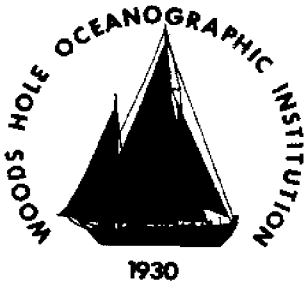


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MARINE SCIENTIFIC RESEARCH AND THE LAW OF THE SEA
CONFERENCE: SOME PROPOSED AMENDMENTS TO THE
REVISED TEXT

By

Russ Winner

September 1976

TECHNICAL REPORT

Prepared under Woods Hole Oceanographic Institution's Marine Policy & Ocean Management Program, with partial support from Pew Memorial Trust, and as part of the Institution's Coherent Sea Grant Program, sponsored by the Office of Sea Grant, Dept. of Commerce under Grant 04-6-158-44016 and 04-6-158-44106.

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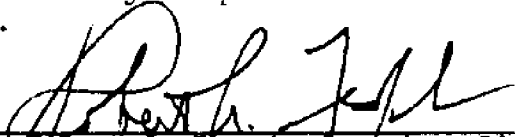
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Approved for Distribution


Dr. Robert A. Frosch, Associate Director
for Applied Oceanography

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Introduction

The Law of the Sea Conference - now in its fifth session in New York - is considering treaty provisions that will affect marine scientific research. This paper will discuss the progress that has been made, and the trends that have been indicated up to the present time. The paper will address solely those aspects of the negotiations that will directly affect marine scientific research. My analysis here is based principally upon a study of the first informal single negotiating text (a product of the third session in Geneva), and the revised single negotiating text (a product of the fourth session in New York). Additionally, I have discussed many of these issues with delegates attending the Conference in New York.

This paper is divided into four sections. The first section briefly discusses the nature of the divergent interests that the treaty negotiations are trying to conciliate. The second section briefly discusses treaty provisions and international law dealing with marine research before the Third Law of the Sea conference. The third section analyses the direction indicated by the Third Law of the Sea negotiations. This analysis is principally to contrast the revised text with the first text. Although I quote relevant parts of both the first and the revised texts, I am assuming that the reader has both texts available to him. The fourth section of this paper recommends some amendments to the revised text. The reader may find it convenient to read the fourth section first and refer back to those earlier sections in which he is interested.

I. The Nature of the Divergent Interests Relating to Marine Scientific Research. 1

Two basic factors are changing the way people look at the oceans. First, it

1

Although the views of all the countries involved in the LOS negotiations by no means always neatly fit into the single categories that are here described, some useful generalizations may nonetheless be made.

is now becoming technologically and economically possible to profitably exploit marine resources which previously were unknown or unattainable. Second, a number of developing states have recently won political independence and are looking for new sources of wealth to develop their economies. A divergence of views between the developed research states and the developing coastal states has resulted.

The interests of the developed coastal research states need little elaboration here. Research states² have, until quite recently, enjoyed almost complete freedom to explore the deep sea and seabed, coastal waters, and continental margins of the oceans.³ These states, and the marine scientific communities within them, wish to preserve as much as possible their freedom to conduct further marine research.⁴ To justify this freedom, they declare perhaps paradoxically that they are pursuing truth for its own sake and they point out the benefits which will accrue to mankind generally as a result of increased knowledge of the oceans. Western oceanographers, and the developed research states generally, view marine science as an essentially apolitical intellectual inquiry into the physical, natural laws of the oceans. They see the knowledge gained thereby as only incidentally benefiting one political or industrial faction over another. And it is implicitly felt that, in the long run, the benefits from this knowledge will spread to the entire international community. The developed research states generally favor freedom of research - and oppose a coastal state "consent regime" - in the coastal area.

²The 10 states with the largest number of marine scientist include: U.S., U.K., Japan, U.S.S.R., Canada, West Germany, Australia, India, Brazil, and France. Brazil, India, and Canada however have not aligned themselves with the developed research states.

³See the discussion at section II., infra.

⁴In the 2nd session at Caracas, the "Western European approach" favored freedom of scientific research in the high seas and the economic zone, subject to internationally adopted guidelines. U.S. Delegation Report (March 17 - May 9, 1975), p. 8.

The developing coastal states⁵ tend to view marine scientific research in a different light. The developing states are without Western Europe's and North America's long tradition of the intellectual independence of pure scientific inquiry from matters political or industrial. Instead, their view of science tends to be both more practical and based on more immediate events. They see the alliance of science, technology, and politics - a relatively recent, and perhaps only superficial, phenomenon in Western Europe and North America - as being of the essence of scientific inquiry. They tend to view marine scientists as serving often as agents of the dominant political and industrial interests back home, rather than as independent intellectual inquirers pursuing truth for its own sake and for the benefit of all mankind.

Consequently, the developing states are skeptical when oceanographic research, performed in their coastal waters by developed research states, is described to them as being "basic research".⁶ First, they fear that the research is often "applied", and that it is motivated by a desire of the distant research countries to find and exploit the natural resources in the developing countries' coastal waters. They fear the direct, physical exploitation of the resources by the foreign industry before they have the technological capability to exploit it themselves. In addition, the coastal developing states fear that more powerful states may apply diplomatic pressure - or even seek to interfere with their internal politics - in order to seek the allegiance of the developing country with its newly-found valuable resource. Finally, they fear that their national

⁵I am referring here, in a general way, to those nations belonging to the Group of 77, the African Group, and the Latin American Group.

⁶Throughout this paper, I use the terms "basic" and "applied" research. I use the terms in a necessarily imprecise way, relying on them only to draw a general distinction. See generally the discussion at Section III. A. 3.b. (3.) (a.), infra.

security may be threatened by the fact that at least some military surveillance of their coastlines and harbors is performed by hostile states under the guise of oceanographic research.

For these reasons, many developing states are more interested in training their own marine scientists and in fostering the importation of marine technology than they are in encouraging oceanographic work in their coastal waters by the developed research states. Many developing coastal states wish to be able to closely regulate foreign vessel research in their coastal waters. They would like the research to be relevant to their own economic development, and would like greater participation in the research by their own scientists. Thus many developing states favor an absolute "consent regime" in the coastal area.⁷

There seems to be a general consensus in Committee II of the negotiations that a coastal state's economic zone should extend 200 nautical miles from its shore. The principal debate between the developed research states and the developing coastal states concerns the extent to which, and under what circumstances, research in the economic zone and on the continental shelf should be subject to the consent of the coastal country. There seems also to be a general consensus in Committee I that an International Seabed Authority should be created having jurisdiction over the deep-sea floor. Questions are also raised in that committee concerning the extent to which, and under what circumstances, deep-sea research should be subject to the Authority. The conference is trying to find middle ground acceptable to both the developed research states and the developing states.

⁷In the second session at Caracas, the "Group of 77 approach" wished to create an absolute consent regime, making all research subject to coastal state consent in the economic zone and on the continental shelf, and making all research subject to Authority consent beyond these areas. U.S. Delegation Report (March 12 - May 9, 1975), p. 8.

II. The Present Legal Regime

Marine scientific research has enjoyed considerable freedom until recently. It has been restricted only by the provisions of the Geneva Conventions of 1958,⁸ by customary international law, and by unilateral coastal state action. Article 2, paragraph 1, of the 1958 Geneva Convention on the Continental Shelf⁹ discusses marine scientific research activities on the continental shelf:

"(t)he coastal state exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources,"

Article 5, paragraph 8, of the same Convention also provides,

"The exploration and exploitation of the continental shelf must not result in any unjustifiable interference with fundamental oceanographic or other scientific research carried out with the intention of open publication. The consent of the coastal state shall be obtained in any research concerning the continental shelf. The coastal state shall not normally withhold its consent if the request is submitted by a qualified institution with a view to purely scientific research into the physical or biological characteristics of the continental shelf, providing the coastal state shall have the right to participate or be represented in the research, and in any event the results shall be published."

All marine scientific research on the continental shelf is thus subject to coastal state consent. However, that consent must generally be granted for basic research. Problems have arisen in interpreting this convention. The Convention is unclear as to the precise limits of the continental shelf. The definition of a "qualified institution" has been disputed. And of course, no one knows for certain what fundamental" or "purely scientific" research is.

⁸Even though the Geneva Conventions have been ratified only by about one-third of the worlds' nation-states, many of the conventions provisions are generally viewed as reflecting customary international law.

⁹April 28, 1958 (1964) 1 U.S.T. 471, T.I.A.S. No. 5578, 499 U.N.T.S. 311 (effective for United States June 10, 1964).

The Continental Shelf Convention did not affect rights to do research on the deep seabed beyond the continental shelf. Most commentators agree that customary international law grants freedom of scientific research on the deep seabed. It is true that freedom of scientific research is not specifically listed in the 1958 Geneva Convention on the High Seas.¹⁰ That list however is generally not considered exhaustive. Consequently, freedom of research on the deep seabed beyond the continental shelf can be restricted only by the flag state of the research vessel.

The restrictions on research in the Continental Shelf Convention did not affect the right to do research in the super-adjacent water column. Customary international law grants the coastal state absolute powers to regulate, restrict, or prohibit research in its territorial sea. No treaty has established the outermost limits of a coastal states territorial sea. Under the 1958 Geneva Convention on the Territorial Sea and the Contiguous Zone¹¹, a state's contiguous sea cannot extend beyond 12 miles seaward. It has often been argued that, by implication, this treaty and customary international law prevent a coastal state from claiming a territorial sea beyond 12 miles. The official U.S. position however has been that customary international law limits the territorial sea to 3 miles.

Most commentators agree that research in the super-adjacent water column beyond the territorial sea is a freedom of the high seas. As with deep seabed research, water column research is not specifically listed as a high seas freedom in the 1958 Geneva Convention of the High Seas. It is widely viewed as a customary freedom of the high seas, however. Consequently it is subject to regulation only by the flag state of the research vessel.

¹⁰April 29, 1958 (1962) (effective for United States Sept. 30, 1962) 2 U.S.T. 2312, T.I.A.S. No 5200, 450 U.N.T.S. 82.

¹¹April 29, 1958 (1964).

The freedom of research on the deep seabed and on the high seas, as provided by customary international law, has lately eroded somewhat. An increasing number of states have declared extended exclusive fishing or resource zones beyond their 12-mile contiguous zone. Fish or resource-related research - and in some instances all research - must receive coastal state consent before it can be performed in this new area. In addition, there have been a number of regional agreements made to encourage local marine scientists to perform all research in the claimed area. Such regional agreements include: The Lima Declaration of 1970, The Santo Domingo Declaration of 1972, and the Declaration of Addis Adaba of 1973.

III. The Law of the Sea Conference

The negotiations at the Law of the Sea Conference are divided into three committees. Committee I, responsible for the Part I text, is concerned with the law of the deep seabed beyond the claims of national sovereignty. Committee II, responsible for the Part II text, is concerned with defining the geographic limits of, and substantive rights within, the territorial sea, economic zone, and high sea. The first Part II text had several substantive provisions concerning marine scientific research in the economic zone and continental shelf. The revised Part II text however defers generally to the provisions of the Part III text.¹² Committee III, responsible for the Part III text, is concerned with marine environmental protection and preservation, marine scientific research, and technology transfer. Although there has been no Committee IV, the Part IV text - drafted by the President of the conference - is concerned with the dispute settlement mechanisms.

This discussion will examine these committee texts and will point out the important changes from the first text to the revised text. In addition, it will address those provisions of importance which have remained unchanged. Both the first and the revised texts are "informal negotiating texts", drafted solely by the committee chairmen. They serve officially only as a focus for negotiations. Changes may simply reflect a new idea floated by the chairmen. And lack of change in the language of a provision from the first to the revised text may simply reflect lack of discussion, rather than general consensus, on that issue. With the exercise of appropriate caution, however, changes from the first to the revised texts can be seen to reflect a trend in the consensus which is developing.

¹²

See discussion at section III. A. 3.b. (3.) (a.), infra.

A. Marine Scientific Research Within the Zones of National Sovereignty

Both the first single negotiating text and the revised text divide Part III, Chapter II - the chapter on marine scientific research - into six sections. That organizational structure is followed here.

1. General Provisions

The General Provisions of Section I of the revised text are essentially similar to those of the first text. The texts affirm the right to conduct marine scientific research.¹³ In both texts, this research "... shall be conducted exclusively for peaceful purposes".¹⁴ Problems may arise here whenever a research institution - or a naval research ship - wishes to conduct marine research which has clear and direct military implications in either the open ocean or in coastal waters.

The texts define "marine scientific research" slightly differently. Under the first text, it is "... work designed to increase man's knowledge of the marine environment".¹⁵ Under the revised text, it is "... work designed to increase mankind's knowledge of the marine environment".¹⁶ This change may indicate a trend toward discouraging classified research by research institutions. Marine scientific research is defined broadly enough in both texts to include both basic and applied research.

2. International and Regional Cooperation

There is virtually no change in the section dealing with international and regional cooperation from the first text to the revised text. The articles in this section are general in nature. They call upon those engaged in marine

¹³ First text, Part III, Art. 2; revised text, Part III, Art. 49.

¹⁴ First text, Part III, Art. 4; revised text, Part III, Art. 51.

¹⁵ First text, Part III, Art. 1.

¹⁶ Revised text, Part III, Art. 48.

research to cooperate in their efforts in order to promote mutual benefit.¹⁷

Both texts, in general terms, call for what amounts to an international affirmative action program. Those engaged in research are required to,

"... actively promote the flow of scientific data and information and the transfer of knowledge resulting from marine scientific research in particular to developing countries, as well as the strengthening of the autonomous marine research capabilities of developing countries through, inter alia programmes to provide adequate education and training of their technical and scientific personnel".¹⁸

This seems to reflect generally those provisions, found in both the first and the revised texts, calling for the development and transfer of technology.¹⁹

In particular, it reflects the desire, found in both texts, to create regional marine scientific and technological centers.²⁰

3. Conduct and Promotion of Marine Scientific Research

This section is the longest, and probably the most disputed of those which apply to marine scientific research. A number of significant changes have been made from the first to the revised text.

a. Research in the Territorial Sea

Article 57, Part III, of the revised text²¹ discusses research in a coastal state's territorial sea. In several respects, the revised text has enhanced coastal state sovereignty in its territorial sea. Where the first text granted "exclusive" research rights here to the coastal state, the revised text grants "sovereign rights".²²

¹⁷ First text, Part III, Art. 8; revised text, Part III, Art. 53.

¹⁸ First text, Part III, Art. 10; revised text, Part III, Art. 55

¹⁹ First text, Part III at the end; revised text, Part III, Chapter III.

²⁰ First text, Part III, Chapter III; revised text, Part III, Chapter III, Section III.

²¹ See also, first text, Part III, Art. 13.

²² c.f., revised text, Part II, Art. 44.

Also, the first text²³ required that "... (r)equests for (coastal state) consent shall be submitted to the coastal state well in advance and shall be answered without undue delay." The requirement of a timely reply was doubtless viewed by many coastal states as an infringement of their territorial sea power and discretion. The revised text is silent concerning the requirements of coastal state response to a request to do research in its territorial sea. Presumably now no response is required at all.

In one respect however coastal state sovereignty in its territorial sea may have been reduced. Where the first text required the "explicit consent" of a coastal state before doing research in its territorial sea, the revised text requires only that such research be conducted "...under conditions set forth by the coastal state". This change has the effect of reducing unnecessary communication between researchers and coastal states. It would allow territorial sea research to take place without requiring explicit coastal state consent for each project, so long as it complied with coastal state guidelines.

b. Research in the Economic Zone and the Continental Shelf

Articles 58 through 66, Part III of the revised text,²⁴ discuss the right to do marine scientific research in a coastal state's economic zone or on its continental shelf. Neither the economic zone nor the continental shelf is defined in the Part III text. However, the economic zone is described in the Part II text as extending 200 miles seaward of the coastal state's shore baseline.²⁵ And the continental shelf is also defined in the Part II text as the seabed extending "... throughout the natural prolongation of (the coastal state's)

²³ First text, Part III, Art. 13.

²⁴ See also, first text, Part III, Arts. 14-23.

²⁵ First text, Part II, Art. 46; revised text, Part II, Art. 45.

land territory to the outer edge of the continental margin".²⁶ As previously mentioned,²⁷ the right of research institutions to conduct coastal research is a continuing subject of debate between developed research states and developing states. A number of changes have been made from the first to the revised texts. Although there does not appear to be a major swing of consensus toward either side of the debate, there does appear to be a slight drift from the first to the revised text toward greater coastal state consent powers.

(1) Notification Requirements

Article 58, Part III, of the revised text²⁸ outlines the requirements for notification of a coastal state concerning proposed research in its economic zone or on its continental shelf. The revised text adds the new requirement that such notification take place at least 4 months prior to the proposed research starting date. This provision was doubtlessly added in order to give the coastal state sufficient time to evaluate the proposal, and perhaps ask further questions, so as to intelligently exercise its consent powers.²⁹ The required notification time gives the coastal state the opportunity to negotiate with the proposing research institution to seek modifications or additions to the proposed research and to arrange for its own participation.

The 4-month notification requirement should not generally prove difficult to those research institutions wishing to engage in coastal zone research. In fact, since research ship cruises are generally planned over a year in advance, it should be desirable to notify coastal states as soon as those plans are known. Under article 64, Part III of the revised text, a coastal state is deemed to have impliedly consented to research unless it has objected to, or asked for

²⁶First text, Part II, Art. 62; revised text, Part II, Art. 64.

²⁷See discussion at section II, supra.

²⁸See also, first text, Part III, Art. 15.

²⁹See discussion at section III. A. 3.b. (3.), infra.

more information concerning, such research within 2 months after receiving notification. Early notification would thus allow for ample time to negotiate with the coastal state in order to win its consent. Additionally, since the dispute settlement mechanisms may be quite time-consuming,³⁰ early notification would be to the advantage of research institutions.

Both the first and the revised text require the research institutions to notify the coastal state as to the nature, objective, method, institution, personnel, time, and place of research. In addition, article 58, Part III of the revised text, requires a description of scientific equipment to be used, the time of deployment and removal of the equipment, and the extent to which the coastal state should be able to participate in the project.

There may be occasions however where a researcher would want to alter a research project either at the last minute or after the project has started. He may have equipment problems or he may learn of new conditions which would make it desirable to modify the project. The requirement of 4 months prior notification might prevent him from making these project modifications even if the coastal state would not oppose them.

Under article 65. 1. (a) & (b), Part III of the revised text,³¹ the coastal state can order the cessation of any ongoing research, and prevent any subsequent research, if it feels that a researcher has provided inadequate or inaccurate information. Thus, as a practical matter a researcher would not undertake a research project in the face of coastal state unhappiness concerning the adequacy of the notification provided. Article 64 (c), Part III of the revised text, allows a coastal state receiving such notification to ask supplemental questions. Unfortunately, no maximum time period is established to cut off the coastal states

³⁰ See discussion at section III. A.6., infra.

³¹ See discussion at section III. A.3.b.(3.) (b.), infra.

right to ask further questions. Under the provisions of the revised text a coastal state could in bad faith ask additional questions indefinitely, thus delaying or preventing research completely. Without such a time limit cut off, a de facto absolute consent regime may be established.

(2) Conditions of Research

Article 59, Part III of the revised text,³² states the conditions imposed upon all economic zone or continental shelf research. The article outlines the rules of etiquette and courtesy respecting the coastal state which must be followed by those engaging in coastal research. The general trend from the first to the revised text seems to be in favor of according greater respect to the interests of the coastal state.

Both the first and the revised texts encourage participation in the research project by the coastal state. The revised text however is more explicit in articulating the right of the coastal state to participate directly on the research vessel itself. Where the first text would "... provide the coastal state an opportunity to participate directly ... in the research on board vessels ..."³³, the revised text would "... ensure the rights of the coastal state, if it so desires, to participate or be represented in the research project, especially on board research vessels..."³⁴.

Both texts require that the results of the research be made available to the coastal state. The revised text however increases the rights of the coastal state to be informed as to those results. The first text required, as a general rule, that the coastal state be informed only of the final results of the research³⁵;

³² See also, first text, Part III, Art. 16.

³³ First text, Part III, Art. 16 (b).

³⁴ Revised text, Part III, Art. 59 (a).

³⁵ First text, Part III, Art. 16 (c).

the research institution had to provide preliminary reports only for applied research "relating to the living and non-living resources".³⁶ Under the revised text, the coastal state must be provided with both preliminary and final results for all research, basic or applied.³⁷

The revised text seems to have retreated somewhat from the earlier requirement that samples and raw data collected during the research be given to the coastal state. The first text required that the research institutions "... undertake to provide the coastal State on agreed basis raw and processed data and samples of materials".³⁸ This requirement would have been quite burdensome to research institutions, in some circumstances may have damaged the scientific value of the samples, and often would have been of little or no benefit to the coastal state. The revised text now requires only that the research institutions "... undertake to provide access for the coastal State, at its request, to all data and samples ... and likewise to furnish to it data which may be copied and samples which may be divided without detriment to their scientific value".³⁹ The coastal state is still guaranteed the right to a first-hand inspection of the data samples collected, and can receive part of the samples themselves where feasible. And under both the first and the revised texts, the research institution must, if requested, assist the coastal state in assessing such data and samples.⁴⁰

³⁶First text, Part III, Art. 21(b).

³⁷Revised text, Part III, Art. 59(b).

³⁸First text, Part III, Art. 16(d).

³⁹Revised text, Part III, Art. 59(c).

⁴⁰First text, Part III, Art. 16(e); revised text, Part III, Art. 59(d).

At a time subsequent to completion of the research the coastal state may wish to evaluate the samples or data for its own, perhaps different, purposes. Under such circumstances, it would have the right of access to the data and samples, and the right to assistance in interpreting them. The text does not state who should pay for the costs involved.

Both the first and the revised texts require that the research institution make the research results internationally available⁴¹, and that it notify the coastal state of any change of research plans.⁴² In addition, the new text requires that, for all research, the research institution should "... unless otherwise agreed, remove the scientific installations or equipment once the research is completed".⁴³ This new provision may be burdensome where unmanned data collection buoys are extensively used, and it may be almost impossible where equipment is lost to the bottom.

(3) Coastal State Consent

Article 60, Part III, of the revised text discusses the powers of a coastal state to prohibit research in its economic zone or on its continental shelf. The article is a substantial rewriting and consolidation of articles 18, 19, 21, and 22, Part III, of the first text. The revised text, like the first tries to strike a balance between the competing interests of freedom of research and the sovereignty of the coastal state over its economic zone and continental shelf. However, there appears to be a slight drift from the first to the second text towards greater coastal state consent powers.

⁴¹First text, Part III, Art. 16(f); revised text, Part III, Art. 59(e).

⁴²First text, Part III, Art. 16(g); revised text, Part III, Art. 59(f).

⁴³Revised text, Part III, Art. 59(g).

(a.) Basic v. Applied Research

Both the first and the revised texts draw a pivotal distinction between basic and applied research in the economic zone or on the continental shelf. The coastal state is empowered in both texts to withhold its consent if the research is applied - that is if the research is in some way connected with the exploitation of natural resources. On the other hand, the coastal state cannot withhold its consent for basic research - that is, if the research is simply an attempt to better understand the physical phenomena of the oceans. This distinction has justifiably been criticized as unclear; sometimes a research project can be considered to be both basic and applied. Despite the inherent problems in drawing the line between basic and applied research, however, that distinction will likely remain in any attempt to strike a balance between science and sovereignty. In most cases it is reasonably apparent on which side of the line a proposed research project will fall. What is more, the distinction lies at the heart of the debate between the interests of freedom of research and coastal state sovereignty. It is the necessary compromise which must be drawn between the developed research states and the developing coastal states.⁴⁴

(i) The First Text

As previously noted,⁴⁵ both Part II & Part III of the first text addressed marine scientific research in coastal waters. Interestingly, they established two different types of limited consent regimes. Part II of the first text granted "exclusive rights and jurisdiction" to the coastal state over research in the economic zone.⁴⁶ Coastal state consent was required for all research in the economic zone. However, Part II of the first text required that a

⁴⁴See generally Part I, supra.

⁴⁵See discussion in section II, supra.

⁴⁶First text, Part II, Art. 45 1.(c)(ii.).

coastal state "... shall not normally withhold its consent if the request is submitted by a qualified institution with a view to purely scientific research..."⁴⁷ The partial consent regime established here is reminiscent of that established by the 1958 Geneva Convention of the Continental Shelf concerning shelf research.⁴⁸

Part III of the first text established a different type of limited consent regime. Coastal state consent was necessary for applied research but need not even be requested for basic research. Part III of the first text explicitly established the two basic and applied categories of research. It distinguished research "of a fundamental nature" from research "related to the resources."⁴⁹ Confusingly, it then distinguished "fundamental research" from "research directly related to the exploration and exploitation of the living and non-living resources."⁵⁰ Presumably, these were two similar and alternate ways of distinguishing basic from applied research. Article 21, Part III of the first text, stated that

"(a)ny research project related to the living and non-living resources of the economic zone and the continental shelf shall be conducted only with the explicit consent of the coastal state."

⁴⁷First text, Part II, Art. 49.

⁴⁸See the discussion in section II, supra.

⁴⁹First text, Part III, Art. 18(1).

⁵⁰First text, Part III, Art. 18(2).

Article 19, Part III of the first text, stated that a coastal state may object to research,

"... only on the ground that the said project would infringe on its rights as defined in this convention over the natural resources of the economic zone, or continental shelf".⁵¹

Article 22, Part III, of the first text dealt explicitly with basic research. When the proposed research was "fundamental", the research institution was not required to seek coastal state consent and the coastal state was not empowered to prevent such research.

(ii) The Revised Text

As previously mentioned,⁵² the revised Part II text generally defers to the revised Part III text provisions concerning marine scientific research.⁵³ Thus, the partial consent regime created in Part III of the revised text is the only one that applies to marine scientific research in coastal waters. Interestingly, Part III of the revised text abandons the type of partial consent regime established in Part III of the first text, and adopts a partial consent regime which most closely resembles that proposed in Part II of the first text.

Article 60(1), Part III of the revised text, gives the impression of granting the coastal state very broad consent powers:

⁵¹The first text, Part II, Art. 45(1) (a) grants the coastal state "...sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources..." of the economic zone. Art. 63(1), Part II, grants "sovereign rights for the purpose of exploring (the continental shelf) and exploiting its "natural resources...".

⁵²See the discussion at section III, supra.

⁵³It is true that articles 44 & 47 of the revised Part II text give the coastal state exclusive jurisdiction and rights over economic zone research. However, the operative language of article 47, Part II of the revised text, defers to the provisions of Part III of the revised text. Similarly, although article 65 of the revised Part II text grants sovereign rights to the coastal state over applied research on the continental shelf. However, article 73 of the revised Part II text defers again to the revised Part III text.

"Marine scientific research activities in the economic zone or on the continental shelf shall be conducted with the consent of the coastal state in accordance with the provisions of this convention".

Much of this power however is taken away in the next sentence, article 60(2),

Part III of the revised text:

"The coastal state shall not withhold its consent to the conduct of a marine scientific project unless that project:

- (a) bears substantially upon the exploration or exploitation of the living or non-living resources..."

The effect of the 2 sentences in article 60, Part III of the revised text, is thus to establish a partial consent regime. Effective consent power is granted to the coastal state over applied research but not over basic research. A coastal state is empowered to withhold its consent over applied research. However, a coastal state is nowhere empowered to withhold its consent over basic research.⁵⁴ Therefore the revised text requires by implication that a coastal state grant its consent to basic research. Where Part III of the first text was explicit in articulating the distinction between basic and applied research, Part III of the revised text does so by implication.

Thus, Part III of both the first text and the revised text establishes a partial consent regime for the economic zone and continental shelf. Under both Part III texts, the coastal state is empowered to prevent applied research but must allow basic research. In practical terms however, the consent powers of the coastal state may have been broadened in Part III from the first to the revised text. Under the first text, if a researcher thought his proposed project was basic research, he need not seek coastal state consent at all (although he did have to comply with the notification requirements, discussed supra). In a

⁵⁴ And if the research is neither basic nor applied - a rare but conceivable situation - a coastal state cannot withhold its consent.

sense, sleeping dogs could be left to lie. Under the revised text, coastal state consent is necessary even for basic research. Coastal states are thus given in the revised text a more active and primary role in characterizing a research project as basic or applied.

It is uncertain whether the language of Part III of the revised text has defined applied research in such a way as to include a wider range of activity than did the language used in Part III of the first text. Under article 60 (2) (a), Part III of the revised text, a coastal state may withhold its consent to research "bearing substantially upon the exploration and exploitation" of the resources.⁵⁵ The meaning of this phrase is quite ambiguous.⁵⁶ If article 60 (2)

⁵⁵This phrase is not new to the Law of the Sea Conference. Art. 2, para. 1, of the 1958 Geneva Convention on the Continental Shelf stated that the coastal state exercises over the continental shelf the sovereign rights for "exploring it and exploiting its natural resources". The phrase "exploration and exploitation of resources" was used along with the phrase "related to the resources" to define applied research in the first text. The phrase appeared in the Evenson text between the third and fourth sessions of the conference. The phrase is used in both texts to define those activities over which a coastal state may exercise sovereign powers in the economic zone and on the continental shelf. First text, Part I, Art. 1(ii); revised text, Part I, Art. 1(ii). And it is used in both texts to define those activities over which the International Seabed Authority may exercise sovereign powers in the deep seabed. First text, Part II, Arts. 45(1)(a) and 63(1); revised text, Part II, Arts. 44(1)(a) and 65(1).

⁵⁶The crux of the ambiguity lies with the definition of the word "exploration". Webster's new International Dictionary, Second Edition, unabridged, defines "exploration" as an

"Act of exploring, as for geographical discovery; examination; as, explorations in unknown countries."

"Explore" is defined in 2 ways:

1. To seek for or after; to strive to attain by search,
2. To search through or into; to penetrate or range over for discovery; to examine thoroughly, as, to explore new seas."

For example, the phrase "exploration of an area" would have a very broad meaning, and would probably include all basic and applied research in an area. The phrase "exploration of resources in an area" would have a narrower definition; however basic research of potential resources would probably be included. The phrase "exploration for resources in an area" would have the narrowest meaning; it would cover only applied research concerned with locating resources for the purpose of exploitation.

(a), Part III, is interpreted to grant consent powers to a coastal state over research concerned with either the "exploration of resources" not necessarily motivated by the goal of immediate exploitation - certainly a plausible construction of the language - a very broad range of research would be included. A coastal state would have consent powers over all research - no matter how basic - which had potentially exploitable resources as its object of study. Conceivably all geological and biological research could be defined as "exploration of" oil or fish resources, and requiring coastal state consent.⁵⁷ All scientific exploration would then be subject to coastal state veto.

On the other hand, if the article is interpreted to grant consent powers only over research concerned with an "exploration for resources" necessarily motivated by the goal of exploitation of resources - an only slightly more plausible construction of the language - a coastal state's consent powers would be much less. Only commercial exploration would then be subject to coastal state veto. Basic geological or biological research - even which had potentially exploitable resources as its object of study - would not require consent.⁵⁸

The uncertainty in meaning of this key phrase could of course be reduced by a slight revision of the language of the text. For example, if article 60(2) (a), Part III, were amended to grant consent powers to the coastal state only over that research which "bears substantially upon the exploration for, and exploitation of, the living or non-living resources", then the narrower interpretation would be clear. This amendment would of course be supported by the developed research states. If, on the other hand, the article were amended to grant consent powers

⁵⁷This broader construction of the phrase "exploration and exploitation of resources" is supported by the use of a similar phrase "exploring it and exploiting its natural resources" in the revised text, Part II, Art. 65(1).

⁵⁸This narrower construction of the phrase "exploration and exploitation of resources" is supported by the use of a similar phrase "exploitation for, and exploitation of, the resources" in the revised text, Part I, Art. 1(ii).

over all research which "bears substantially upon the exploration of, or the exploitation of, the living or non-living resources", then the broader interpretation would be clear. This amendment would of course be supported by the developing coastal states. The phrase however may have intentionally been left ambiguous so that the opposed sides could each agree to sign the treaty. The texts' draftsmen may have attempted to conciliate through confusion the opposed interests involved. It would then be left to 1) the general criteria and guidelines defining basic and applied research established by the "competent international organizations",⁵⁹ and 2) the dispute settlement mechanisms,⁶⁰ to interpret the phrase after the treaty had come into force. As the revised text is presently drafted, however, there are disadvantages with this attempt to compromise through ambiguity:

- 1) The general criteria and guidelines drafted by the competent international organization are advisory only;
- 2) Given the multiplicity of dispute settlement mechanisms and tribunals, the potential for lengthy proceedings and conflicting interpretations is great. From the point of view of the developed research states, the advantages of a possibly favorable narrow construction of coastal state consent powers may well be out-weighed by disadvantages of uncertainty and delay in planning research ships cruise schedules.

(b) Additional Consent Powers

Article 60, Part III, of the revised text has enumerated several additional situations where a coastal state is empowered to withhold its consent to proposed research in its economic zone or on its continental shelf. These consent powers extend to research which "involves drilling or the use of explosives", which "unduly interferes with economic activities performed by the coastal State...", or which "involves the construction, operation or use of ... artificial islands,

⁵⁹ Revised text, Part III, Art. 62.

⁶⁰ Revised text, Part III, Section VI, and Part IV text.

installations and structures...".⁶¹ It is likely that these provisions are merely an attempt to more specifically enumerate the consent powers granted in the first text over research which would "... infringe on (the coastal state's) rights as defined in this Convention over the natural resources...".⁶² The enumeration in the revised text however may have raised more questions than it answered. Which, if any, of the many bottom and sediment sample collection techniques used by marine geologists would be considered "drilling"? Which, if any, of the many means of seismic profiling would be considered the "use of explosives"? What are the "economic activities" of a coastal state? If these provisions are broadly interpreted, coastal state consent powers over marine research may be greatly increased.

Finally, article 65, Part III of the revised text, adds several provisions which expand upon a coastal state's consent powers. A coastal state can require the cessation of ongoing research if insufficient or inaccurate notification under article 58, Part III, was made prior to the project.⁶³ And it can withhold its consent, even from an obviously basic project, if the conditions of a prior research project under article 59, Part III, have not yet been fulfilled.⁶⁴ It is likely that a coastal state can so punish all research institutions in a country when there has been a prior default by only one of that country's institutions.

(4) Publication of Research Results

Article 61, Part III of the revised text, discusses the right of the research institution to publish the results of economic zone or continental shelf

⁶¹ Revised text, Part III, Art. 60(2) (b), (c), (d).

⁶² First text, Part III, Art. 19.

⁶³ See discussion at section III. A.3. (b.) (1.), supra.

⁶⁴ See discussion at section III. A.3. (b.) (2.), supra.

research.

"The results of a research project bearing substantially upon the exploration and exploitation of the living or non-living resources of the economic zone and on the continental shelf of a coastal State shall not be published or made internationally available against the express wish of that State."

Under the revised text, the results of economic zone or continental shelf applied research can be published if the coastal state is silent as to publication.

Under the provisions of the first text, the results of such research could be published only if the coastal state explicitly consented to such publication; there could be no publication in the face of coastal state silence.⁶⁵ Thus, a research institution's rights to publish the results of applied research has improved slightly from the first to the revised text.

It is still uncertain however when the coastal state may exercise its power to deny publication. May a coastal state wait until after the research is completed before informing the research institution that it will block publication? And if the latter is the case, does the automatic consent provisions of article 64, Part III of the revised text, also authorize publication? These are important questions, since a scientist may decide against undertaking a piece of research if he does not feel confident that he can publish the results.

(5) Communication with Coastal States

It should be clear by now that, under the provisions of the proposed treaty, research institutions and coastal states will engage in much communication concerning the many aspects of proposed economic zone and continental shelf research. Article 17, Part III of the first text, required that such communication be made through "appropriate official channels". Presumably this would have required research institutions to direct all of their communication through their respective home Foreign Offices and to the coastal states' Foreign Offices. Under these circumstances, marine research would on occasion have been stalled

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First text, Part III, Art. 21(c).

by bureaucratic delays and may well have gotten involved in unrelated political and diplomatic machinations. Article 63, Part III of the revised text, avoids the problem somewhat when it states, communication "... shall be made through appropriate official channels unless otherwise agreed". This would presumably permit private research institutions to communicate directly with coastal states, without having to go through their home Foreign Offices.⁶⁶ Private research institutions may take advantage of these more direct means of communication in order to facilitate the delicate and lengthy negotiations which sometimes will precede gaining the consent of states deemed "unfriendly" by the home Foreign Office. A number of questions however are raised by the revised text. What procedures must be followed so as to determine that it is "otherwise agreed" that direct institution - coastal state communication is permitted? Assuming a private research institution can correspond directly with a coastal state, with whom in the coastal state must the communication be made? It is probably safe to say that the smaller the role played by politicians, diplomats and lawyers, the better the prospects for economic zone and continental shelf research. However it is likely that most coastal states will require that research institutions correspond with their official Foreign Offices.

(6) Rights of Land-Locked and Geographically-Disadvantaged States

Article 66, Part III of the revised text, discusses the rights of land-locked and geographically disadvantaged states concerning economic zone and continental shelf research. The provisions here are almost identical to those of the first text.⁶⁷ Those engaged in research - including presumably the coastal

⁶⁶Public research institutions in the United States are required to seek coastal state consent through the State Department.

⁶⁷First text, Part III, Art. 23.

state itself - are required to "take into account" the interests and rights of these states. In addition, the land-locked and geographically-disadvantaged states are entitled to the same notification as coastal states,⁶⁸ including the new requirement that the research institution describe the extent to which they can participate or be represented in the project.⁶⁹ Notwithstanding this notification requirement, however, the land-locked and geographically-disadvantaged have weaker rights to participate directly in a research project than do the coastal states.⁷⁰ They are entitled to assistance in assessing the project data and samples, and to information about changes in the research program. However they are not entitled to preliminary or final results or to access to data or samples from the research.⁷¹ Land-locked and geographically disadvantaged states do not have nearly the rights that coastal states do concerning economic zone and continental shelf research. This may change in the upcoming August session of the Conference.

4. Legal Status of Scientific Research Installations and Equipment in the Marine Environment

This section deals with the status and proper use of either manned or unmanned marine scientific equipment. It is unclear whether these provisions apply only to some or to all of the equipment used by marine scientists. The revised text varies little from the provisions of the first text. Article 70,

⁶⁸ Revised text, Part III, Art. 58.

⁶⁹ Revised text, Part III, Art. 58(f).

⁷⁰ The research institution must, under Art. 59(a) "ensure the rights of the coastal State, if it so desires, to participate or be represented in the research project, especially on board research vessels...". On the other hand, under Art. 66(2), "... neighboring land locked and other geographically disadvantaged States shall, at their request be given the opportunity to participate, whenever feasible, in the proposed research project through qualified experts appointed by them".

⁷¹ Revised text, Part III, Art. 66(1), and Art. 59.

Part III of the revised text,⁷² states in effect that a research institution cannot perform, by using unmanned equipment, research that it could not perform by manned ship. Thus a research project in the economic zone or on the continental shelf, even if done by unmanned equipment, must still comply with the convention's requirements concerning notification, conditions, and consent.

Article 74, Part III of the revised text,⁷³ discusses the identification and warning signals on research equipment. Where the earlier text required only that the equipment have "adequate warning signals", the new text requires the use of "internationally agreed warning signals ... taking into account the principles established by competent international organizations".

5. Responsibility and Liability

Articles 75 and 44, Part III of the revised text,⁷⁴ deal with matters of enforcement and liability for damage concerning marine scientific research. A detailed discussion of these provisions is beyond the scope of this paper. A few general points however can be made. Both the first⁷⁵ and the revised⁷⁶ texts require that states pass legislation and take necessary steps to enforce compliance with the Convention's provisions by research vessels of their registry. Thus a state can enforce the Convention's requirements concerning notification, conditions, and consent against a research institution located within that state wishing to do research in another state's coastal waters.

⁷²See also, first text, Part III, Art. 27.

⁷³See also, first text, Part III, Art. 33.

⁷⁴See also, first text, Part III, Art. 34-36.

⁷⁵First text, Part III, Art. 34 (1st sentence) and Art. 35(1).

⁷⁶Revised text, Part III, Art. 75 (1). See also, revised text, Part III, Art. 27.

The revised text⁷⁷ provides in effect that states and research institutions can recover money damages caused by the actions of states in contravention of the provisions of the Convention. Thus, if a coastal state wrongly seized or damaged equipment - or perhaps wrongly prevented the performance of basic research in the economic zone or on the continental shelf - the injured state or research institution could recover payment, presumably in the courts of that coastal state.

The first text would have imposed potentially very great liability on states or research institutions concerning damages which might result from their research activities. The earlier text held that the liability of states or research institutions conducting economic zone or continental shelf research should be governed by the laws of the coastal state, "... taking into account the relevant principles of international law".⁷⁸ Under this provision, a coastal state conceivably could have imposed strict liability - and not required proof of negligence before liability attached - against research vessels. And conceivably, liability could have been imposed not only for direct pollution damage, but also for consequential damages - for example, loss of revenues resulting from foreign exploitation of resources - resulting from research. The revised text has reduced the potential liability for which research vessels (or their home states) may be held. The new text would generally give jurisdiction to the courts of the research vessel's flag state - not the coastal state - over questions of liability for research in the coastal states' economic zone or on its continental shelf.⁷⁹ Home courts would likely be more favorable to a research vessel than would be foreign courts.

⁷⁷ Revised text, Part III, Art. 75(2). This provision may be simply a more explicit restatement of the first text, Art. 35(2), depending on the meaning given to that ambiguous latter text.

⁷⁸ First text, Part III, Art. 35(3).

⁷⁹ Revised text, Part III, Art. 75(3) and 44.
See also, revised text, Part III, Art. 27.

There are circumstances however under which the courts of a coastal⁸⁰ or port state,⁸¹ rather than the flag state, may have jurisdiction over a research vessel. The new text would impose liability on states or research vessels only for pollution damage. Consequential damages probably could not be imposed.⁸²

The provisions of the Convention on responsibility and liability concerning marine research will doubtless be supplemented by other treaties and agreements.⁸³ The revised text however contains adequate provisions to ensure compliance with the Convention by research institutions.

6. Settlement of Disputes

Once the Convention is brought into force, it is inevitable that there will be disputes concerning the interpretation and meaning of its provisions. And in the area of marine scientific research, it is likely that no issue will be more hotly debated than the distinction between basic and applied research. The negotiations are now turning to the establishment of an effective and fair dispute settlement mechanism to ensure uniform and objective application of the Convention.

Article 76, Part III of the revised text, establishes the initial procedures which should be followed in the case of a dispute concerning the interpretation and meaning of the Convention as it applies to marine scientific research. These special Part III dispute settlement procedures are new to the revised text. Although it is not clear at this stage of the proceedings, research institutions probably cannot appear and speak for themselves as a "party to the dispute". They must be

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See revised text, Part III, Art. 30.

⁸¹See revised text, Part III, Art. 28.

⁸²Revised text, Part III, Art. 75(3) and Art. 44(2).

⁸³See revised text, Part III, Art. 44(3).

represented by their home states.⁸⁴ First, the disputants are directed to negotiate. If the negotiations fail, they must then engage in non-binding conciliation by experts, a procedure especially established for marine research disputes.

If there has been no effective conciliation after 4 months under the procedures of Part III, the disputants must then proceed under the dispute settlement mechanisms of Part IV.⁸⁵ Dispute settlement was not formally discussed in committee in the third session in Geneva, preceding the release of the first text. However, the President of the Conference presented a Part IV text which would create the machinery to resolve disputes arising under the Convention. During the 4th session in New York, there was again no formal committee negotiations or discussion of the settlement of disputes text. However, on the basis of informal comments and discussions which did touch on dispute settlement, the Conference President presented a revised Part IV text at the end of the 4th session in New York. Since the Part IV text is not a committee text, it does not have the status of the other texts.

The Part IV text has special procedures established to settle disputes concerning marine scientific research. Under these procedures, research institutions cannot appear and speak for themselves, but must be represented by their home state as a "Contract Party".⁸⁶ The procedures here established are elaborate,

⁸⁴ If however a research vessel is seized by a coastal state, the research institution apparently can represent itself in a hearing before the Law of the Sea Tribunal under article 15, Part IV of the revised text.

⁸⁵ Revised text, Part IV, Annex II C.

⁸⁶ Revised text, Part IV, Annex II C, Art. 1.

time-consuming, and incomplete. First, the disputants at the request of either party must once again engage in non-binding⁸⁷ conciliation.⁸⁸ This time, however, the conciliators are not necessarily experts.⁸⁹ The report of the Conciliation Commission can be delayed for up to a year after its formation.⁹⁰ If after conciliation the parties are still in disagreement, then a special committee is convened at the request of any party.⁹¹ This committee shall be comprised of experts.⁹² If the dispute is not held to involve "questions relating to the interpretation of the Convention", then the special committee's decision - due within 5 months of the committee's formation⁹³ - is binding on the parties.⁹⁴ If, on the other hand, the dispute is held to involve "questions relating to interpretation of the Convention" - as any dispute over the meaning and application of the phrase "substantially related to the exploration and exploitation of resources"⁹⁵ surely would be - then the dispute must be settled by the Law of the Sea Tribunal, the International Court of Justice, or an arbitral tribunal, depending upon the

⁸⁷ Revised text, Part IV, Annex 1A, Art. 7.

⁸⁸ Revised text, Part IV, Annex II C, Art. 1 directs the disputants to first employ the procedures of Part IV, Section I, Art. 6. This requirement for second round conciliation is new to the revised text. See first text, Part IV, Annex II C, Art. 1.

⁸⁹ Revised text, Part IV, Annex 1A, Art. 2.

⁹⁰ Revised text, Part IV, Annex 1A, Art. 7.

⁹¹ Revised text, Part IV, Annex IIC, Art. 1.

⁹² Revised text, Part IV, Annex IIC, Art. 1.

⁹³ Revised text, Part IV, Annex IIC, Art. 6.

⁹⁴ Revised text, Part IV, Annex IIC, Art. 9.

⁹⁵ From revised text, Part III, Art. 60 2.(a).

choice of the party disputants.⁹⁶ These tribunals have the power to take binding "provisional measures" while they hear the dispute.⁹⁷

A number of puzzling exceptions to the dispute settlement mechanisms are declared in the Part IV revised text. Article 18 (1), Part IV, states that the dispute settlement machinery shall not be applied to settle "... any dispute in relation to the exercise of sovereign rights, exclusive rights or exclusive jurisdiction of a coastal state...". The exception has exceptions, however. Even if the sovereign or exclusive rights of the coastal state are called into question, the dispute settlement procedure can be applied if:

- 18(1)(a). it is claimed that the coastal state
"failed to give due regard to any substantive rights specifically established by the Convention in favor of other states"
- 18(1)(b). it is claimed that the coastal state
"... has violated its obligations under the Convention..."
- 18(1)(c). it is claimed that the coastal state
"... has violated its obligations under the present convention by failing to apply international standards or criteria established by the present Convention or by a competent international authority ... which relate to the preservation of the marine environment..."⁹⁸

Although it is far from clear, it is likely that disputes concerning the meaning of the phrase "substantially related to the exploration and exploitation of resources" would fall under Part IV, Article 18(1)(a) and (b) of the revised text, and could be decided by the dispute settlement mechanisms. After all, the very fact that special dispute settlement procedures are established for marine scientific research would seem to argue that this question would fall within those procedures.

⁹⁶ Revised text, Part IV, Annex IIC, Art. 7; Section II, Art. 9.

⁹⁷ Revised text, Part IV, Art. 12.

⁹⁸ While Art. 18 (1) (a) & (c) of the revised text roughly restate Art. 18 (i) of the Convention, Art. 18 (b) of the Convention is not restated.

Even if the "exploration or exploitation" question can be decided by the dispute settlement mechanisms, that machinery is cumbersome, time-consuming, and incomplete. If a coastal country were arbitrarily and unreasonably to declare that a proposed economic zone or continental shelf research project was applied research, and withhold its consent, the research could not be performed until the research institution won a favorable and binding ruling.⁹⁹ Under the dispute settlement provisions as presently drafted, that ruling may be 2 or more years in coming.

Lengthy and flexible dispute settlement procedures may be necessary for the resolution of certain fundamental issues raised under the Convention. The question, however, of whether a given research project is basic or applied is likely to be a recurring issue. Due to the nature of the scheduling of research ship cruises, it would be desirable to be able to settle this type of dispute quickly. The presently drafted dispute settlement mechanisms, as applied to characterizing research as pure or applied, are quite cumbersome and time-consuming. They work to produce a de facto absolute consent regime for economic zone and continental shelf research.

B. Marine Scientific Research Beyond the Zones of National Sovereignty

1. Deep Seabed Research

Marine scientific research on the deep seabed has, up to the present day, been allowed virtually complete freedom. Article 68, Part III of the revised text, declares in general that deep seabed research is a protected freedom. In a number of its specific provisions, however, the revised text would restrict freedom of deep seabed research. The discussion here is principally concerned with Part I of the revised text. After a brief discussion of the creation and

⁹⁹Revised text, Part III, Art. 77.

authority of the International Seabed Authority, this paper will discuss those provisions of the Part I text which have direct bearing on marine scientific research on the deep seabed. Where relevant, this discussion will contrast the revised with the first text.

a. Creation and Role of the International Seabed Authority

The Part I text is concerned with the deep seabed and ocean floor and subsoil beyond the economic zone or continental shelf. This is designated as "the Area" by the text.¹⁰⁰ Mineral resources in the Area are declared to be the common heritage of mankind.¹⁰¹ However, traditional freedom of the high seas - the rights in the super-adjacent water column - are not affected.¹⁰² The text established an International Seabed Authority to control the exploitation of the seabed mineral resources and to insure that the resulting earnings are equitably distributed to the nations of the world.¹⁰³ The Authority will be an international body, comprised of all the states that sign the Convention.¹⁰⁴

b. Restriction of Marine Scientific Research in the Area by the Authority

The revised Part I text contains a number of provisions that would restrict scientific research in the Area. As it is now written, however, the text is both confused and possibly contradictory. The situations under which, and the extent to which, research would be restricted is simply not clear.

Article 10(1), Part I of the revised text, declares that "(t)he Authority shall promote and encourage the conduct of scientific research in the Area". This

¹⁰⁰Revised text, Part I, Art. 2(1).

¹⁰¹Revised text, Part I, Art. 3.

¹⁰²Revised text, Part I, Art. 15.

¹⁰³Revised text, Part I, Art. 20.

¹⁰⁴Revised text, Part I, Art. 20 and Art. 21.

is language of toleration, and accepts the fact that scientific research will be performed principally by research institutions not affiliated directly with, or working directly through, the Authority. The revised text grants much greater freedom to scientific research in the Area than did the first text. The earlier text gave the Authority the power to control "all activities of exploration of the Area and of the exploitation of its resources, as well as other associated activities in the Area including scientific research".¹⁰⁵ And it required that "(t)he Authority shall be the centre for harmonizing and coordinating scientific research".¹⁰⁶ Research institutions were required to give detailed notification to the Authority concerning all proposed research in the Area¹⁰⁷ and the Authority was to actively supervise - and perhaps exercise consent powers over - such work. The revised text however does not require such notification to the Authority. And general scientific research in the Area, under the provisions of the revised text, will not be actively supervised by the Authority and will not require Authority consent.¹⁰⁸

In truth however the freedom of scientific research, generally proclaimed in the revised text, applies only to basic research. Applied research in the Area

¹⁰⁵ First text, Part I, Art. 22 and Art. 1(ii).

¹⁰⁶ First text, Part I, Art. 10(1).

¹⁰⁷ First text, Part III, Art. 25(2) and 15.

¹⁰⁸ The powers of the authority concerning marine scientific research, as well as other matters, is still a subject of active debate. The pendulum may yet swing back in the upcoming session to again give the authority broad powers over deep seabed research.

will be very much controlled by the Authority. Article 22, Part I, states:

- "1. Activities in the Area shall be conducted directly by the Authority and in association with the Authority and under its control ...
- "2. Activities in the Area shall be carried out in accordance with a formal written plan of work drawn (by the Authority) ..."¹⁰⁹

"Activities in the Area" are earlier defined as "all activities of exploration for, and exploitation of, the resources of the Area".¹¹⁰ Thus, the new Part I text employs the same basic distinction between basic and applied research as is employed by Part III. It is interesting to note however that the definition of applied research that is used for deep seabed research ("all activities of exploration for, and exploitation of, the resources") is certainly less ambiguous and probably less expansive than the definition used for economic zone or continental shelf research ("substantially related to the exploration and exploitation of the resources").¹¹¹ Research which consists simply of a study of resources,¹¹² the existence of which are already known, would not be controlled by the Authority. General exploratory research, where resources and non-resources alike may well be discovered, would probably not be controlled. Exploratory research looking specifically for the location and examining the properties of resources alone, even though exploitation is not under immediate consideration, probably would be controlled. And research looking for exploitable resources, or developing means of exploiting resources, clearly would be controlled. Most of the marine geographical and geophysical research presently being done by marine scientists would remain outside the Authority's control.

¹⁰⁹ Under revised text, Part I, Art. 28(2)(x), the Authority's Council has responsibility in this area.

¹¹⁰ Revised text, Part I, Art. 1(ii).

¹¹¹ See discussion at section III. A. 3.b. (3.)(a.), supra.

¹¹² Resources are defined in revised text, Part I, Art. 1(iii) and (iv).

Article 12(a), Part I of the revised text, gives the Authority the power to regulate the "drilling, dredging, and excavation, ... (and) construction and operation or maintenance of installations" connected with applied research. And article 16(2), Part I, requires that "(s)tationary and mobile installations" connected with applied research be controlled by the Authority. Basic research however remains free from such controls.

The main revised text of Part I presents a fairly clear picture as to the powers of the Authority over marine scientific research. Annex I to the Part I text however confuses the matter somewhat. Annex I can be interpreted as being contradictory to the main text, and if so may grant greater powers to the Authority to regulate marine scientific research. As previously mentioned, the main revised text of Part I is careful to limit the Authority's power to the regulation only of that applied research consisting of "exploration for, or exploitation of, the resources". Annex I, Part I, on the other hand, uses much broader language. Paragraph 4 of Annex I, Part I, requires that all "exploration and exploitation" be performed only in areas designated in work plans by the Authority. And paragraph 12 of Annex I, Part I, details the rules and procedures which must be followed for all "prospecting, exploration and exploitation in the area". Clearly, if most pure geophysical and geological research would not be considered "exploration for resources" under the main revised text, it may well be considered "exploration in the area" under Annex I, Part I.

If the language of Annex I, Part I, is read alone, it would seem to contradict the main Part I text, and to substantially broaden the Authority's regulatory powers over marine scientific research. However, if Annex I, Part I, is read in conjunction with the main text, and if it is viewed as supplementing rather than supplanting its provisions, then the more narrow interpretation of the Authority's powers would hold sway. This latter view would be supported by the fact that

paragraph 4 of the Annex, Part I, refers explicitly to article 22 of the main text, Part I. If Annex I, Part I, is viewed as being supplementary to the main text, then its provisions should apply only to regulate that more narrow class of research concerned with "the exploration for, and exploitation of, resources".

c. Restriction of Marine Scientific Research in the Area by Coastal States

The first text required that whenever applied research ("related to the resources") was planned in an area adjacent to the economic zone or continental shelf for coastal state, and that research involved occasional entries by research vessels into the economic zone, coastal state consent was necessary.¹¹³ And the first text required that notification of the coastal state was necessary whenever applied research was conducted in the Area covering resources that also fell partly within the economic zone or continental shelf.¹¹⁴

The revised text has modified these requirements. Now, coastal state consent is not necessary for applied research beyond the economic zone or continental shelf where the research vessel makes occasional entries into economic zone waters. Now, however, "(i)n cases where activities in the Area may result in exploitation of resources lying within national jurisdiction, the prior consent of the coastal State shall be required".¹¹⁵

2. High Seas Research

As previously mentioned in section II of this paper, freedom of scientific research was not specifically listed as one of the high seas freedoms in

¹¹³ First text, Part III, Art. 25.

¹¹⁴ First text, Part I, Art. 14.

¹¹⁵ Revised text, Part I, Art. 14(2).

the 1958 Geneva Convention on the High Seas.¹¹⁶ However, most commentators agree that the convention list is not exhaustive, and that freedom of research is a high seas freedom under customary international law. This position has been codified in Part II of both the first¹¹⁷ and the revised texts.¹¹⁸ The revised text states:

"Freedom of the high seas is exercised under the conditions laid down by the present Convention and by other rules of international law. It comprises, inter alia, both for coastal and land-locked states:
... (f) Freedom of scientific research ..."

As outlined in the Part I text, a partial consent regime applies to deep seabed research.¹¹⁹ And, under the Part III text, a partial consent regime applies to research on the continental shelf beyond the economic zone.¹²⁰ Thus, a question will arise under the proposed treaty as to when a research project constitutes deep seabed or continental shelf research, subject to respective partial consent regimes, and when it is research in the super-adjacent water column. The question at this stage is not concerned with how to draw the line between basic and applied research, instead it is concerned with how to distinguish deep seabed and continental shelf research for high seas research.

The same question has arisen in efforts to interpret the 1958 Geneva Convention on the Continental Shelf.¹²¹ Article 2 of that Convention states that

"(t)he coastal state exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its resources."

¹¹⁶High seas research is that research in the water column beyond the economic zone.

¹¹⁷First text, Part II, Art 75(f).

¹¹⁸Revised text, Part II, Art. 76(f).

¹¹⁹See the discussion at section III. B. 1., supra.

¹²⁰See generally the discussion at section III. A., supra.

¹²¹See generally section II. of this paper, supra.

And Article 5, paragraph 8 states:

"The consent of the coastal state shall be obtained in any research concerning the continental shelf."

Developed research states have interpreted these provisions narrowly. They have looked only to the manner in which the research is performed. They maintain that coastal state consent is necessary only if the research project involves physical contact with the continental shelf bed. Thus, for example, seismic research over a shelf would not require consent.

Developing coastal states on the other hand have interpreted these provisions broadly. They have looked to the object of the research study. They assert that coastal state consent is necessary for all research which is concerned with shelf resources, even if such research does not result in physical contact with the shelf bed. The performance of continental shelf seismic research would, for them, require coastal state consent.

In an effort to distinguish deep seabed from high seas research, the language of the first text appeared to lean in favor of the approach favored by the developed research states. Article 26, Part III of the first text, stated:

"All states whether coastal or landlocked as well as appropriate international organizations shall have the right in conformity with the provisions of this Convention to conduct marine scientific research in the waters of the high seas beyond the limits of the economic zone."

It was possible to interpret this as a broad grant of freedom of research. The phrase "research in the waters of the high seas" seemed most likely to refer to the location of the research vessel and its equipment, rather than to the object of study. Suppose that a research project would plainly have been applied and concerned with the deep seabed resources, but would not physically have touched the seabed. It could have been argued under the first text that the project was research conducted "in the waters of the high seas" and free from the Authority's consent powers. Seismic exploration of the deep seabed would not have been subject to Authority consent under the first text.

The language of the revised text however appears to lean in favor of the approach favored by the developing coastal states. Article 69, Part III of the revised text, declares:

"States, irrespective of their geographical location, as well as competent international organizations, shall have the right, in conformity with the provisions of Part one of this Convention, to conduct marine scientific research in the water column beyond the limits of the economic zone."

Admittedly, this article is quite ambiguous. Nonetheless the phrase "research in the water column beyond the limits of the economic zone" seems more likely to refer to research which has the water column as its object of study, rather than to research performed in the water column. The more likely interpretations of the revised text would be that research concerned with the resources in the seabed would not be "research in the water column", even if no physical contact with the bed resulted. Seismic exploration of the deep seabed is probably now subject to Authority consent.

3. Settlement of Disputes

Disputes may well arise between research states and the Authority over the scope of the Authority's power to regulate marine scientific research. Such disputes are to be settled by a Law of the Sea Tribunal.¹²² Although the Tribunal is empowered to make binding decisions,¹²³ no maximum time limit is set for such decisions to be made. The spectre is thus raised of a de facto absolute consent regime over research in the Area as defined solely by the Authority. Proposed research could effectively be thwarted by delays and lengthy proceedings before the Tribunal. This possibility is reduced somewhat by the fact that the Tribunal is empowered to make provisional orders while it is hearing a dispute.¹²⁴

¹²²Revised text, Part I, Art. 33.

¹²³Revised text, Part I, Art. 37(1).

¹²⁴Revised text, Part I, Art. 38.

IV. Proposed Amendments to the Revised Text

The Law of the Sea Conference has, in one form or another, been underway for almost 20 years. There are at present over 150 countries represented in the negotiations. Any attempt to analyze the trends of the Conference in recent months must necessarily be an imprecise effort. This is especially true when, as here, that analysis is based primarily on the first and the revised single informal negotiating texts. Again, caution must be exercised to prevent placing too much reliance on the provisions of the texts. The texts however are the only visible product of the negotiations. In the main, they probably do reflect the nature and the direction of the consensus which is developing.

Whether sufficient consensus will be established to result in a signed convention is not at all clear at this stage. It is still possible that the countries participating in the negotiations will be unable to reach sufficient consensus and that the negotiations simply will not produce an effective treaty. It is possible that only a few states will ratify the treaty. And it is possible that only a few of the provisions of the final text will be ratified as a treaty.

Even if a treaty does not result, the negotiations will not have been entirely in vain. It is true that the Authority cannot come into existence unless a treaty is brought into force. And coastal countries will doubtless take unilateral action in the absence of a treaty. The provisions of the final single negotiations text however will likely serve as a rough guide for them to follow. If a treaty does not result, it seems inevitable that most states will unilaterally declare 200 mile exclusive resource zones. The final text will likely serve as a rough guide to define the rights they will enforce. Thus the Law of the Sea Conference serves at the very least as a forum to debate the contours of the customary international law that may be established. The provisions of the final text of the Conference will have an immediate and direct effect on marine scientific research, whether or not a final Law of the Sea Treaty comes about.

A basic outline of consensus has by now emerged concerning marine scientific research. Coastal countries will have jurisdiction over an economic zone, extending 200 miles from shore, and over their continental shelf. At the least, they will have the power to restrict research in these areas which is in some sense considered to be applied. Beyond the economic zone and continental shelf, an International Seabed Authority will have control of the mineral resources. At the least, it too will have the power to restrict research which is in some sense considered to be applied.

It is unlikely that this basic outline of consensus will change in the course of subsequent negotiations. However, the way in which this outline is fleshed out by specific provisions may well be affected by the course of negotiations in the subsequent sessions of the Conference. For this reason, I have here listed a number of slight modifications and technical refinements in the revised text which would help protect the vitality of marine scientific research. All of these proposed amendments would fit within the general outline of consensus which has been reached, and would likely receive serious consideration in subsequent negotiations.

1. Under article 58, Part III, researchers are required to provide coastal states with a detailed description of a proposed research project in the economic zone or on the continental shelf.¹²⁵ The description must be provided at least four months in advance of the project's expected starting date. Normally this requirement will not prove onerous to marine scientists. On occasion, however, last minute changes in research projects may be desirable. The project scientists may learn new facts shortly before, or even during, a project. And equipment problems may occur. The four month notification requirement would appear to prevent research project modifications in these circumstances, even if the coastal state would not oppose such changes.

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See the discussion at section III A.3.b.(1.), *supra*.

To provide for the flexibility sometimes necessary to pursue marine scientific research, a new sentence should be added at the end of article 58.

"Such researching parties shall provide coastal states with a full description of any substantial changes in a research project. If such changes are the result of conditions which in good faith were not known prior to the four months before the expected starting date of the project, this description need not be provided four months in advance of the expected starting date of the project."

2. As mentioned above, Article 58, Part III, requires that a detailed description of a proposed research project in the economic zone or on the continental shelf be provided by the researchers to the coastal state. Article 64(c), Part III, allows a researcher to proceed with his project unless, within two months after his notification, the coastal state made

"a request for supplemental information relevant to determining more precisely the nature and objectives of the research project."

And article 65 provides that:

"1. The coastal state shall have the right to require the cessation of any research activities in progress within its economic zone or on its continental shelf if:

(a) the state or competent international organization conducting marine scientific research fails to comply substantially with the provisions of Article 58 of this part of the Convention and compliance is not secured within a reasonable time;

(b) information communicated to the coastal state under Article 58 of this part and the Convention regarding the nature and objectives of the research project is shown to be inaccurate."¹²⁶

As a practical matter, no researcher working under these provisions would commence a research project in the face of coastal state unhappiness concerning the information provided. A coastal state could in bad faith ask additional questions indefinitely, thus stalling or even preventing an obviously basic research project. In order to prevent a de facto absolute

¹²⁶

See discussion at section III.A. 3.b. (1.), supra.

consent regime over coastal research, article 64(c) should be amended to allow a researcher to proceed with his project unless, within two months of his notification, the coastal state made,

"a request for supplementary information relevant to determining more precisely the nature and objectives of the research project. In such event, the research may proceed unless two months subsequent thereto the coastal state communicated a statement that the information provided regarding the nature or objectives of the research project is inaccurate and does not conform to the manifestly evident facts."

Additionally, if coastal states are allowed to order the cessation of research because they felt that the information provided was inadequate, they may interfere arbitrarily and in bad faith with an obviously basic research project. Certainly coastal states have a legitimate interest in being fully informed as to the value of a proposed research project. But the treaty should protect this interest by means less drastic than giving the coastal state the right to order the cessation of the research project. Consequently, article 65 should be amended by striking out section 65 1.(a). Less drastic means of encouraging full and effective notification under article 58 should be explored.

3. Article 59(g), Part III of the revised text, requires that for all research, the research institutions must,

"unless other wise agreed remove the scientific installations or equipment once the research is completed".¹²⁷

This will be burdensome to research institutions where large numbers of unmanned data collection buoys are used. And the harmful effect to coastal states of many of the smaller pieces of research equipment would not be very great. In addition, it may be nearly impossible to retrieve a piece of equipment which is lost to the bottom. On the other hand, coastal states have a legitimate interest in preventing the littering and preserving the integrity

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See discussion at section III.A.3.b.(2.), supra.

of their coastal waters. Inertia and silence should be allowed to work the other way, and article 59(g), Part III, should be changed to read,

"if requested, remove the scientific installations or equipment once the research is completed".

4. Article 60, Part III, states:

"1. Marine scientific research activities in the economic zone or on the continental shelf shall be conducted with the consent of the coastal state in accordance with the provisions of this Convention.

2. The coastal state shall not withhold its consent to the conduct of a marine scientific research project unless that project:

a). bears substantially upon the exploration and exploitation of the living or non-living resources..."¹²⁸

This provision is intended to create a limited consent regime: the coastal state can prevent applied research but not basic research. The establishment of a limited consent regime is probably a necessary compromise which must be drawn between developed research states and developing coastal states. However, in the absence of adequate dispute settlement mechanisms, the type of limited consent regime here established grants too much discretion to coastal states. If coastal state consent must be obtained in every case and if the coastal state has the sole effective voice in deciding if a project is basic or applied, a de facto absolute consent regime may have been established. For this reason, article 60, Part III, should be struck. In its place, the treaty should re-adopt the type of limited consent regime established in Part III of the first text. Coastal state consent should be obtained for applied research, but consent should not be necessary for basic research.

5. Article 60(2)(a), Part III of the revised text, grants consent powers to the coastal state over all marine scientific research in the economic

¹²⁸

See discussion at section III.A.3.b.(3.) (a.), supra.

zone or on the continental shelf which,

"bears substantially upon the exploration and exploitation of the living or non-living resources".¹²⁹

This language is quite ambiguous, and can reasonably be construed to include within its ambit much research activity that is generally considered to be basic. If article 60, Part III, is to be retained, its language should be clarified to bring it in conformity with that of Part I. Coastal state consent powers should not extend over that research generally considered to be basic. Coastal states should have veto power over commercial exploration but not over scientific exploration. Article 60(2)(a), Part III, should be amended to require coastal state consent only for that marine science research which,

"bears substantially upon the exploration for, or exploitation of, the living or non-living resources".

6. Article 60(2), Part III, of the revised text grants consent powers to the coastal state over all marine scientific research, basic or applied, which

"(b) involves drilling or the use of explosives;

(c) unduly interferes with economic activities performed by the coastal state in accordance with its jurisdiction as provided for in this Convention".¹³⁰

Article 60(2)(b), Part III, might be construed to include several bottom sampling and seismic profiling techniques. And article 60(2)(c), Part III, is quite vague. Article 60(2)(b), Part III, should be amended to give consent powers to coastal states only over marine scientific research which

"(b) involves drilling to a depth of _____ meters or the use of explosives which may significantly damage the living or non-living resources or may significantly affect other uses by the coastal State".

¹²⁹ See discussion at section III.A.3.b. (3.) (a.) (ii.), supra.

¹³⁰ See discussion at section III. A.3.b. (3.) (b.), supra.

The meaning of the phrase "economic activities" in 60(2)(c), Part III, should also be clarified.

7. Article 61, Part III, of the revised text states,

"The results of a research project bearing substantially upon the exploration and exploitation of the living or non-living resources of the economic zone and on the continental shelf of a coastal State shall not be published or made internationally available against the express wish of that State".¹³¹

Under this provision, it would be possible for a coastal state to deny the right of publication after giving its consent to applied research and after the research was completed. However, many scientists would decide not to engage in research--even if it were applied research--if they knew that they could not publish the results. It would be desirable to provide that a coastal state must decide whether publication will be allowed at the time that it consents to the applied research, before the research is performed. Incorporating too the recommended amendment to article 60(2)(a), Part III; article 61, Part III, should be amended to read:

"1. The results of a research project bearing substantially upon the exploration for, or exploitation of, the living or non-living resources of the economic zone and on the continental shelf of a coastal State may be published or made internationally available unless that State expressly withheld its consent to such publication or dissemination at the time that it granted its consent to such research under Article 60 of this Part of the Convention.

"2. The results of a research project permitted under Article 64 of this Part of the Convention may be published or made internationally available".

8. Article 62, Part III, of the revised text states:

"States shall seek to promote through competent international organizations the establishment of general criteria and guidelines to assist States in ascertaining the nature and implications of marine scientific research".¹³²

¹³¹ See discussion at section III, A.3.b.(4.), supra.

¹³² See discussion at section III, A.3.b.(3.) (a.)(ii.), supra.

This article attempts to standardize the distinction between basic and applied research that the coastal states will draw in specific situations. Although it may be politically difficult to do so, it would be desirable to strengthen the guidelines that would be drafted. The developing countries should not oppose general, binding guidelines if they have full participation in their formation. And research states would benefit from the greater certainty--and the reduced reliance on the dispute settlement mechanisms--that would result. Article 62, Part III, should be amended to read:

"States shall seek to promote through competent international organizations the establishment of binding general criteria and binding guidelines concerning the nature and implications of marine scientific research".

9. Article 63, Part III, of the revised text requires:

"Communication concerning the research project shall be made through appropriate official channels unless otherwise agreed".¹³³

In order to avoid the diplomatic and political machinations that official communications would entail in some circumstances, it is desirable to provide greater flexibility and to allow for more informal communication from the research institutions directly to the coastal state. It would be desirable on occasion to be able to avoid entanglement with Foreign Offices of the research state and perhaps even the coastal state. It is not clear whether this can ever completely be done under the present article. Therefore article 63, Part III, should be amended to read:

"Communication concerning the research project may be made through either official or unofficial channels".

10. Article 65(2), Part III of the revised text, states:

"The coastal State may likewise require the fulfillment of any outstanding obligations as referred to in article 59 before the commencement of any subsequent research project by the defaulting party within the economic zone or on the continental shelf of the coastal State".¹³⁴

¹³³ See discussion at section III. A.3.b.(5.), supra.

¹³⁴ See discussion at section III. A.3.b.(3.) (b.), supra.

As the article is now written, this punishment may well be imposed on all the research institutions within a country if only one of them did not comply with the conditions of article 59, Part III. For this reason article 65 (2), Part III, should be amended to read:

"The coastal State may likewise require the fulfillment of any outstanding obligations as referred to in Article 59 before the commencement of any subsequent research project, within the economic zone or on the continental shelf of the coastal State, by the particular state or international organization which performed such prior research and is now in default".

11. Article 76, Part III, establishes the machinery for the settlement of disputes.¹³⁵ It provides first for negotiation, then for conciliation, and finally for the procedures of Part IV to resolve disagreements under the Convention. However, disputes concerning the scope of a coastal state's consent powers under article 60, Part III, may be exempted from the machinery of Part IV, and may be left to the unilateral determination of the coastal state. Article 18, Part IV, of the revised text declares that whenever a dispute arises in relation to the exercise of "sovereign rights, exclusive rights or exclusive jurisdiction of a coastal State", the dispute settlement mechanisms shall not apply, except (in part):

"(a) when it is claimed that a coastal State has violated its obligations...by failing to give due regard to any substantial rights specifically established by the present Convention in favor of other States.

"(b) when it is claimed that any other state when exercising the aforementioned freedoms has violated its obligations under the Convention..."

Disputes concerning the scope of a coastal state's consent powers under article 60, Part III, may fall within these provisions, but it is not clear. Therefore, a new section to article 18(1), Part IV, of the revised text, should be added making the dispute settlement mechanisms applicable:

¹³⁵ See discussion at section III.A.6., supra.

"18(1)(d) when the dispute concerns the interpretation or application of Chapter II, Marine Scientific Research, Part III, of this Convention.

12. The dispute settlement machinery of article 76, Part III, and Part IV, is both cumbersome and time-consuming.¹³⁶ Assuming that questions concerning the scope of coastal state consent powers can be decided by the mechanisms, it may be two or more years before a final and binding decision is reached. Given the nature of the scheduling of research ship cruises, this is simply too long to resolve the uncertainty of whether a research project can or cannot be performed. An absolute consent regime may be established de facto in the economic zone and on the continental shelf. There should be created a special, expedited, binding dispute settlement procedure for disputes which arise concerning the interpretation of Chapter II, Marine Scientific Research, Part III, of the Convention.

13. The main text of Part I grants the International Seabed Authority the power to control marine scientific research which is concerned with "exploration for, and exploitation of the resources" of the Area.¹³⁷ Annex I to the main text, Part I, however grants power to the Authority over all "exploration and exploitation" of the Area.¹³⁸ It is not clear whether Annex I is simply restating the more narrow powers of the main text, Part I, or whether it is substantially expanding it.¹³⁹ This ambiguity should be resolved in favor of the former interpretation, and Annex I of Part I, should be amended by using the phrase "exploration for, and exploitation of, the resources of the Area" in every instance where the phrase "exploration and exploitation" is presently used.

¹³⁶ See discussion at section III. A.6., supra.

¹³⁷ Revised text, Part III, Art. 1(ii).

¹³⁸ Revised text, Part I, Annex I, para 4, para 12.

¹³⁹ See discussion at section III. B.1.b., supra.

14. Article 67, Part III, declares:

"States, irrespective of their geographical location, as well as competent, international organizations, shall have the right, in conformity with the provisions of Part One of this Convention, to conduct marine scientific research in the water column beyond the limits of the economic zone.¹⁴⁰

The application of this article is unclear when it is read in conjunction with the Part I text. