty which provides therefor always is permissible if effected in compliance with the agreement's relevant provisions,<sup>111</sup> the ICNT contains no such provisions. Therefore, a valid withdrawal from the future treaty must comply with the terms of the Vienna Convention on the Law of Treaties, which provide:

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Caledonia (nickel and cobalt), Peru (copper), the Philippines (copper), Zaire (cobalt and copper), and Zambia (cobalt and copper).

109. ICNT, *supra* note 68, art. 187. The sovereign immunity provisions in the ICNT render the Chamber's jurisdiction exclusive. *Id.* arts. 177-81.

110. In defining the scope of judicial review by the Sea-bed Disputes Chamber the ICNT provides:

In exercising its jurisdiction . . . the Sea-bed Disputes Chamber of the Law of the Sea Tribunal shall not pronounce itself on the question whether any rules, regulations or procedures adopted by the Assembly or by the Council are in conformity with the provisions of the present Convention. Its jurisdiction with regard to such rules, regulations and procedures shall be confined to their application to individual cases. The Sea-bed Disputes Chamber shall have no jurisdiction with regard to the exercise by the Assembly or by the Council or any of its organs of their discretionary powers under this Part of the present Convention; in no case shall it substitute its discretion for that of the Authority.

*Id.* art. 191.

111. Vienna Convention on the Law of Treaties, art. 54(a), U.N. Doc. A/CONF. 39/27 (1969), reprinted in 8 INT'L LEGAL MATERIALS 679, 699 (1969) [hereinafter cited as Vienna Convention]; Harvard Research in International Law, Law of Treaties, art. 34, reprinted in 29 AM. J. INT'L L. 657, 664 (Supp. 1935).

A treaty which contains no provision regarding its termination and which does not provide for denunciation or withdrawal is not subject to denunciation or withdrawal unless:

(a) it is established that the parties intended to admit the possibility of denunciation or withdrawal or

(b) a right of denunciation or withdrawal may be implied by the nature of the treaty.<sup>112</sup>

The United States, however, clearly could not establish that the parties to the treaty intended to permit withdrawal, absent a provision therefor. Moreover, because a right of withdrawal may be implied only in treaties such as alliances, commercial or trading agreements, and *modi vivendi*,<sup>113</sup> such an inferred power would not exist in the regime created by the ICNT. Finally, even if the Authority exercised its rulemaking power to place a much greater burden upon industrialized nations than originally anticipated by the treaty, the United States could not invoke the doctrine of *rebus sic stantibus* and claim that a fundamental change of circumstances permitted it to withdraw from the ICNT's proposed international agreement. By ratifying the treaty, it would have consented implicitly to these additional hardships. Therefore, the doctrine, which is available only in situations involving unforeseen developments, would not be applicable.<sup>114</sup>

#### *The Effect of These Proposed Changes on International Law*

To date, neither the activities of the United Nations General Assembly nor the various sessions of UNCLOS negotiations have effected a change in international law, which presently permits a state to engage unilaterally in deep-sea mining. Because the General Assembly has no authority to enact rules of international law,<sup>115</sup> neither the Moratorium Resolution nor the Declaration of Principles is binding on United Nations member states or their nationals. Specifically, the ICJ has recognized that, through its resolutions, the General Assembly merely recommends that its members form various treaty relationships.<sup>116</sup>

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112. Vienna Convention, *supra* note 111, art. 56.

113. J. BRIERLY, *THE LAW OF NATIONS* 331 (H. Waldock ed. 1963); G. Fitzmaurice, Second Report on the Law of Treaties, U.N. Doc. A/CN. 4/107, at 72 (1957).

114. Article 62 of the Vienna Convention, *supra* note 111, defines the limited application of the *rebus sic stantibus* doctrine.

115. A proposal granting the General Assembly such legislative authority was rejected at the San Francisco Conference of 1945. 13 U.N.C.I.O. Doc. 754 (1945).

