

Northwestern Journal of International Law & Business

Volume 4
Issue 1 *Spring*

Spring 1982

The Third United Nations Conference on the Law of the Sea: Questions of Equity for American Business

Marlene Dubow

Follow this and additional works at: <http://scholarlycommons.law.northwestern.edu/njilb>



Part of the [International Law Commons](#)

Recommended Citation

Marlene Dubow, The Third United Nations Conference on the Law of the Sea: Questions of Equity for American Business, 4 Nw. J. Int'l L. & Bus. 172 (1982)

This Comment is brought to you for free and open access by Northwestern University School of Law Scholarly Commons. It has been accepted for inclusion in Northwestern Journal of International Law & Business by an authorized administrator of Northwestern University School of Law Scholarly Commons.

COMMENTS

The Third United Nations Conference on the Law of the Sea: Questions of Equity for American Business

Three decades ago, the search for petroleum and natural gas moved to the ocean floor. Offshore exploration, modestly begun in shallow water, opened up a new frontier in petroleum exploration and exploitation which now extends to water depths beyond 1600 feet. Today, the seabeds off the shores of coastal countries supply approximately seven percent of the world's oil and gas requirements.¹ Yet only a small portion of the world's continental shelves have actually been tested for their natural resource potential, and exploration of the potential petroleum and natural gas supply of the deep seabed is still in its infancy.

Concern over each nation's legal entitlement to these resources, and the manner in which the ocean, the sea floor, and all the ocean's resources might be explored and exploited has increased with the resource discoveries.² Pursuant to resolution,³ the United Nations convened the Third United Nations Conference on the Law of the Sea (UNCLOS III)⁴ to address these complex issues, to establish an international framework for the exploration and exploitation of the world's ocean resources, to delimit the boundaries of national jurisdiction, and to develop, in effect, a "constitution for the sea."⁵

¹ R. ANAND, LEGAL REGIME OF THE SEABED AND THE DEVELOPING COUNTRIES 19-20 (1976), citing Gardner, *Huge Off Shore Growth Set for 1970's*, 1970 OIL & GAS J. 126.

² See *infra* text accompanying notes 14-29.

³ G.A. Res. 2750, 25 U.N. GAOR Supp. (No. 28) at 25-26, U.N. Doc. A/8097 (1970).

⁴ For a discussion of the proceedings of UNCLOS III dealing with seabed mining, see T. KRONMILLER, 1 THE LAWFULNESS OF DEEP SEABED MINING 41-81 (1981).

⁵ Johnson & van Voorst, *A Constitution for the Seas*, TIME, Sept. 8, 1980, at 42.

Although the original impetus for UNCLOS III was the search for petroleum resources beneath the ocean floor, numerous sessions⁶ culminating in an extensive negotiating text⁷ failed to establish a regime for the exploration and exploitation of petroleum resources beyond the 200 mile Exclusive Economic Zone (EEZ)⁸ or in the deep seabed.⁹ On March 3, 1981, the Reagan Administration announced that it would not finalize the Law of the Sea Treaty (Treaty) in the spring of 1981.¹⁰ Citing "serious problems"¹¹ in the negotiating text requiring further review as the rationale for delay, the Administration refused to negotiate further on substantive issues.¹² After presenting a brief historical background of ocean resource exploration and exploitation, this comment will focus on the necessity of including a regime in the Treaty for the exploration and exploitation of petroleum resources. This comment will argue that certain provisions potentially affecting the petroleum industry must be amended before the Treaty will be an acceptable "package deal"¹³ to the United States and its private petroleum and natural gas industry, offering equitable treatment for both developed and developing countries.

HISTORICAL BACKGROUND

Early debates over ownership of the deep seabed centered around the concept of *res nullius* and *res communis*. *Res nullius*, meaning that the seabed belongs to no one, allows resources to be appropriated by possession and an exercise of control, thus permitting national appropriation and sovereignty.¹⁴ Under *res communis*, the seabed belongs to everyone, and title to the resources may be gained only through possession adverse to the world community.¹⁵ These concepts became dor-

⁶ To date, 10 sessions have been held over the past eight years. The last session was held in New York on March 9, 1981.

⁷ Third Conference on the Law of the Sea, Draft Convention on the Law of the Sea (Informal Text), U.N. Doc. A/CONF. 62/W.P.10/Rev. 3 (1980) [hereinafter cited as Draft].

⁸ *Id.* art. 57.

⁹ Hydrocarbons and liquid substances are resources of the deep seabed under Article 133, but articles relating to the exploration and exploitation of the deep seabed refer only to mineral resources. See *infra* note 45 and accompanying text. Although there has been considerable discussion at the Conference about the exploitation of manganese nodules in the deep seabed, no discussion has taken place concerning the exploitation of petroleum resources.

¹⁰ N.Y. Times, Mar. 4, 1981, § A, at 1, col. 5.

¹¹ *Id.*

¹² *Id.*

¹³ Elliot Richardson on the Seabed Talks, Wall St. J., Mar. 9, 1981, at 23, col. 1.

¹⁴ Goldie, *A Selection of Books Reflecting Perspectives in the Seabed Mining Debate: Part I*, 15 INT'L LAW. 293, 304 (1981).

¹⁵ *Id.*

mant as Hugo Grotius' position that the seas were free for everyone's use emerged and became dominant.¹⁶ But the sharp increase in the use of the ocean, particularly for resource extraction on the floor of the continental shelf and ocean, resulted in a revival of these two concepts. Unfortunately, the concepts provide little aid in solving the modern ownership problem.¹⁷

The revival of the debate concerning resource ownership in the ocean domain stemmed largely from the discovery of oil on the continental shelf in the Gulf of Mexico.¹⁸ The impact of this discovery on the law of the sea first was expressed as early as 1945, when President Truman proclaimed that the United States had the exclusive right to explore and exploit the mineral resources¹⁹ of the continental shelf, including the area that extended beyond the three mile territorial sea.²⁰ Many countries soon followed President Truman's initiative, some claiming exclusive jurisdiction extending 200 miles.²¹

As these claims were contrary to the traditional law of the sea, a Convention on the Continental Shelf was convened in Geneva in 1958²² to coordinate jurisdictional claims and to limit national jurisdiction over the resources of the ocean floor. This Convention confirmed the exclusive sovereign rights of coastal states to natural resources on their continental shelf.²³ But "exploitability" and "adjacency," the criteria used to define the limits of the continental shelf,²⁴ proved ambiguous, uncertain, and controversial.²⁵ Some coastal states interpreted these criteria to justify their extension of jurisdiction to include the regulation of navigation, fishing, laying of cables and pipelines, and scientific research in the waters above the continental shelf. Others

¹⁶ See M. McDUGAL & W. BURKE, *THE PUBLIC ORDER OF THE OCEANS* 103-04 (1962).

¹⁷ One author commented:

There is little doubt that the old debate about the high seas being *res nullius* or *res communis* is fruitless and can serve no purpose. The old law was developed, or was left undeveloped, under very different circumstances. The uses of the sea were few and the uses we think of today were unthinkable at that time.

R. ANAND, *supra* note 1, at 178-79.

¹⁸ Swing, *The Law of the Sea*, in *THE CHANGING UNITED NATIONS* 128, 129 (D. Kay ed. 1977).

¹⁹ At that time, "mineral resources" meant oil. *Id.* at 128.

²⁰ Proclamation No. 2667, 3 C.F.R. 39 (1945), *reprinted in* 59 Stat. 884 (1945).

²¹ See Swing, *supra* note 18, at 130.

²² Convention on the Continental Shelf, Apr. 29, 1958, 15 U.S.T. 474, T.I.A.S. No. 5578.

²³ *Id.* art. II. Continental shelf is defined in Article I of the Convention and refers:

(a) to 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 meters or, beyond that limit, to where the depth of the superjacent water admits of the exploitation of the natural resources of the said area; (b) to the seabed and subsoil of similar submarine areas adjacent to the coasts of islands.

²⁴ *Id.* art. I.

²⁵ See R. ANAND, *supra* note 1, at 139.

interpreted the terms as granting exclusive jurisdiction over the entire continental margin,²⁶ while some states, particularly developing, land-locked, and shelf-locked states, interpreted coastal jurisdiction in the light of justice and equity which required a narrow jurisdiction over the continental shelf.

In order to combat the dangers of "creeping jurisdiction,"²⁷ Ambassador Parvi of the Permanent Mission of Malta proposed in a *note verbale* to the United Nations General Assembly a discontinuation of the seaward claims of coastal states and asked the United Nations to declare the seabed and ocean floor to be "the common heritage of mankind."²⁸ He further proposed to establish an international agency to manage the resources of the ocean floor.²⁹ This principle was adopted by the United Nations, which established a Permanent Seabed Committee to study the problem of utilization and development of these resources for the benefit of mankind.³⁰ The Committee concluded that the problems of interpretation should be solved by a treaty among all nations and, consequently, UNCLOS III was convened in 1973.³¹

The Treaty was negotiated on the basis of consensus. Thus, all nations party to the negotiations must join in ratifying the Treaty or it will not become effective.³² Nations have negotiated the terms of the

²⁶ The continental margin consists of the continental shelf, rise, and slope.

²⁷ Creeping jurisdiction refers to the continued expansion of natural jurisdiction over the continental shelf and into the deep seabed as technology to exploit these areas developed. The developing countries fear this expansion will cause an inequitable distribution of the ocean's resources. R. ANAND, *supra* note 1, at 110.

²⁸ Permanent Mission of Malta to the United Nations, Request for the Inclusion of a Supplementary Item in the Agenda of the Twenty-Second Session, 22 U.N. GAOR Annex 3, at 2, U.N. Doc. A/6695 (1967) [hereinafter cited as Parvi *Note Verbale*]. This phrase was quickly adopted by the United States, but has not yet been clearly defined. Several commentators have discussed this problem:

It is one thing to agree with the principle of common heritage and another to define what common heritage means. Does it mean that a nation has to share the fish and oil and gas they might acquire on the high seas? That a nation has to provide upfront for other nations to go out and compete—mandatory transfer of technology?

N.Y. Times, Mar. 15, 1981, § V, at 5, col. 1 (interview with Senator Breau). See also Lilla, *Third World's Sea Pact Takes U.S. for a Ride*, Wall St. J., Jan. 26, 1981, at 20, col. 3. ("Though ill defined, the phrase [common heritage of mankind] proved catchy, the resolution passed and soon the words were heard at diplomatic cocktail parties and academic conferences around the world."); Goldie, *supra* note 14, at 307.

²⁹ Parvi *Note Verbale*, *supra* note 28, at 3. Ambassador Parvi, through this resolution, sought to prevent the developed countries from exploiting the seabed for their own benefit and to further the developing countries' desire to create a New International Economic Order (NIEO). See Safire, *The Great Rip-off*, N.Y. Times, Mar. 19, 1981, § 1, at 23, col. 5; Eliot Richardson on the *Seabed Talks*, *supra* note 13; Parvi *Note Verbale*, *supra* note 28, at 3.

³⁰ G.A. RES. 2750, *supra* note 3.

³¹ For a review of the proceedings, see T. KRONMILLER, *supra* note 4, at 24-36.

³² N.Y. Times, Mar. 4, 1981, § A, at 1, col. 5.

Treaty during the last eight years, culminating in an informal composite negotiating text (the Draft). Prior to the Reagan Administration's announcement that it would not conclude negotiations last March, all nations had anticipated that the Treaty would be finalized and prepared for review by participating governments last spring.³³

DEFICIENCIES OF THE PRESENT DRAFT

The most obvious deficiency of the present text which affects the petroleum industry is its failure to include a regime for the production of petroleum resources in the area beyond the Exclusive Economic Zone (EEZ). Additionally, several other Treaty provisions which control activities in the deep seabed (the Area) threaten to impose significant financial burdens on the petroleum industry. Since the major barriers to development of these resources are economic, rather than technological,³⁴ provisions that place substantial economic burdens on the industry must be scrutinized carefully to ensure that they do not make exploration and exploitation of petroleum resources unduly prohibitive. The provisions most unfavorable to the petroleum industry are: (1) the administrative, operational, and funding system of the International Seabed Authority (the Authority);³⁵ (2) the mandatory transfer of technology to developing countries;³⁶ (3) the scientific research directed toward future exploitation;³⁷ and (4) the lack of a "grandfather clause" protecting interests of those engaged in activity beyond the EEZ prior to signing the Treaty.³⁸

Lack of Specific Provisions for the Exploration and Exploitation of Petroleum Resources in the Deep Seabed

Although the definition of resources in the Area³⁹ includes petroleum and gas,⁴⁰ production policies developed for the Area⁴¹ are di-

³³ *Id.*

³⁴ See *infra* notes 47-49 and accompanying text.

³⁵ Draft, *supra* note 7, arts. 150-91 & Annex III. See *infra* text accompanying notes 63-118.

³⁶ *Id.* Annex III, art. 5. See *infra* notes 119-31 and accompanying text.

³⁷ *Id.* arts. 238-65. The reader should particularly note Article 246. See *infra* notes 132-52 and accompanying text.

³⁸ See *infra* notes 152-59 and accompanying text.

³⁹ The Area refers to "the seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction." Draft, *supra* note 7, art. 1(1).

⁴⁰ Draft, *supra* note 7, art. 133. Article 133 states, in relevant part: "(a) resources means mineral resources *in situ* when received from the Area, such resources shall be regarded as minerals. (b) resources shall include (i) liquid or gaseous substances at or beneath the surface such as petroleum, gas. . . ."

⁴¹ *Id.* art. 151.

rected only toward nickel and metallic resources.⁴² The records of the proceedings of the Conference⁴³ do not expose the rationale for the exclusion of production policies for petroleum and natural gas, but there seem to be three possible reasons for the lack of specificity: (1) lack of certainty of the amount of petroleum resources in the deep seabed; (2) lack of technological capacity at the beginning of negotiations to exploit the deep seabed; and (3) belief that there are adequate resources available to meet United States requirements in the immediate future.

1. *Lack of certainty of amount of petroleum resources in the deep seabed*

The petroleum industry has expressed little interest in negotiations involving the deep seabed because of its belief that there is only a small amount of petroleum buried in the ocean floor. Before the petroleum industry attempts to exploit the deep seabed, profitability of such a venture must be certain.⁴⁴ The economic attractiveness of deep water ventures depends on many factors: (1) the overall demand for petroleum; (2) competition from land-and-shallow-water areas; (3) the relative cost-effectiveness of deep marine production operations;⁴⁵ (4) the relative productivity of deep marine petroleum deposits; and (5) competition from oil shale, tar sands, coal, and other energy resources. This section will discuss the possible productivity of deep marine petroleum deposits.

Currently, precise data about the potential petroleum reserves beneath the seabed beyond national jurisdiction is sparse.⁴⁶ Approxi-

⁴² *Id.* For example, Article 151, part 2(b) states, in relevant part: "[T]he production ceiling for any year of the interim period beginning with the year of the earliest commercial production shall be the sum of (i) and (ii) below: (i) the difference between the trend line values for annual *nickel* consumption. . . ." (emphasis added).

⁴³ For a discussion of the Conference proceedings, see T. KRONMILLER, *supra* note 4, at 41-81.

⁴⁴ See, e.g., Richardson, *Seabed Mining and Law of the Sea*, DEPT. STATE BULL., Dec. 1980, at 60, 61.

⁴⁵ Production costs include: (1) reservoir size; (2) water depth; (3) climatic conditions; and (4) government take, including the cost of leases, royalty payments, taxes, government bonuses, and additional government payments. Nigrelli, *Ocean Mineral Revenue Sharing*, 5 OCEAN DEV. & INT'L L.J. 153, 162 (1978). Assuming that the production provisions for deep seabed mining are relevant to offshore petroleum production, government take would also include an application fee and the amount subject to revenue sharing under Annex III, Article 13. See Draft, *supra* note 7, Annex VII, art. 13.

⁴⁶ The controversy over whether there are petroleum supplies worth exploiting in the deep seabed stems from a lack of knowledge about the potential of that area. Although offshore exploration has dramatically increased worldwide in recent years, detailed knowledge of the sediments of the continental slopes and shelves remains meager, and even less is known about the sediments beyond the continental margins. The rapid increase in knowledge about the potential petroleum

mately fifty-five to seventy percent of all oil lies under water up to 200 miles below sea level.⁴⁷ Although some geologists believe that there is no potential petroleum supply under the ocean floor because of the area's geological make-up, there is evidence that there are hydrocarbons in the sediments of almost all oceanic areas, and, therefore, the prospects of petroleum accumulation in some degree cannot be excluded with regard to any of the ocean provinces.⁴⁸ Available information suggests that over most of the deep-ocean basins there is a relatively thin sedimentary section and probably only scanty reservoir beds.⁴⁹ However, even in these deep ocean provinces, there are areas of adequate sedimentary thickness and indications of favorable trap structure.⁵⁰ Thus, the prospects for the discovery of petroleum pools in the Area seem promising. Petroleum geologists currently believe there is more oil in the sediments of the continental margins which, in many cases, are beyond the 200 mile EEZ.⁵¹ But as more and more of the present supply is consumed without a corresponding drop in demand, whatever resources are available in the Area may be significant and

resources of the oceans is highlighted by reviewing progress in offshore exploration during UNCLOS III negotiations. Early in the negotiations, no oil had been discovered even close to the limit of the 200 mile EEZ. Since that time, however, offshore exploration has increased enormously. Recently, a large oil reservoir was discovered at Ben-Nevis off the Newfoundland coast just beyond the 200 mile line. Garcia-Mata, *An Oil Ripoff Has Been Aborted*, N.Y. Times, Apr. 15, 1981, § 1, at 30, col. 6. Further exploration of the Area is being conducted to ascertain the extent of the petroleum reserves in the deep seabed. It seems reasonable to predict that more exact knowledge about the petroleum supply will be available soon and that these resources will be exploited. The United States demand for oil has continued to increase. In 1985, the United States is expected to consume 9.5 billion barrels as compared to over 6.3 billion barrels in 1973. Nigrelli, *supra* note 45, at 156. For a discussion of the adequacy of the present supply to meet future needs, see *infra* notes 57-62 and accompanying text.

⁴⁷ For a discussion of potential development of these resources, see NATIONAL PETROLEUM COUNCIL, *THE OCEAN FRONTIER AND AMERICA'S FUTURE IN PETROLEUM RESOURCES UNDER THE OCEAN FLOOR* 5-6 (1969) [hereinafter cited as NPC 1969]; NATIONAL PETROLEUM COUNCIL, *OCEAN PETROLEUM RESOURCES* 30 (1975) [hereinafter cited as NPC 1975]; U.N. Department of Economic and Social Affairs, *Mineral Resources of the Sea* 7, U.N. Doc. ST/ECA/125 (1970). The latter report concluded that:

[T]he sedimentary section [of the ocean floor] is relatively thin, generally less than 1 or 2 km, with very few reservoir beds of fine grained sands and with relatively little structure. Similarly, the sediment fill of oceanic trenches is not known to be sufficiently thick to be of interest. All evidence suggests that the abyssal open oceans are far less favorable than the continental margins and small oceanic basins and there is little chance that petroleum occurs over large areas of the abyssal plain. However, because of man's limited knowledge, no definite seaward limit for the existence of petroleum deposits can be inferred at this time and it is not impossible that small portions of the abyssal floor and oceanic trenches may have some potential.

⁴⁸ NPC 1969, *supra* note 47.

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ Garcia-Mata, *supra* note 46.

profitable. As time progresses, the more easily located onshore and shallow water petroleum will be produced and consumed, thereby increasing the importance of the potential petroleum supply of the deep seabed.⁵² Current predictions are that by the end of the century, most of the world's hydrocarbons will come from fields beyond the 200 mile limit of the EEZ.⁵³

2. Lack of technical capacity

The lack of sophisticated technology restrains the petroleum and natural gas industry from engaging in extensive exploration and exploitation of the Area. But engineers are rapidly developing this technology. When negotiations began eight years ago, industry members did not believe they would develop technology to find resources outside the EEZ.⁵⁴ Yet by March, 1975, the National Petroleum Council re-

⁵² NATIONAL PETROLEUM COUNCIL, LAW OF THE SEA: PARTICULAR ASPECTS AFFECTING THE PETROLEUM INDUSTRY (1973) [hereinafter cited as NPC 1973].

⁵³ Garcia-Mata, *supra* note 46.

⁵⁴ *Id.* In order to more fully understand the rapid expansion and increased sophistication, as well as the prospects for future development, a review of technology utilized in off-shore production, adapted from NPC 1975, *supra* note 47, follows.

Geological and Geophysical Surveys. Geological and geophysical surveys are conducted first to identify areas favorable for the accumulation of hydrocarbons in the sedimentary deposits. Since 1969, there have been many refinements in: (1) non-dynamite energy sources, seismic surveying; (2) equipment used in tracking and recording reflected energy; and (3) equipment and procedures used in processing the recorded energy by computers. These refinements have improved the quality of available data used to determine possible locations of petroleum reservoirs, while providing additional protection to the marine environment.

Also significant have been developments of specialized recording and processing devices which have permitted the measurement of the relative amplitude of certain reflections. Some high amplitude reflections, known as "bright spots," are associated with shallow gas accumulations. Potentially, some of these accumulations are commercially exploitable. In general, oil accumulations are usually not reliable generators of high amplitude reflections and further work is needed to develop more efficient systems for targeting petroleum supplies.

Offshore Drilling and Production Technology. Exploratory wells must be drilled to determine whether there is an accumulation of petroleum. Because the drilling equipment must be moved frequently, equipment is mounted on a ship or some other movable structure. Once petroleum is discovered, fixed platforms are set up to drill a number of development wells. Platforms, which also serve as sites for the installation of production equipment, include drilling equipment, devices to measure the amount of fluids produced, vessels to separate gas from the hydrocarbon fluids, and treaters to remove water and impurities.

In order to explore and develop offshore petroleum deposits successfully, a means of accomplishing re-entry, for controlling well pressure and for assuring the return of mud or other fluids to the drilling rig, is required. Re-entry, accomplished by sonar techniques, has been achieved in water depths of about 6,243 meters. Control of pressure and return of drilling mud and other fluids to the drilling rig can be accomplished through use of conventional devices in water depths of about 350-400 meters. Controlling pressure and returning fluids is accomplished by a device called a "riser," a tubular connection between the rig and the ocean floor. But as operations begin

ported major advances.⁵⁵ In 1981, a large oil and gas reservoir was discovered off the Newfoundland coast just beyond the 200 mile zone.⁵⁶ Wells are being drilled in increasingly greater water depths. The only production systems which require further refinement are storage and transportation systems.

In light of these rapid technological advances made since the

at greater depths, more buoyant sections are needed to reduce stress in the riser and in other parts of the system. Recently, significant improvements have been made in the riser systems. One system has a water depth capacity of more than 1,000 meters and another can be used in water depths to 1,800 meters—there appear to be no obstacles to developing usable systems in any water depth.

Important advances have occurred in equipment used in all phases of exploration and production on the ocean floor. Blow-out preventors and control systems have been designed and tested for use in water depths of about 3,000 meters. Improvements have been made in the positioning systems of mobile drilling vessels engaged in drilling exploratory wells, enabling them to be used in water depths up to 1,000 meters. Dynamic positioning, which uses horizontal thrusters, is now being used. This system permits continuous location of the drilling vessel without the use of anchors in any water depth. Furthermore, it has been shown that these vessels can be dynamically positioned in water deeper than 6,000 meters, which means that exploration of the deep seabed is only limited by subsea equipment at the present time.

Drilling and production operations offshore are best accomplished through the use of a fixed platform, but its use is currently limited by water depth and climatic conditions (the economic feasibility of carrying on production changes as climatic conditions become more severe; *see* NPC 1975, *supra* note 47, at 28). In 1973, these platforms had not been installed in water depths exceeding 150 meters, yet an exploratory well already has been drilled eleven miles off the arctic coast in 1,142 feet of water. Current technology demonstrates that fixed platforms can be employed at greater water depths than originally expected, and other types of production structures are being designed and tested continually for use in greater water depths.

Another factor limiting current production in the deep seabed is the necessity of using human divers or one atmosphere work chambers and hook-up installations on the seafloor. Deep sea dives can now be made in water depths of about 450 meters, though they will soon be made in depths to 600 meters. Ultimately dives as deep as 1,500 meters may be feasible. Additionally, human divers may not be required in seafloor installations if one atmosphere work chambers and remote control manipulators are developed.

Systems for seafloor production are also being adapted for use at greater depths. Use of remote control operations and manipulation systems and one atmosphere submersibles are being used at increasingly greater depths. Systems utilizing other techniques are continually being tested and developed.

Probably the most difficult problems to resolve, before deep seabed petroleum exploration is considered, are related to pipeline, storage, and transport capabilities. Submarine pipelines have been successfully laid over distances of several hundred miles and techniques are being developed for laying large diameter lines in 1,000 meters water depth. Further research is developing techniques for laying pipes at increasingly greater depths.

⁵⁵ NPC 1975, *supra* note 47. The Council noted the following developments:

drilling in water depths to 6,234 meters. One hole was reentered at a water depth of 3,939 meters . . . a third hole was drilled to 4,310 feet penetration below the seabed in 4,549 meters water depth. Blowout prevention and control systems have been designed and tested for use in water depths of about 3,000 meters . . . Ability to dynamically position drilling vessels in waters deeper than 6,000 meters has been demonstrated. Water depth is therefore limited only by subsea equipment.

⁵⁶ Garcia-Mata, *supra* note 46.

Treaty negotiations began, it seems reasonable that sufficiently sophisticated technology for the exploitation of the deep seabed will be available before the negotiations are concluded, or shortly thereafter. Thus, the lack of technical capacity does not support the exclusion of a regime for petroleum exploitation in the Area from the Treaty.

3. Predictions of adequacy of future supply

The extension of the EEZ to 200 nautical miles,⁵⁷ within which the majority of petroleum resources are thought to lie, coupled with potential onshore domestic resources, appears to provide substantial protection to the United States interest in ensuring sufficient supplies of petroleum and natural gas.⁵⁸ In fact, the petroleum industry has not actively participated in treaty negotiations, and some industry experts believe that the guarantee of a 200 mile EEZ, considered a valuable concession,⁵⁹ may provide enough oil to meet future United States demands for petroleum. It seems, though, that this concession does not provide the protections and benefits that United States negotiators and the petroleum industry expected.

Although domestic petroleum supplies were expected to play a significant role in meeting the rising United States demand for crude oil, the ratio of new domestic crude oil reserves to production on land has steadily declined since 1950. Discoveries of domestic crude oil on land have lagged since 1957, and domestic exploration has significantly declined since 1969.⁶⁰ Efforts to explore and exploit petroleum resources have resulted in little success. For example, the overall success rate for offshore drilling in the United States Gulf of Mexico from 1969 to 1973 averaged 12.5 percent.⁶¹ Since the Gulf is a proven oil province, it is possible that untested areas will yield an even lower success rate.⁶²

⁵⁷ Draft, *supra* note 7, art. 57.

⁵⁸ It is estimated that 75-94% of United States petroleum resources are located shoreward of 200 nautical miles, though it is important to remember that: (1) neither the total amount of petroleum located under the oceans nor its location has been established, and (2) the amount to be found and produced is even less certain. NPC 1975, *supra* note 47, at 16.

⁵⁹ N.Y. Times, Apr. 7, 1981, § IV, at 1, col. 3.

⁶⁰ NPC 1969, *supra* note 47.

⁶¹ NPC 1975, *supra* note 47, at 31.

⁶² *Id.* The United States Geological Survey estimated that the total amount of petroleum in place in the United States (including the nation's continental shelflands to water depths of 600 feet) was originally two trillion barrels of crude oil and five quadrillion cubic feet of natural gas. At the end of 1968, proven crude oil reserves totalled 30.7 million barrels, while natural piped gas reserves were 287.3 trillion cubic feet. Ideally, the discovery of new reserves should exceed the amount produced, thereby raising the amount of current proven reserves. Unfortunately, this has not occurred in the United States. Exploratory drilling and new additions to reserves have pro-

*Administrative, Operational, and Funding System of the
International Seabed Authority*

The administrative, operational, and funding framework of the In-

gressively diminished. By the end of 1968, proven petroleum reserves declined sharply compared to other years: crude oil reserves dropped 670 million barrels in two years, and natural gas reserves were at a 5.6 trillion cubic foot deficit. NPC 1969, *supra* note 47. To offset this trend, new reserves of petroleum resources must be discovered. The question that remains is where they will be found.

The easy oil in the United States has already been discovered. Most petroleum resources that may be located on land probably lie in deeply buried geological structures extending 20,000 feet or more below the surface. Although these depths can be reached technologically, there is little incentive to develop these areas because of the enormous expense and low expected yield. *Id.* at 8. For example, in 1967, thirty-four wells were drilled below 20,000 feet at a cost somewhere between one and 2.5 million dollars per well. Based on such high costs, it is estimated that, to be profitable, a petroleum deposit located at 20,000 feet below the surface would have to be many times larger than one located at 5,000 feet. It is unlikely that such large deposits will be found at any depth. Data published by the American Association of Petroleum Geologists show that since World War II, the size of the average land field discovered has grown steadily smaller, that the number of commercially successful fields has dropped by 40%, and that the number of wells deemed unprofitable and abandoned in less than a year of operation has almost doubled. *Id.* at 8-9. Alaska and the arctic slope have become important new sources of new petroleum reserves and have shown potential. Unfortunately, best available estimates indicate that despite this new supply, domestic onshore petroleum discoveries and production will be unable to respond to growing United States demands. *Id.* at 9.

If present estimates of the amounts of petroleum and natural gas located in the nation's continental shelf are accurate, the supply will last from eight to one hundred years. Nigrelli, *supra* note 45, at 163 (this prediction was based on the 1973 United States resource consumption rate which subsequently increased). If production rates were at 1973 levels, the supply was predicted to last 137 years. However, if offshore productivity doubles in relation to onshore production rates, the oil supply within 200 nautical miles is expected to last until 1997, assuming the production rate keeps pace with the United States demand. *Id.*

Natural gas conditions are similar to the petroleum situation, except that the natural gas supply on the United States continental shelf is greater. *Id.* at 48. If all natural gas production were shifted offshore this year, the United States supply of natural gas within 200 miles would last until 1995, provided the increase in demand stayed at six percent per year and the wells produced 534.6 trillion cubic feet. *Id.* at 164. Offshore gas now supplies only about four percent of the United States demand: the remainder is satisfied by its huge land-based gas reserves. Because of substantial land reserves, it appears unlikely that the United States will need to exploit gas beyond the 200 mile limit for some time. At current production rates, and assuming a six percent yearly increase in offshore production, the supply within 200 nautical miles may serve the United States until 2020. *Id.* However, oil and gas deposits often commingle. Thus, the United States will explore gas deposits further offshore than at present in conjunction with its search for oil deposits. For examples of commingled discoveries, see Wall St. J., Mar. 10, 1981, at 23, col. 4; Wall St. J., Mar. 13, 1981, at 8, col. 5; Wall St. J., Feb. 23, 1981, at 8, col. 3.

An additional difficulty faces the petroleum industry even if it continues solely to exploit petroleum resources on the continental shelf. The Treaty does not define clearly where the continental shelf ends. Thus, which nation has the right to exploit resources beyond the EEZ is unclear. N.Y. Times, Mar. 15, 1981, § V, at 5, col. 1. Since the continental margins, where larger deposits of petroleum are believed to exist, often extend beyond 200 miles, the Treaty may prohibit full exploitation of these areas by placing onerous burdens on the developers. If the definition of "continental shelf" is construed narrowly, as advocated by the developing countries,

ternational Seabed Authority (Authority) will have a direct bearing on access and the cost of access to petroleum resources. The major barrier to future development of these resources is economic rather than technological,⁶³ and systems that place heavy financial burdens on private industries seeking to recover petroleum resources under the ocean may effectively prevent such recovery. In addition, those in private industry seek guaranteed access to ocean deposits before they expend substantial capital developing complex equipment and exploring ocean surfaces.⁶⁴ The present systems of the Authority, contained in the negotiating text of the Treaty, fail to resolve either of these concerns. A brief review of these systems will show that access to sites is by no means assured due to the political nature of the Authority, and heavy financial burdens are placed on those seeking to exploit the ocean floor,⁶⁵ potentially depriving private industry of the opportunity to earn a fair return on investments.⁶⁶

1. *The administrative organization of the International Seabed Authority*

The Authority⁶⁷ is divided into four major organs:⁶⁸ the Assembly, the Council, the Secretariat, and the Enterprise. The Assembly and the Council, the chief decision-making bodies of the Authority which have the greatest impact on access and cost of access to the ocean's resources, will be discussed in this section. Since the Secretariat's function is unrelated to the question of access, it will not be discussed. The Enterprise, the operating arm of the Authority, will be discussed in the next section.

The Assembly, the supreme organ of the Authority,⁶⁹ is composed of one representative from every nation party to the Treaty.⁷⁰ This body is responsible for establishing the general policies of the Author-

United States developers may be prevented from drilling off the United States coast where the continental shelf extends beyond 200 miles. The limit of the continental shelf must be legally clarified to include the continental margin and slope, even if they extend beyond the EEZ, for United States interests to be sufficiently protected.

⁶³ See *supra* note 45 and accompanying text.

⁶⁴ The nodule mining industry is currently grappling with this problem. Non-assurance of exclusive access to any particular site has created difficulties raising necessary capital and getting approval by the boards of directors within the industry. N.Y. Times, Apr. 7, 1981, § V, at 1, col. 3.

⁶⁵ See *infra* notes 109-118 and accompanying text.

⁶⁶ Opportunity to earn a fair return is the sole impetus for the industry to exploit these resources. See, e.g., Richardson, *supra* note 44.

⁶⁷ Draft, *supra* note 7, art. I(2).

⁶⁸ *Id.* art. 158(1).

⁶⁹ *Id.* art. 160(1).

⁷⁰ *Id.* art. 159(1).

ity, amending the Treaty, and approving policies, rules, and regulations developed by the Commission for the operation of the Authority.⁷¹ Each member of this body is entitled to only one vote.⁷² Thus, it is obvious that the United States and other developed countries, who have the greatest stake in seabed exploitation since they are the only countries with sufficient capital and technology to undertake this type of venture, will be substantially out-numbered and out-voted.

The Council has power to approve or disapprove applications for Area sites,⁷³ and is comprised of 36 members representing various political and economic interests.⁷⁴ The Draft provides specific criteria for the election of the Council's membership, and these provisions will not assure the United States a seat.⁷⁵ Initially, a Preparatory Commission will promulgate rules and regulations governing access to Area sites.⁷⁶ Once the Treaty has been ratified and the Authority is operating, however, these rules and regulations may be amended and applications for sites may be approved by consensus of the Council.⁷⁷ Thus, rules and regulations unfavorable to the United States could be enacted. Since the United States is not assured a seat on the Council, it is conceivable that private United States companies may have their plans rejected.

⁷¹ *Id.* art. 132.

⁷² *Id.* art. 159.

⁷³ *Id.* art. 162.

⁷⁴ *Id.* art. 161.

⁷⁵ *Id.* art. 161(1). Article 161(1) provides:

(a) Four members from among the eight States Parties which have the largest investments in preparation for and in the conduct of activities in the Area, either directly or through their nationals, including at least one State from the Eastern (Socialist) European region;

(b) Four members from among those States Parties which, during the last five years for which statistics are available, have either consumed more than two percent of total world consumption or have had net imports of more than two percent of total world imports of the commodities produced from the categories of minerals to be derived from the Area, and in any case 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 net exporters of the categories of minerals to be derived from the Area, including at least two developing countries whose exports of such minerals have a substantial bearing upon their economies;

(d) Six members from among developing States, representing special interests to be represented shall include those of States with large populations, States which are major importers of the categories of minerals to be derived from the Area, States which are potential producers of such minerals, and least developed States;

(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.

"States Parties," as used in the Treaty, are those states who have signed the Treaty.

⁷⁶ Richardson, *supra* note 44, at 63.

⁷⁷ *Id.*

Prerequisite criteria to obtain access to a site are listed in Annex III of the Treaty.⁷⁸ An applicant must have a state party sponsor and must satisfy financial and technical qualifications. The Legal and Technical Commission, an arm of the Council, makes the initial determination whether the applicant and his plan of work comply with the specified criteria.⁷⁹ There is no guarantee that a United States representative will serve on this Commission or, in fact, that any representative will be from a developed country—the Commission may be composed entirely of representatives from the developing and socialist countries since the Council, itself dominated numerically by these countries, will designate the Commission members. Any Commission decision will be deemed approved by the Council within a fixed time, unless the Council reverses the decision by consensus.⁸⁰ Thus, if the Commission disapproves a United States company's application, there may be no available recourse for the frustrated applicant.⁸¹ If regulations favoring the developing countries are passed—a likely event—an applicant from a developed country may be unable to obtain an Area site.

Under the current administrative system, developing and socialist countries substantially out-number and out-vote the United States and other non-socialist countries. The non-socialist countries can neither prevent the approval of applications from an unqualified developing or socialist country, nor can they secure approval of qualified developed countries' applications. In addition, they would be unable to prevent the Council's adoption of rules and regulations failing to consider the legitimate interests of the United States and other developed countries.

⁷⁸ Draft, *supra* note 7, Annex III, art. 7.

⁷⁹ Richardson, *supra* note 44, at 62. The Commission will consist of 15 members elected to five year terms by a three-fourths vote of the Council. *Id.*

⁸⁰ *Id.*

⁸¹ Some commentators suggest that a check has been placed on the amount of discretion exercised by the Council and the Commission in accepting or rejecting applications by making the Seabed Disputes Chamber available to applicants. *See, e.g., id.* However, if the Council and the Commission act in conformity with the rules and regulations they promulgate, the Seabeds Dispute Chamber cannot overrule their determination. Article 190 provides that:

[T]he Sea-Bed Disputes Chamber shall not pronounce itself on the question of whether any rules, regulations or procedures adopted by the Authority are in conformity with the provisions of this Convention, nor declare any such rule, regulation or procedure invalid. Its jurisdiction shall be confined to determine whether the application of any rules, regulations, or procedures to individual cases would be in conflict with the contractual and conventional obligations to the parties to the dispute, and to claims concerning lack of competence or misuse of power.

Draft, *supra* note 7, art. 190.

2. *The operational system of the Authority*

Along with granting licenses to exploit ocean resources, the Authority will recover these resources through its operating arm, the Enterprise.⁸² The Enterprise will develop Area sites discovered for it by other developers,⁸³ and the resources recovered through the activities and the revenues it receives will be transferred to developing nations and "people who have not gained full independence."⁸⁴

The present operating system of the Enterprise delineated in the Treaty is inequitable. Even though it will directly compete with private and state producers, the Enterprise enjoys several advantages: (1) favorable funding and tax treatment;⁸⁵ (2) revenue-sharing provisions;⁸⁶ (3) the transfer of technology to the Enterprise and other conditions imposed on mining operators;⁸⁷ (4) the reservation of sites by private and state producers for the Enterprise;⁸⁸ (5) the quota system;⁸⁹ (6) the review conference;⁹⁰ and (7) institutional bias.⁹¹

The Enterprise will receive funds from various sources. The United States has agreed to a system devised by developing countries whereby the Enterprise will begin operations shortly after the Treaty becomes effective.⁹² This system may not have an adverse competitive impact on state owned or subsidized operations, but the system may create a competitive advantage for the Enterprise over private operators who need time to find willing investors and creditors. In fact, raising risk capital has already proved difficult for private companies who are ready to mine the ocean floor for nodules.⁹³

Under the present text, the Enterprise enjoys tax-free status,⁹⁴ de-

⁸² *Id.* 158(2).

⁸³ *Id.* Annex III, art. 8.

⁸⁴ "People who have not gained full independence" refers to groups like the Palestine Liberation Organization (PLO). Lilla, *supra* note 28.

⁸⁵ Draft, *supra* note 7, art. 183 and Annex IV, art. 13(5).

⁸⁶ *Id.* Annex III, art. 13.

⁸⁷ *Id.* arts. 245-57.

⁸⁸ *Id.* Annex III, art. 8.

⁸⁹ *Id.* art. 151(2)(b).

⁹⁰ *Id.* art. 155.

⁹¹ See *infra* notes 101-03 and accompanying text.

⁹² Third U.N. Conference on the Law of the Sea, Report by Mr. P.B. Engo, Chairman of the First Committee on the Work of the Committee, U.N. Doc. A/CONF. 62/L.16 (1976), reprinted in 6 Third U.N. Conference on the Law of the Sea Official Records 130, 133, U.N. Sales No. E.77.V.2 (1977) [hereinafter cited as Engo Report]. The proposed system consists of subscriptions, state loan guarantees, voluntary contributions, and funds obtained from revenue sharing.

⁹³ N.Y. Times, Apr. 7, 1981, § IV, at 1, col. 3 (executive of mining company termed deep seabed ventures "not bankable").

⁹⁴ Draft, *supra* note 7, art. 183 and Annex IV, art. 13(5).

spite United States objections. This places private industry at a serious economic disadvantage, as it is subject to double taxation—first, by the Authority itself, and, second, by the sponsoring state⁹⁵—which may prevent profitable private exploration. The Enterprise, on the other hand, is free to retain and distribute all profits from its ventures to developing countries, to reinvest profits in additional equipment or sites, or any combination thereof. Additionally, provisions for mandatory transfer of technology allow the Enterprise to gain sophisticated technology from operators in the Area at less than commercial value.⁹⁶ It may receive proven technology without engaging in long and costly research and development, thus increasing the profitability of its exploration.

The site reservation system⁹⁷ provides the Enterprise with a mining site already explored by state and private industries. Consequently, the Enterprise would not have to expend the large amounts of money and time that exploration requires. Private industry, on the other hand, must continually expend vast sums to explore the ocean floor, not only for its own benefit, but also because it is required to find an additional site for the Enterprise to exploit. This benefits the Enterprise and, through it, the developing countries.

The production quota⁹⁸ and the review conference⁹⁹ may also afford the Enterprise advantages over private and state producers. It seems unlikely that the Enterprise would be subject to a quota system or that its privilege to exploit a site would be revoked. Private industry, on the other hand, may feel compelled to recapture its entire initial investment in one operation because of the possibility that any future operations will be limited or denied entirely.¹⁰⁰

⁹⁵ The maximum corporate tax rate in the United States is 46%. 26 U.S.C.A. § 11(b) (West Supp. 1982). United States industry will also be subject to the Authority's tax as it will be exploiting resources beyond the EEZ. Draft, *supra* note 7, Annex IV. In fact, the "revenue sharing" provisions were drafted to cover the development of both petroleum resources and manganese nodules. Nigrelli, *supra* note 45, at 174.

⁹⁶ See *infra* notes 119-35 and accompanying text.

⁹⁷ Draft, *supra* note 7, Annex III, art. 8. The United States delegation originally refused to provide the Enterprise with explored sites but now has acquiesced to this provision.

⁹⁸ *Id.* art. 151(2)(b). Additionally, Article 151(3) gives the Authority:

power to limit the level of production of minerals from the Area, other than the minerals from nodules, under such conditions and applying such methods as may be appropriate. Regulations adopted by the Authority pursuant to this provision will be subject to the procedures [determined by amendment to the Convention].

Id.

⁹⁹ *Id.* art. 155. The Conference would be held 15 years after the date the treaty becomes effective.

¹⁰⁰ Breaux, *The Diminishing Prospects for an Acceptable Law of the Sea Treaty*, 19 VA. J. INT'L L. 257, 283 (1979).

Since the Enterprise is part of the Authority, it is reasonable to expect that there will be an institutional bias in favor of the Enterprise. The Treaty itself requires the Authority to favor the developing countries.¹⁰¹ Since the Enterprise represents the developing countries, such discrimination arguably will favor the Enterprise itself. Because the Commission, the Council, and the Assembly have discretionary power to approve applications for mine sites,¹⁰² this bias could substantially affect other operators' efforts to obtain sites.¹⁰³

3. *The funding system of the International Seabed Authority*

Under the present draft, the Authority may raise its own revenue and avoid dependency on United Nations members for support.¹⁰⁴ The Authority is empowered to raise revenue by charging a \$500,000 application fee,¹⁰⁵ a "ground rent"¹⁰⁶ of \$1 million per year until production begins, and production payments.¹⁰⁷ The Authority can also raise revenue through taxation¹⁰⁸ (also deemed revenue sharing). These methods place heavy financial burdens on private industry and should be substantially revised. The Authority's ability to raise funds, coupled with its ability to exploit areas discovered by others, will make the Authority a wealthy international organization controlled by developing countries.¹⁰⁹

The most serious impediments to private development of ocean resources are the Treaty's production charges and revenue sharing provisions. These provisions apply to all exploitation activities occurring beyond the 200 mile EEZ¹¹⁰ and in the deep seabed. Thus, the United States, one of the few countries with available technology and a continental shelf beyond 200 miles, will be one of the few countries burdened by this provision.¹¹¹ Nonetheless, the United States, at the beginning of the negotiations, formally accepted the principle of reve-

¹⁰¹ See Draft, *supra* note 7, art. 82 (developing countries not obligated to pay royalties).

¹⁰² See *infra* notes 119-25 and accompanying text.

¹⁰³ This would be particularly true as sites become scarce.

¹⁰⁴ Wall St. J., Mar. 9, 1981, at 22, col. 1; Safire, *supra* note 29.

¹⁰⁵ Draft, *supra* note 7, Annex III, art. 13.

¹⁰⁶ *Id.* See also Richardson, *supra* note 44, at 62. Although this sum is creditable against the tax payments once production begins, it may impede private industry's ability to raise sufficient capital to begin ocean exploration.

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ Wall St. J., Mar. 9, 1981, at 22, col. 1; Safire, *supra* note 29.

¹¹⁰ Draft, *supra* note 7, Annex III, art. 13.

¹¹¹ *Id.* art. 82. Article 82 requires "[t]he coastal State [to] make payments or contributions in kind in respect to the exploitation of the non-living resources of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured."

nue sharing by state and private companies for the benefit of the developing countries.¹¹² In 1975, the United States proposed a system that placed a five percent ceiling on the amount subject to revenue sharing.¹¹³ In 1976, Secretary of State Kissinger informed the Conference that the United States would agree to a method of financing the Enterprise, so that it could begin the mining operations at essentially the same time as state and private industries.¹¹⁴ But the developing countries sought large contributions from developers so that production profits would be minimal.¹¹⁵ The position of the developing countries has largely been accepted by the delegates, and the percentage of revenue sharing is higher than the original United States proposal.¹¹⁶

Although there are no explicit provisions on revenue sharing from

¹¹² Breaux, *supra* note 100, at 275; see also Draft United Nations Convention on the International Sea-bed Area: Working Paper Submitted by the United States of America 25 U.N. GAOR Supp. (No. 21), art. 5(2), at 133, U.N. Doc. A/8021 (1970).

¹¹³ This proposal was included in an earlier negotiating text, the Third U.N. Conference on the Law of the Sea, Informal Composite Negotiating Text, art. 82, U.N. Doc. A/CONF. 62/WPO (1977), reprinted in 8 Third U.N. Conference of the Law of the Sea Official Records at 1, 17, U.N. Sales No. E.78.74 (1978). The United States delegation:

indicated that if [it was] assumed [that] a given field would produce 700 million barrels of oil through a 20 year depletion period, and value of \$11 per barrel, the total amount would be \$140 million per field (total revenue collected over the first 15 years of a 20 year depletion period). The oil and other minerals themselves, and revenues collected by the coastal states would of course remain with the coastal state.

Status Report on the Law of the Sea Conference—Part 3: Hearings Before the Senate Committee on Interior and Insular Affairs, 94th Cong., 1st Sess. 1217, 1233 (1975) (United States Delegation Report).

¹¹⁴ Engo Report, *supra* note 92, at 133.

¹¹⁵ See Breaux, *supra* note 100, at 263. The viewpoints of the developed and the developing countries conflict. The developing countries find the notion of profit to be incompatible with the principle of the common heritage of mankind. 1 Third U.N. Conference on the Law of the Sea Official Records (37th mtg.) at 157, U.N. Sales No. E.75.V.3 (1975) (statement by Mr. Bakula of Peru). Profit will be accepted only to the extent necessary to ensure that ocean mining will commence, at least until the Enterprise is operationally and financially independent of the developed countries.

¹¹⁶ Current production (royalty payments) and profit share payments are recovered in stages—the first before the investment is recovered and the second afterward.

In the first stage, the production charge is 2% of market value of the processed metals produced by the project. In the second stage, it increases to 4% unless the return on investment in a given year would fall below 15% if the 4% rate were applied, in which case the production charge reverts to 2% for the year. The profit-sharing payments are based on a graduated, incremental schedule. During the first stage, the rates are 35% for that income providing a return on investment of 10% or less, 42.5% for that income providing a return between 10% and 20% and 50% for that income providing a return in excess of 20%. In the second stage, the corresponding rates are 40%, 50% and 70%.

Richardson, *supra* note 44, at 62; Draft, *supra* note 7, at Annex III, art. 13 (the production charge applies to all proceeds while the profit share payments (i.e., taxes) apply only to the actual fraction attributable to the mining portion of the project). The calculations utilized are based on a computer model which merely provides a base-case for a hypothetical mining operation. If the assumptions are overly optimistic, the levels of payment will be excessively high, thereby possibly preventing private operators from obtaining access to these resources. This particularly would be

petroleum resources derived from the deep seabed, it is likely that the provisions established for mining nodules would be applied *mutatis mutandis*,¹¹⁷ thus imposing the very same financial burdens on the petroleum industry. The developing countries' position on the burdens placed on the petroleum industry has eased somewhat,¹¹⁸ but the application fees, the "ground rents," the production payments, and the revenue sharing provisions advocated by the developing countries still place unfair burdens on the United States petroleum industry engaged in resource exploitation beyond the 200 mile EEZ.

Provisions for the Transfer of Technology

Article Five of Annex III¹¹⁹ requires mandatory transfer of all technological information and equipment utilized in deep seabed exploitation to the Enterprise and developing countries.¹²⁰ If the operator does not own the rights to the technology, he must provide assurances from the owner that the technology will be made available to the Enterprise.¹²¹ Furthermore, if the Enterprise cannot obtain the technology on fair and reasonable commercial terms and conditions, operators in the Area having access to the technology must ensure Enterprise access.¹²²

These provisions have been the subject of intense negotiations due to the conflicting views of the developing and developed countries.¹²³ Representatives of developing countries argue that mandatory transfer is essential: without it, they fear they will be precluded from participating in deep seabed activities and that the Enterprise would never become functional.¹²⁴ The developed countries originally opposed

true for United States operators since they would not receive state subsidies reducing the financial burden. See Breaux, *supra* note 100, at 283.

¹¹⁷ For a discussion of the potential precedential effect of this treaty, see Breaux, *supra* note 100, at 260-62.

¹¹⁸ This is probably due to the recognition that the amount of resources available from the deep seabed is substantially less than originally expected and that deep seabed exploitation is a risky and expensive technical enterprise. *Id.* at 276.

¹¹⁹ This article does not specifically refer to the production of nodules, and therefore seems applicable to technology used by the petroleum industry as well as the nodule mining industry.

¹²⁰ Draft, *supra* note 7, Annex III, art. 5.

¹²¹ *Id.* Annex III, art. 5(3)(b). If such assurance is not obtained, the technology cannot be used by anyone engaged in exploitation activities in the Area. *Id.*

¹²² *Id.* Annex III, art. 5(5).

¹²³ For an example of the viewpoint of the United States delegation, see Third U.N. Conference on the Law of the Sea, Report By the Chairman of the Third Committee, U.N. Doc. C.3/Rep. I, Annex I (Informal Proposal by the United States), reprinted in 10 Third U.N. Conference on the Law of the Sea Official Records at 190, U.N. Sales No. E.79.V.4 (1979).

¹²⁴ Their stance conforms to the program of the developing countries for overall economic development. Breaux, *supra* note 100, at 263. See also R. ANAND, *supra* note 1, at 249-51.

mandatory transfer, contending that the technology would be available to the Enterprise and the developing countries through normal market operations. The United States later acquiesced to mandatory transfer to the Enterprise, but not to the developing countries. However, the United States now seems to have agreed to mandatory transfer to both the Enterprise and to the developing countries.¹²⁵ Spokesmen for the United States delegation maintain that their acquiescence will not adversely affect commerce or technological development, or mandate future technological transfers.¹²⁶

The United States delegation's position lacks merit. Since a forced sale will not be the result of the type of free negotiations characteristic of most commercial transactions, it is unlikely that the resulting terms will be commercially fair and reasonable. It is also unlikely that technological innovations will be protected from theft or other misuse under such a system—there is no provision in the Treaty preventing the Enterprise or the transferee country from passing on the technology to another nation or organization.¹²⁷ Further, there is no basis for the United States delegation's belief that this regime will be applicable solely to the deep seabed.¹²⁸ In fact, many commentators oppose the treaty because they perceive an adverse precedential effect on future international negotiations.¹²⁹ Although it is presently unclear whether these provisions will apply to the petroleum industry, as well as to the mining industry, it seems likely that they will.¹³⁰ The importance of the provisions to the developing countries, who have played a dominant role in the negotiations thus far, is evident.

The provisions conflict with the United States theory of free enterprise and should not be established as a legal precedent. The United States petroleum industry has always been privately run, so that companies are free to develop their own technology to be used for their own benefits. Of course, private companies at times have found it profitable to share their developments with others. But it is the business judgment of the company that motivates these decisions. The Treaty,

¹²⁵ Draft, *supra* note 7, Annex III, art. 5(3)(c).

¹²⁶ See Breaux, *supra* note 100, at 263.

¹²⁷ For a more extensive discussion of this problem, see Breaux, *supra* note 100, at 264-65. This lack of protection may discourage the industry from continued development of deep seabed technology.

¹²⁸ *Id.* at 264.

¹²⁹ *Id.* at 260-62; Goldie, *supra* note 14, at 295; Knight, *Time Has Bypassed Law of the Sea Talks*, N.Y. Times, Apr. 4, 1981, at 22, col. 6; N.Y. Times, Mar. 15, 1981, § IV, at 5, col. 1 (interview with Senator Breaux); Lilla, *supra* note 28.

¹³⁰ As noted earlier, Annex III, Article 5 of the Draft does not refer exclusively to the production of nodules. See *supra* note 119.

which embodies binding international law, will make this transfer mandatory for anyone exploring or exploiting ocean resources beyond the 200 mile EEZ.¹³¹ The potential drain on the commercial profits of the companies who expend vast sums of money developing this technology renders this approach a dangerous precedent for international law.

Marine Scientific Research

Scientific research on the continental margin and the floor of the deep seabed began but a short time ago,¹³² and little information is, therefore, available. Because of the need for more data, the provisions covering marine scientific research were also hotly debated.¹³³ Many aspects of the regime were unacceptable to the United States delegation,¹³⁴ and as with most provisions of the Treaty relating to exploration and exploitation of the ocean's resources, the views of the developed countries conflicted with those of the developing countries. The developing coastal states argue that establishing EEZs includes the right to regulate marine scientific research therein. The coastal state, therefore, would have to consent to any research conducted in its EEZ. Since developed countries fear that a consent requirement or restrictions imposed by the coastal state may hamper progress in marine science, they argue against the imposition of a consent requirement.

The notion of consent by the coastal state included in the Draft¹³⁵ attempts to balance the opposing interests of the developed and the developing countries. For example, Paragraph Three of Article 246 provides that consent "shall, in normal circumstances" be granted when the proposed research project is carried out "exclusively for peaceful purposes and in order to increase scientific knowledge of the marine environment for the benefit of all mankind."¹³⁶ But Paragraph Five does give the coastal state discretion to withhold consent under certain circumstances.¹³⁷ With ultimate discretion vested in the coastal

¹³¹ Draft, *supra* note 7, Annex III, art. 5.

¹³² In the late 1950s there were only three or four countries with offshore oil interests. Now exploration of the coasts of more than 75 countries is in progress and drilling has begun off 42 of them. R. ANAND, *supra* note 1, at 19.

¹³³ *See, e.g.*, 4 Third U.N. Conference on the Law of the Sea Official Records (22d mtg.) at 105, U.N. Sales No. E.75.V.10 (1975) (Statement of Mr. Clingan); 9 Third U.N. Conference on the Law of the Sea Official Records (101st mtg.) at 56, U.N. Sales No. E.79.V.3 (1980) (Statement of Mr. Oxman).

¹³⁴ *E.g.*, Draft, *supra* note 7, Annex III, art. 5.

¹³⁵ *Id.* arts. 238-65. *See especially id.* art. 246.

¹³⁶ *Id.* art. 246(3).

¹³⁷ *Id.* art. 246(5)(a), (b), (c). Paragraph 5 of Article 246 gives coastal states discretion to

state, the balance seems to favor the developing nations.

Even beyond the notion of consent, there is a severe division over the terms of the regime for marine scientific research. The developed countries, private academic institutions, and private business organizations are opposed to sharing information obtained by them at enormous expense without any *quid pro quo* from the developing countries.¹³⁸ On the other hand, the developing countries, particularly the coastal states, do not want to be uninformed and uninvolved while foreign countries or corporations engage in research projects off their shores.¹³⁹

The current Draft provisions on research in the EEZ and on the continental shelf favor the position of the developing countries.¹⁴⁰ The coastal state has the discretion to prohibit research in EEZ and on its continental shelf.¹⁴¹ If consent is granted, the researchers (who are usually from developed countries) must: (1) assume the financial burden of the project; (2) provide the coastal state with a full description of the study six months before research begins;¹⁴² (3) allow coastal state participation in the project;¹⁴³ (4) allow the coastal state full access to all data and samples obtained;¹⁴⁴ (5) make all research results internationally available as soon as possible;¹⁴⁵ and (6) allow neighboring land-

withhold their consent to the conduct of a marine scientific research project of another State or competent international organization in the exclusive economic zone or on the continental shelf of the coastal state if that project: (a) is of direct significance for the exploration and exploitation of natural resources, whether living or non-living; (b) involves drilling into the continental shelf, the use of explosives or the introduction of harmful substances into the marine environment; (c) involves the construction, operation or use of artificial islands, installations and structures.

The negotiators appear to distinguish between "fundamental" or "pure" research, and "applied," "commercial," or "military" research. Realistically, this standard may be difficult to apply. Much of the geological research is commercially useful to the oil and gas industry, and marine biological research is useful to the fishing industry. R. ANAND, *supra* note 1, at 102.

¹³⁸ Research information is generally exchanged for other information or kept private, not given away.

¹³⁹ R. ANAND, *supra* note 1, at 102.

¹⁴⁰ Restrictions and burdens placed on marine scientific research in the EEZ are contained in Articles 246, 247, 249 and 254. Draft, *supra* note 7. The restrictions placed on scientific research in the EEZ and on the continental shelf are likely to cause opposition to the ratification of the Treaty by the United States scientific community. Some influential United States scientists maintain that they would be better off negotiating access to the EEZs of other countries on a strictly bilateral basis. Others, however, believe that the existence of the negotiating texts has set the pattern for unilateral legislation and bilateral negotiation, and therefore feel that the Treaty would not cause any major additional difficulties. Breaux, *supra* note 100, at 286.

¹⁴¹ Draft, *supra* note 7, art. 246(5)(a).

¹⁴² *Id.* art. 248.

¹⁴³ *Id.* art. 249.

¹⁴⁴ *Id.* art. 249(c).

¹⁴⁵ *Id.*

locked and geographically disadvantaged states to participate in the project.¹⁴⁶

The positions of the developed and developing countries on marine scientific research in the Area also conflict. The developing countries argue that the Authority should have the exclusive right to conduct such research. This stance reflects a departure from prior expressions of international law concerning the freedom of seas.¹⁴⁷ This traditional doctrine, advocated by the developed countries, has been accepted by the delegates to UNCLOS III.¹⁴⁸

The importance of marine scientific research to the petroleum industry is clear. In order to discover oil, tests of the ocean's floors must be conducted and test wells must be drilled.¹⁴⁹ Although private researchers would remain free to explore the deep seabed, any research conducted in the EEZ or on the continental shelf would be greatly restricted by the Treaty. This is especially disturbing because the Treaty has not delineated clearly the boundaries of the continental shelf.¹⁵⁰ This provision would not only place the entire financial burden of the research on the petroleum industry, but, like the provision requiring transfer of technology, would require massive transfers of knowledge to the developing countries. These provisions hardly seem fair and reasonable,¹⁵¹ and certainly are not compatible with the United States free enterprise system. Thus, it is unlikely that the United States would accept them.

Lack of Grandfather Rights and Security of Tenure

The United States repeatedly asserts that protection must be afforded to those who begin operation prior to the Treaty's effective date.¹⁵² The developing countries, on the other hand, continue to resist the inclusion of grandfather rights and condemn states and private in-

¹⁴⁶ *Id.* art. 254(3).

¹⁴⁷ Convention on the High Seas, Apr. 29, 1958, 13 U.S.T. 2312, T.I.A.S. No. 5200, 480 U.N.T.S. 82. This Convention codifies the doctrine of the freedom of the seas originally advocated by Grotius.

¹⁴⁸ Draft, *supra* note 7, art. 256. Article 256 provides, in relevant part that "[a]ll states . . . as well as competent international organizations, have the right, in conformity with the provisions of Part XI, to conduct marine scientific research in the Area."

¹⁴⁹ Wall St. J., Mar. 13, 1981, at 8, col. 5; Wall St. J., Jan. 9, 1981, at 8, col. 4.

¹⁵⁰ N.Y. Times, Mar. 15, 1981, § IV, at 5, col. 1 (Elliot Richardson interview). Does the continental shelf include the continental margin?—the continental slope? The answers to these questions may become particularly important since large oil deposits recently were found in the continental margins which may prove to be a fruitful source of oil. Garcia-Mata, *supra* note 46.

¹⁵¹ Richardson, *supra* note 44, at 61.

¹⁵² The industry feels that security of tenure, often referred to as grandfather rights, is absolutely necessary for ocean mining. Breaux, *supra* note 100, at 282.

dustries that have already begun ocean mining.¹⁵³ The present Draft of the Treaty reflects the position of the developing countries and, in effect, calls for a moratorium on the development of non-metallic resources in the deep seabed.

It appears that the Treaty will not be ratified in the near future.¹⁵⁴ Yet, the petroleum industry is already recovering petroleum deposits from beyond the 200 mile EEZ.¹⁵⁵ If further exploration and exploitation is to be undertaken, some protection must be afforded to the wells discovered or the industry may not be able to raise sufficient capital to continue exploration.¹⁵⁶ Although the United States may pass its own legislation allowing the industry to continue developing the ocean's resources beyond the EEZ, and may enter into individual treaties with other nations that also have the technology available to carry out such exploitation, this alone may not provide sufficient protection.¹⁵⁷ To

¹⁵³ See 9 Third U.N. Conference on the Law of the Sea Official Records (109th mtg.) at 103-04, U.N. Sales No. E.79.V.3 (1980) (statement of Mr. Nandan of Fiji) [hereinafter cited as Nandan Statement]. The developing countries are opposed to including grandfather rights because those operations would only be subject to conditions imposed in the original contract, rather than conditions reflecting policies of the developing countries. Breaux, *supra* note 100, at 282.

¹⁵⁴ The Reagan Administration has not completed its review of the Treaty. Thus, no substantive negotiations can be concluded. In addition, changes proposed by the Administration probably will cause heated debate.

¹⁵⁵ Garcia-Mata, *supra* note 46.

¹⁵⁶ This problem has already been encountered by the mining industry. N.Y. Times, Apr. 7, 1981, § IV, at 1, col. 3.

¹⁵⁷ Under the traditional freedom of the seas principle, the United States cannot claim exclusive legal rights to any area of the seabed necessary to support its large investments and provide the security of tenure of Area sites. Stevenson, *Don't Scuttle the Sea Law; Improve Its Draft*, N.Y. Times, Apr. 10, 1981, at 30, col. 4.

Developers of Area sites must have an exclusive legal right to exploit that site. Unlike fish, the petroleum resources contemplated by the scriveners of the Convention on the High Seas, *supra* note 147, cannot swim. According to Elliot Richardson,

No nation can confer a right to [develop Area sites] which is enforceable against the nationals of any other country. Indeed, the position that [such explorations] is a high-seas freedom cannot be squared with the assertion of any such power.

In our view [i.e., the United States], however, nations can license their own nationals to mine the deep seabed and can reciprocally agree to respect the licenses granted by other nations. The United States and the Federal Republic of Germany . . . have each enacted legislation that would authorize such reciprocal licensing, not as an alternative to the Law of the Sea convention but to foster the continued development of seabed mining capability. It is likely that several other advanced industrial countries will in due course follow suit. The number of these countries, however, is not likely in the foreseeable future to exceed six or eight. Can they collectively provide sufficient security for seabed mining investment? This in itself is a question of some difficulty. The fact that there have been threats of reprisal is not, of course, dispositive: We have no way of knowing whether or not such threats would in fact be carried out or, if they were, what damage they might inflict. That there would be legal challenges to any claims purporting to rest on national legislation is certain: only the outcome is in doubt.

The only sure way of removing these threats and uncertainties, quite obviously, is through the establishment of a universally recognized international legal regime for the exploitation of deep seabed minerals.

protect the huge investment required for offshore exploitation, the private industry needs universally accepted rights to exploit a particular area in the seabed.¹⁵⁸ Since wells stand in place for an extended period of time, the Treaty should contain some guarantee that wells discovered prior to its ratification will be the discoverer's property.

SUMMARY AND RECOMMENDATIONS

The petroleum resources of the deep seabed would clearly fall under the Authority's jurisdiction.¹⁵⁹ The present Draft of UNCLOS III imposes a moratorium on the development of resources until a regime for their exploitation is developed by amendment to the Treaty.¹⁶⁰ This moratorium, which may last for a long time since the Reagan Administration has halted further negotiations, could adversely affect the interests of the United States and the private petroleum industry,¹⁶¹ which already has begun drilling offshore beyond the 200 mile EEZ.

The lack of a clear regime for the development of petroleum resources in the Area cannot continue. The potential supply, even if relatively small, may ultimately prove necessary and valuable to the United States.¹⁶² In light of the rapid advances in offshore exploration and exploitation technology, development of the ocean floor may begin in the near future. If domestic and shallow offshore supplies prove less promising than originally anticipated, and the offshore finds are sub-

Richardson, *supra* note 44, at 61. See also N.Y. Times, Mar. 15, 1981, § IV, at 5, col. 1 (Elliot Richardson interview); Wall St. J., Mar. 9, 1981, at 23, col. 1 (letter to the editor from Elliot Richardson).

¹⁵⁸ Richardson, *supra* note 44, at 61.

¹⁵⁹ This conclusion arises from Article 133(b)(1) of the Draft ("[l]iquid or gaseous substances at or beneath the surface such as petroleum [and natural] gas" are considered mineral resources in the Area), read in conjunction with Article 134(5) ("[a]ctivities in the Area shall be governed by the provisions of this Part"), Article 136 ("The Area and its resources are the common heritage of mankind"), Article 137 (precluding exercise of claims of sovereignty in the Area and vesting the rights in the Area's resources in mankind as a whole), and Article 151(3) (giving the Authority power to limit production in the Area). Draft, *supra* note 7. Other provisions in Part XI relating to the Area also support this conclusion. *Id.* arts. 133-55.

¹⁶⁰ *Id.* art. 151(2). Earlier texts, which reflected the position of the developing countries, provided that resources not contained in manganese nodules would not be developed until the Council promulgated rules and regulations. The United States delegation feels that the present draft is a significant improvement. Breaux, *supra* note 100, at 281.

¹⁶¹ Presumably, these amendments would not be considered until the fifteen-year review conference provided for in Article 155. In light of the difficulty in reaching agreement on the regime for deep seabed mining of nodules, it seems reasonable to conclude that establishing a regime for the exploitation of petroleum resources would consume an equally long time, thereby placing the earliest date of petroleum resource exploitation near the beginning of the 21st century.

¹⁶² The United States is dependent on oil for defense and industry.

stantial,¹⁶³ the move further offshore to meet this nation's needs for petroleum will occur sooner than anticipated. If the Treaty is to serve as a "constitution for the sea,"¹⁶⁴ encompassing all potential sources of controversy, surely it should contain provisions covering the development of these essential resources before it is adopted by any country. The United States delegation and the private petroleum industry should become more active in future negotiations to ensure that these provisions are included, and that the Treaty adequately protects the United States interests in access to these resources.¹⁶⁵ While the Reagan Administration is reviewing the Draft, the glaring lack of a regime for the exploration and exploitation of petroleum resources beyond the 200 mile EEZ should be remedied so the Treaty may be deemed acceptable.

To make the Treaty acceptable, the United States and the petroleum industry should insist on changes in the administrative, operational, and funding system of the Authority.¹⁶⁶ At present, the United States is not assured of adequate representation on any body of the Authority. The one United States vote in the Assembly fails to adequately reflect the population, wealth, and technological power of the United States.¹⁶⁷ The makeup of the Council and the Commission consists mainly of developing and socialist countries, with capitalist countries assured of substantially less than a majority of seats.¹⁶⁸ The United States delegation should insist upon more adequate representation in the Assembly and a guarantee of at least one seat in the Council and the Commission.

The Draft currently reflects the developing countries' desire to control the mineral resources of the deep seabed and direct the actions of global institutions¹⁶⁹ in their quest to create a "New International

¹⁶³ See, e.g., Wall St. J., Mar. 31, 1981, at 15, col. 1; Wall St. J., Mar. 18, 1981, at 8, col. 1; Wall St. J., Mar. 13, 1981, at 8, col. 5; Wall St. J., Mar. 10, 1981, at 23, col. 4; Wall St. J., Feb. 23, 1981, at 8, col. 3; Wall St. J., Feb. 2, 1981, at 12, col. 5.

¹⁶⁴ Johnson & van Voorst, *supra* note 5.

¹⁶⁵ The lack of participation by the petroleum industry in the proceedings of UNCLOS III is noteworthy. Also worth noting is the lack of discussion and debate about provisions concerning petroleum exploitation by any of the delegations. For an analysis of the petroleum industry's interest in international regulation of offshore oil production, see A. HOLLICK, U.S. FOREIGN POLICY AND THE LAW OF THE SEA 180-83 (1981).

¹⁶⁶ See *supra* notes 63-66 and accompanying text.

¹⁶⁷ Breaux, *supra* note 100, at 284.

¹⁶⁸ See *supra* note 75 and accompanying text.

¹⁶⁹ Breaux, *supra* note 100, at 278. See also Draft, *supra* note 7, art. 161 (make-up of the Council); Safire, *supra* note 29; Wall St. J., Mar. 10, 1981, at 14, col. 1; Lilla, *supra* note 28; BUS. WEEK, Mar. 16, 1981, at 29.

Economic Order.”¹⁷⁰ The Authority, which has the sole power to grant contracts for the exploitation of deep seabed resources, is authorized to discriminate in favor of the developing countries and the Enterprise in granting these contracts.¹⁷¹ Since the exploitable petroleum resources of the deep seabed may be minimal, this system could effectively preclude United States companies from obtaining access to these resources.

The structure of the Enterprise is also objectionable. Besides the competitive advantages noted earlier,¹⁷² the system for the reservation of sites may create substantial burdens. If predictions about the relatively small amounts of exploitable petroleum resources in the deep seabed are correct, it may become virtually impossible for developers to find two exploitable sites. Further, if the sites are contiguous, the possibility exists that the pool will underlie both sites, or that there will actually be only one site.¹⁷³ In that event, it seems likely that the Enterprise will retain rights to the site, and it may prevent the private developer from exploiting any of the supply. Considering the large sum invested, this will deter private companies from advancing into the deep seabed.

To make the Treaty fair, developers should be allowed to choose between several alternative methods to satisfy their obligations to the Enterprise. For example, a developer could be permitted to find a site for the Enterprise to exploit, to agree to pay a larger tax, or to contribute discovered resources directly to the Enterprise. This more realistic approach would be consistent with free enterprise.

Although the application fee and the “ground rent” sums¹⁷⁴ seem reasonable, the present taxation system should not be applied *mutatis mutandis* to recovered petroleum resources. The present rates are unduly high¹⁷⁵ and, when coupled with the application fee, “ground rent,” and United States taxes, threaten to make the cost of deep seabed production prohibitive. The conferees should devise a separate plan for revenue sharing from recovered petroleum resources in light of the high cost of exploratory ventures, the possibility that the amount of recoverable petroleum at one site will be inadequate to cover development costs,¹⁷⁶ and the expense involved in storing and transporting

¹⁷⁰ Safire, *supra* note 29.

¹⁷¹ See, e.g., Draft, *supra* note 7, art. 82.

¹⁷² See *supra* notes 85-103 and accompanying text.

¹⁷³ See, e.g., North Sea Continental Shelf Cases, 1969 I.C.J. 3.

¹⁷⁴ See *supra* notes 105-18 and accompanying text.

¹⁷⁵ *Id.*

¹⁷⁶ The treaty presently contains provisions for recovery of development costs, but they are inadequate. Draft, *supra* note 7, Annex III, art. 13(6)(j).

these resources.

The Treaty should not require the transfer of technology. The Authority will receive funds sufficient to purchase any equipment needed on the open market or to develop its own. In addition, the Enterprise may enter into joint ventures with other developers.¹⁷⁷ Through this system, the Enterprise can obtain all needed equipment.

The present status of the provisions for mandatory transfer of technology are particularly troublesome. The United States delegation completely acquiesced to the developing countries' demands, agreeing to transfer technology to the developing countries, as well as to the Enterprise. This is contrary to the American free enterprise system, under which inventions are voluntarily sold in the open market place after arms-length bargaining. Even if one agrees that the developed countries should not be the only beneficiaries of seabed resources solely because they have the necessary technology, mandatory transfer of all technology utilized in the Area extends this concept too far. It is unfair to maintain that developed countries have a duty to raise the developing countries to a higher technological level when they disadvantage themselves in so doing. This is essentially what the Treaty would effectuate. Additionally, there is no provision for the protection of the developers' interests. There is nothing to prevent the Enterprise or developing countries from subsequently sharing this technology with other nations or groups, and there is no assurance that the developers will be adequately reimbursed.¹⁷⁸ In light of the substantial research and investments needed to develop this technology, these provisions discriminate against the developed countries and could discourage private industry from undertaking such ventures.

The provisions for marine scientific research on the outer continental shelf should also be revised. Since this area will probably be exploited in the near future, it is imperative to obtain more data about the area's geological structure and petroleum potential. The present text unjustifiably grants coastal states the discretion to veto research related to exploration and exploitation of natural resources.¹⁷⁹ All nations are interested in gaining access to these resources and this requires the rapid acquisition of knowledge.¹⁸⁰ Furthermore, the high

¹⁷⁷ Richardson, *supra* note 44, at 63.

¹⁷⁸ The Treaty requires sale to the Enterprise, even if a loss is incurred, and assured access to all technology used in the Area. If such assurance is not given, then the technology cannot be used. Draft, *supra* note 7, Annex III, art. 5.

¹⁷⁹ *Id.* art. 246(5). See also *supra* notes 135-51 and accompanying text.

¹⁸⁰ Information obtained must be shared at least with the Authority and the coastal state to protect the interests of the coastal state and the developing countries. *Id.* art. 244.

costs of development require obtaining information concerning the economic feasibility of development. To obtain this type of information, researchers want assurances of access to areas they feel will yield valuable information. The coastal states' desire to protect their interests is understandable, but the provisions for consent, implied consent, dissemination of information, and inclusion of coastal nationals in the project provide sufficient protection without discriminating against research related to the exploration and exploitation of petroleum resources.¹⁸¹ Thus, the provision allowing coastal states to discriminate against research related to exploitation of resources should be deleted.

The United States may have to alter its view of the free market system and accommodate itself to other nations because it is engaging in an international venture when it seeks to exploit ocean resources. This should not mean, however, that the United States has to adopt *in toto* the "opposing blueprint of economic development"¹⁸² of the developing countries, as well as their theories of legal order and political ideology. An erroneous premise underlying the UNCLOS III negotiations is that the controversy between the developed and developing countries stems from the selfish mining interests of the developed countries juxtaposed against the developing countries' desire for international distributive justice.¹⁸³ From this conflict, a "fair and reasonable package deal"¹⁸⁴ was to emerge that accommodated the views of all prospective state parties to the Treaty. The current Draft will require private United States companies to find potential petroleum deposits for themselves, as well as the developing countries, teach the developing countries how to conduct research offshore at the companies' expense, transfer technology to developing countries through the Enterprise, and then pay large royalties so that the developing countries can compete with the companies for those resources. Rather than creating a fair and reasonable compromise, it seems as if the developing countries have convinced the negotiators that the "New International Economic Order" is the appropriate model for future international law. This is not the intended result of the Treaty. There is no reason to believe that the United States or the petroleum industry should operate under anything but a free market structure in its present and future domestic and international relations. Although the compromise of some principles may be necessary and commendable in the international arena, the total ab-

¹⁸¹ *Id.* arts. 238-57.

¹⁸² Goldie, *supra* note 14, at 294.

¹⁸³ *Id.*

¹⁸⁴ Aldrich, *Law of the Sea*, DEPT. STATE BULL., Feb. 1981, at 57-58.

dication of these principles is not. When negotiations continue, the United States delegation should confirm its belief in the free enterprise system and endeavor to make the next draft a true compromise of these conflicting economic policies.

Finally, it appears that the United States delegation will have already realized that a grandfather clause ought to be included in the Treaty before it is ratified.¹⁸⁵ The present Draft essentially calls for a moratorium on the development of non-metallic resources in the deep seabed. This means that a considerable amount of time would pass before a regime would be established.¹⁸⁶ Whether or not the delegates to the Convention and private industry continue to maintain that there is no immediate need to include a regime for oil and gas production in the deep seabed before the Treaty is ratified, delegates should insist on the addition of a grandfather clause which, at the very least, would protect the financial investments of the private petroleum industry in exploring and exploiting the Area.

CONCLUSION

The Treaty devised at UNCLOS III is the most comprehensive document ever prepared on the world's oceans. The latest Draft is designed to address all the major issues related to use of the world's oceans. Yet, serious problems remain which make the Treaty unacceptable from the viewpoint of the United States and its private petroleum industry.

The failure of the negotiators to develop a regime for the resources of the deep seabed, other than nodules, is particularly problematic. Even if the decision to exclude such a regime is justifiable, under no analysis can one justify the decision to impose a moratorium on the development of these resources, nor the failure of the United States delegation to insist on the inclusion of a grandfather clause. The importance of assured access to oil and gas by the United States is painfully evident, and the failure of our delegation to protect these interests adequately should be remedied once negotiations resume. There is no doubt that the United States will continue to need increasing amounts

¹⁸⁵ The United States had to resort to unilateral legislation for the mining of manganese nodules because of the length of the negotiations. Deep Seabed Hard Mineral Resources Act, Pub. L. No. 96-283, 94 Stat. 553-86 (1980), *codified at* 30 U.S.C.A. §§ 1401-73 (West Supp. 1982). The act includes a grandfather clause. The Act has been denounced by the developing countries, who continue to refuse to acknowledge leases granted prior to the adoption of the Treaty. *See* Nandan Statement, *supra* note 153.

¹⁸⁶ Besides the length of time negotiations require, the Reagan Administration halt on the negotiation of substantive matters will slow down progress.

of oil and gas and that exploitation will move farther offshore. Our industries should be allowed to respond to the demands for these resources without fearing that their investments may be sacrificed.¹⁸⁷

The effect of the current Draft on the oil and gas industry seems substantial. Therefore, United States delegates should have taken a more active role in the negotiations to assure that their interests were protected.¹⁸⁸ The Reagan Administration, in its review, should ensure that future United States delegates to UNCLOS III actively seek the development of a fair regime for the petroleum industry.

Although authors have concluded that there is no need for a comprehensive regime related to oil and gas exploration and exploitation in the deep seabed,¹⁸⁹ or that, indeed, there is really no need for a treaty at all, it seems likely that a treaty eventually will be signed.¹⁹⁰ Thus, the United States delegation and the oil and gas industry should take measures to assure United States access to the petroleum resources on the ocean floor in a form that will sufficiently protect private industry and the free enterprise system. Otherwise, the Treaty may jeopardize the United States future supply of petroleum and thereby adversely affect national security, economic development, and international strength.

Marlene Dubow

¹⁸⁷ For a discussion of the necessity of providing security for investments made by the petroleum industry, see NPC 1973, *supra* note 52, at 17-23.

¹⁸⁸ Although the National Petroleum Council has made several recommendations to Congress, none of them have been adopted. See NPC 1969, *supra* note 47; NPC 1973, *supra* note 52; NPC 1975, *supra* note 47.

¹⁸⁹ See, e.g., Breaux, *supra* note 100, at 289-91.

¹⁹⁰ "The interest of the negotiators in achieving some tangible results from the drawn-out negotiations almost rules out the possibility that nothing will emerge." Hollick, *The Third U.N. Conference on the Law of the Sea: Caracas Review*, in R. AMACKER & R. SWEENEY, *THE LAW OF THE SEA: U.S. INTERESTS & ALTERNATIVES* 123 (1976). In addition, the United States Navy wants the Treaty to be concluded, as it guarantees free navigation through any of the world's straits 12 miles from the coast. This guarantee provides assurance that United States naval power can be brought anywhere in the world. N.Y. Times, Mar. 14, 1981, at 3, col. 3.