116. Advisory Opinion on Voting Procedure, [1955] I.C.J. 67, 115. *See also* W. BISHOP, *INTERNATIONAL LAW* 48-49 (3d ed. 1971); I. BROWNIE, *PRINCIPLES OF PUBLIC INTERNATIONAL LAW* 14-15 (2d ed. 1973); D. O'CONNELL, *INTERNA-*

Although the Moratorium Resolution and the Declaration of Principles have not implemented substantive rules of law, they nevertheless might be cited with the work of the UNCLOS as evidence of a change in customary international law. Regarding this contention, the ICJ has held that any state relying on a rule of customary law must prove both the existence of the rule and its binding effect on an adversary nation.<sup>117</sup> For several reasons, however, a state probably could establish neither that a new customary law with respect to deep-sea mining had developed nor that the United States was obligated to follow any recently-formulated legal restrictions.

Two recent decisions by international tribunals suggest that no new rule of law has resulted from the UNCLOS. In 1974, the ICJ held in the *Fisheries Jurisdiction Cases*<sup>118</sup> that Iceland's unilateral claim of a fifty mile fishing zone violated international law as codified in Article 2 of the 1958 Convention on the High Seas.<sup>119</sup> In reaching its conclusion, the court viewed the proposals and documents prepared in anticipation of a new law of the sea treaty merely as the opinions of individual nations, rather than as evidence of existing law.<sup>120</sup> In 1977 a court of arbitration reiterated this view, in a different context,<sup>121</sup> determining that the apparent consensus within the UNCLOS regarding an exclusive economic zone had not rendered the 1950 Convention on the Continental Shelf obsolete.<sup>122</sup> These decisions reject the argument that international law has been modified by the concept of an exclusive economic zone, an idea receiving substantial support both within and without the UNCLOS negotiations. Their rationale should apply equally in repudiating any suggestion that the UNCLOS activities in the highly controversial area of deep-sea mining have limited the right to mine the seabed, which presently is authorized by customary law and the 1958 Convention on the High Seas.

Even if the UNCLOS negotiations had created a change in international law applicable to ocean mining, the United States would not be bound thereby. From its initial opposition to the Moratorium Resolution in 1969,<sup>123</sup> the United States has maintained that the General

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TIONAL LAW 26-28 (2d ed. 1970); MANUAL OF PUBLIC INTERNATIONAL LAW 160-61 (M. Sorensen ed. 1968).

117. The Asylum Case, [1950] I.C.J. 266, 276-77.

118. [1974] I.C.J. 3, 175.

119. *Id.* at 29, 198. For a discussion concerning Article 2 of the 1958 Convention on the High Seas see notes 35-40 *supra* & accompanying text.

120. [1974] I.C.J. at 23, 192.

121. Delimitation of the Continental Shelf (France v. Great Britain) (June 30, 1977).

122. *Id.* at 64. For a discussion of the doctrine of the continental shelf see notes 16-29 *supra* & accompanying text.

123. See note 45 *supra*.

Assembly's action was only recommendatory<sup>124</sup> and that its nationals legally could engage in deep-sea mining activities.<sup>125</sup> Moreover, although some nations have suggested that the Declaration of Principles, which refers to the as yet undefined "common heritage of mankind" concept and which the United States supported,<sup>126</sup> prohibits unilateral exploitation of the seabed, the United States government repeatedly has rejected this view.<sup>127</sup> Because the United States consistently has repudiated attempts to alter existing international law, it would not be bound by any restrictions on deep-sea mining that might have evolved.<sup>128</sup>

The United States has not adopted an isolated position as to the legality of ocean mining. To the contrary, other industrialized nations, both communist and noncommunist, are either actively engaged or preparing to engage in deep-sea mining operations.<sup>129</sup> The conduct of these countries provides further evidence that the UNCLOS negotiations have not altered the existing right under international law to mine the seabed.<sup>130</sup>

124. *See, e.g.*, 30 U.N. GAOR 91, U.N. Doc. A/PV. 2444 (1975) (statement of United States representative to the General Assembly); Letter of Jan. 16, 1970, from John R. Stevenson, Legal Advisor, Department of State, to Sen. Lee Metcalf, reprinted in SPECIAL SUBCOMM. REPORT, *supra* note 20, at 210.

125. *See* note 40 *supra*.

126. *See* note 46 *supra*.

127. *See Hearings on S. 1134, supra* note 40, at 994.

128. *See, e.g.*, Anglo-Norwegian Fisheries Case, [1951] I.C.J. 116, 131; J. BRIERLY, *THE LAW OF NATIONS* 52 (H. Waldock ed. 1963); I. BROWNLIE, *PRINCIPLES OF PUBLIC INTERNATIONAL LAW* 10-11 (2d ed. 1973); 1 *INTERNATIONAL LAW: THE COLLECTED PAPERS OF HERSCH LAUTERPACHT* 66 (H. Lauterpacht ed. 1970); *MANUAL OF PUBLIC INTERNATIONAL LAW* 136 (M. Sorensen ed. 1968); G. TUNKIN, *THEORY OF INTERNATIONAL LAW* 130 (1974).

129. Entities presently engaged in the preliminary stages of deep-sea mining include companies from the United States, Canada, France, Germany, Japan, United Kingdom, Belgium, and Australia and according to press reports, state agencies or enterprises in the Soviet Union, Bulgaria, Czechoslovakia, East Germany, Hungary, and Poland. *See* CONGRESSIONAL RESEARCH SERVICE FOR THE USE OF SENATE COMM. ON INTERIOR AND INSULAR AFFAIRS, 94TH CONG., 2D SESS., *OCEAN MANGANESE NODULES* 37 (Comm. Print 1975) [hereinafter cited as *OCEAN MANGANESE NODULES*].

130. The particular states involved, *see* note 129 *supra*, in deep-sea mining ventures are significant, as suggested by the statement of Sir Hersch Lauterpacht, formerly a Judge on the ICJ:

Moreover, assuming that we are confronted here with the creation of new international law by custom, what matters is not so much the number of states participating in its creation and the length of the period within which that change takes place, as the relative importance, in any particular sphere, of states inaugurating the change. In a matter closely related to the principle of the freedom of the seas the conduct of the two principal maritime Powers—

*Rationale for United States Participation in the UNCLOS Negotiations to Date*

Notwithstanding the deterioration of United States interests in the UNCLOS negotiations, as reflected by the ICNT, the government has continued its efforts to achieve a law of the sea treaty. With respect to the work of UNCLOS Committee I, continued United States participation has been justified on the basis that, absent a treaty, a "gold rush" on the ocean floor would occur. For example, former Secretary of State Kissinger stated:

It is evident that there is no alternative to chaos but a new global regime defining an agreed set of rules and procedures. . . .

Eventually any one country's technical skills are bound to be duplicated by others. A race would then begin, to carve out deep sea domains for exploitation. This cannot but escalate into economic warfare, endanger the freedom of navigation, and ultimately lead to tests of strength and military confrontations.<sup>131</sup>

This argument, however, is not supported by the facts. Presently, relatively few companies or state enterprises possess the requisite technology and capital to engage in deep-sea mining.<sup>132</sup> Moreover, manganese nodules exist throughout the world's oceans in great abundance. One group has estimated that the Pacific Ocean contains one and one-half trillion tons of nodules, increasing at the rate of ten million tons every year.<sup>133</sup> To date, approximately 500 potential commercial recovery sites have been identified,<sup>134</sup> but the Department of the Interior has estimated that only fifteen to twenty mining operations will be in operation by the year 2000.<sup>135</sup>

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such as Great Britain and the United States—is of special importance. With regard to the continental shelf and submarine areas generally these two states inaugurated the development and their initiative was treated as authoritative almost as a matter of course from the outset. This was so in particular having regard to the traditional attachment of these states to the principle of the freedom of the seas and the customary limit of the territorial waters.

Lauterpacht, *Sovereignty Over Submarine Areas*, 27 BRIT. Y.B. INT'L L. 376, 394 (1950). Judge Lauterpacht's statement was in reference to state activities on the continental shelf, but its rationale applies with equal force to practices of nations on the ocean floor.

131. U.S. Dep't of State, Press Release No. 162, at 4, 7 (April 10, 1976).

132. See note 129 *supra*.

133. OCEAN MANGANESE NODULES, *supra* note 129, at xiii.

134. DEPARTMENT OF THE INTERIOR, MANGANESE NODULE RESOURCES AND MINE SITE AVAILABILITY 11 (1976).

135. *Id.* at 9.

Another justification for continued United States participation in the UNCLOS negotiations is the protection of other important national interests. Particularly, government officials have expressed concern that the emerging consensus on a twelve mile territorial sea<sup>136</sup> may close certain strategic straits to the right of submerged transit by placing them within the national jurisdictions of various states. The results of the United States' efforts to protect this important right in the ICNT, however, are uncertain: the relevant provisions of the treaty do not provide expressly for the right of submerged transit, and whether such a right is implied is questionable.<sup>137</sup> Moreover, regardless of whether the ICNT actually provides the right of submerged transit, the government could achieve additional safeguards relating to straits if it is willing to consider seriously the alternatives to a comprehensive UNCLOS treaty.<sup>138</sup> One of the United States' most important options is its capability to establish a working deep-sea mining program unilaterally, as presently authorized under international law, and to use its leverage as a current producer to gain important concessions from the developing countries in the future UNCLOS negotiations.

#### IMPLEMENTATION OF EXISTING INTERNATIONAL LAW: UNITED STATES LEGISLATIVE EFFORTS

An alternative to mining the deep seabed under a multilateral law of the sea treaty is to proceed unilaterally under the existing freedom of

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136. The ICNT expressly authorizes a 12 mile territorial sea. ICNT, *supra* note 68, art. 3.

137. A Department of State representative has testified that the straits provisions in the RSNT, which are substantively identical to the corresponding articles in the ICNT, guarantee the right of submerged transit through those straits within the extended territorial waters. See Testimony of G. Oxman before the House Comm. on Merchant Marine and Fisheries, 94th Cong., 2d Sess. 49-51 (June 15, 1976) (unpublished transcript). To reach this conclusion, however, the government has not been able to obtain an express provision safeguarding this important right; instead, the Department of State bases its opinion on a tenuous construction of several interacting articles in the ICNT. See ICNT, *supra* note 68, arts. 20, 38-39.

138. To protect the right of submerged transit through strategic straits, as an option to the negotiation of a comprehensive UNCLOS treaty, the United States could acquire the desired safeguards through the maintenance of bilateral treaties with straits nations, such as Spain and Indonesia. In addition, this country could retain its right of submerged transit in waters beyond the present territorial sea limit if it refuses to ratify the UNCLOS treaty and to recognize the twelve mile limit as a rule of customary law. A consistent denial of the validity of an extended territorial sea would render that potential rule of international law nonbinding on the United States. See text accompanying note 128 *supra*.

the seas doctrine. For practical reasons, however, this approach requires domestic legislation specifically authorizing American companies to mine the deep seabed and providing them with certain investment protections against political risk. The costs of a deep-sea mining operation, currently estimated at \$300 million to \$600 million,<sup>139</sup> require outside project financing; without protective legislation, lending institutions will not provide the necessary funds.<sup>140</sup>

Consistently opposing domestic legislation, which was first introduced in 1971, on the ground that it would jeopardize American interests in the UNCLOS negotiations, the Department of State repeatedly has persuaded the Congress to refrain from enacting unilateral deep-sea mining laws.<sup>141</sup> The rapidly deteriorating position of the United States' interests in Committee I, however, probably will lead Congress to enact domestic legislation in the near future, and the resulting laws should contain provisions protecting both consumers and industry. Congress can safeguard consumer interests by requiring that ore be landed in, or processed in, the United States.<sup>142</sup> As long as the nodules

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139. See Welling, *Next Step in Ocean Mining—Large Scale Test*, MINING CONGRESS J., Dec. 1976, at 46, 50.

140. C. Thomas Houseman, Vice President of the Chase Manhattan Bank, identified this problem in a recent statement:

Depending on their assessment of the specific situation lenders may or may not decide to assume political risk. In my opinion, lenders will not assume political risk in an under-sea mining venture if there are any uncertainties relating to the project company's present or future legal right to exploit the reserve. . . . [I]n view of the demonstrated desire of the international community to establish control over such activity, the present absence of political sponsorship and security of tenure constitutes, in my opinion, an unacceptable business risk.

. . . .

To sum up, then, it is my opinion that uncertainty as to the legal and political status of an ocean mining venture will affect its financial security, and that we are at a point in time that this status should be unmistakably defined.

Statement of C. Houseman, at 3, 7-8 before the Subcomm. on Oceanography of the House Comm. on Merchant Marine and Fisheries, 95th Cong., 1st Sess. (March 17, 1977) (unpublished statement).

141. For examples of the State Department's assurances to Congress concerning acceptable treaty dates and alternative legislative strategies see *The Trail of Broken Promises*, reprinted in *Mineral Resources of the Deep Seabed: Hearing on H.R. 11879 before the Subcomm. on Mines and Mining of the House Comm. on Interior and Insular Affairs*, 94th Cong., 2d Sess. 264-67 (1976).

142. See, e.g., H.R. 3350, 95th Cong., 1st Sess., § 5(a)(5) (1977), which requires "that minerals recovered under authority of the license, to the extent of in the United States, or on board United States vessels."

the proportionate interest therein of all United States entities, will be processed

or metals (if processing takes place at sea) initially are brought within the jurisdiction of this country, their future sale, whether in a domestic or a foreign market, could be subjected to governmental controls necessary to protect the interests of American consumers.

With respect to industry, domestic legislation should provide three incentives for American companies to continue ocean mining programs. First, American industry must be given security of tenure, an integral part of every modern mining law.<sup>143</sup> A special need for site specificity exists in the ocean mining industry because manganese nodules vary greatly in physical characteristics depending on their location, and proven technology limits the use of mining machines and processing plants to specific mineral deposits. Consequently, miners must be assured of continued access to a specific site before they will incur expensive plant and machinery costs.

Second, investments made under the authority of, and in reliance on, the legislation must be protected from impairment resulting from the United States' ratification of a UNCLOS treaty. Such protection has been made necessary by the ICNT's failure to shelter mining operations initiated before the completion of a treaty. Congressional acceptance of an international regime rendering useless statutorily-approved investments should be regarded as a governmental taking that requires just compensation.<sup>144</sup> Such provisions need safeguard the miner only from political risks that are entirely within the control of the United States government; all other potential dangers, including disasters, market fluctuations and labor problems, would be accepted by the miner as normal commercial risks.

The third legislative incentive to the ocean mining industry should provide insurance against those damages committed by parties against whom the miner may exercise no legal remedy. The precedents for federal insurance protection are numerous.<sup>145</sup> Because a variety of

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143. See generally N. ELY, SUMMARY OF MINING AND PETROLEUM LAWS OF THE WORLD (2d ed. 1974).

144. United States courts have held that the due process clause of the Constitution applies to the actions of government officials without, as well as within, the United States, see, e.g., Reid v. Covert, 354 U.S. 1 (1957), and that the taking of property by treaty or other international agreement gives rise to a right to just compensation. Cf., e.g., Turney v. United States, 115 F. Supp. 457 (Ct. Cl. 1953); Gray v. United States, 21 Ct. Cl. 340 (1886). See also L. HENKIN, FOREIGN AFFAIRS AND THE CONSTITUTION 259-66 (1972).

145. See, e.g., 12 U.S.C. § 1709(h) (1970) (riot); 12 U.S.C. § 1744 (1970) (Federal Housing Administration loans); 42 U.S.C.A. § 2210(c) (Supp. 1977) (nuclear disaster indemnity); 46 U.S.C.A. § 1281 (Supp. 1977) (merchant marine war risk); 12 U.S.C. § 1783 (1970) (credit union shares); 7 U.S.C. § 1501 (1970) (crops); 20 U.S.C. § 1132c-5 (Supp. II 1972) (academic facilities); 15



ocean mining risks now may be insurable in the private sector, however,<sup>146</sup> governmental insurance, which could be funded from premiums paid by all participating companies, need be furnished only to the extent that the former coverage is unavailable.<sup>147</sup>

Contrary to the assertions of the Department of State,<sup>148</sup> unilateral legislation should provide American negotiators with greater bargaining power and force third world nations to cease ignoring the economic requirements of the United States and other industrialized countries participating in the UNCLOS negotiations. Thus, domestic legislation also should provide for compatibility with any multilateral regime to which the United States ultimately becomes a party.<sup>149</sup> Such a provision would give notice to the developing countries that the United States is willing to consider only a reasonable treaty as a means of implementing its oceans policy.<sup>150</sup>

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U.S.C. § 78aaa (1970) (securities investors); 42 U.S.C. § 1484 (1970) (farm housing); 7 U.S.C. § 1929 (1970) (agricultural credit); 42 U.S.C. § 4001 (1970) (flood); 12 U.S.C. § 1811 (1970) (Federal Depositors Insurance Corporation); 12 U.S.C. § 1725 (1970) (savings and loan); 26 U.S.C. § 3304 (1970) (unemployment); 12 U.S.C. § 635 (1970) (Export-Import Bank political risk); 49 U.S.C. § 1531 (1970) (aviation war risk); 20 U.S.C. § 1071 (1970) (student loans).

146. See Testimony of J. Dawson at 67, 70-71, 72 before the Subcomm. on Oceanography of the House Comm. on Merchant Marine and Fisheries, 95th Cong., 1st Sess. (April 26, 1977) (unpublished transcript).

147. One risk that is uninsurable in the private market is the threat of financial loss to a deep-sea mining enterprise resulting from the United States' ratification of a UNCLOS treaty. *Id.* at 72. This fact underscores the need for a realistic investment guarantee provision in the domestic legislation eventually adopted.

148. See note 141 *supra* & accompanying text.

149. See, e.g., H.R. 3350, 91st Cong., 1st Sess., § 12 (1977), which provides:

At such time as an agreement providing for the establishment of an international regime for the development of the hard mineral resources of the deep seabed is ratified by and becomes binding upon the United States, no additional licenses shall be issued pursuant to this Act. To the extent that the provisions of the international regime permit, the United States shall sponsor applications from licensees under this Act for licenses under the international regime and shall insure, to the maximum extent possible, that such licensees receive the same rights, and have the same duties, under the international regime, as are provided for under this Act.

150. Domestic deep-sea mining legislation also will contain a variety of other provisions comparable to those found in other mining laws. The purpose of this Article is not to offer specific statutory proposals but merely to identify those areas that, because of the unique nature of a unilateral ocean-mining program, will require careful congressional consideration.

## CONCLUSION

The responsibility for assuring American industries' access to the minerals of the deep seabed at a reasonable cost rests with Congress. If a treaty resembling the ICNT becomes binding on the United States and its nationals, prior ocean mining investments will be rendered substantially worthless. Without a reasonable congressional guarantee that expenditures made in reliance on existing law will be protected by the federal government from political impairment, companies cannot be expected to invest further in deep-sea mining and risk the implementation of an international regime incorporating the provisions of the ICNT. Absent this protection, the mineral resources of the ocean floor will remain beyond the economic reach of American businesses for many years to come; with it, the United States can become self-sufficient in its needs for manganese, nickel, cobalt, and copper.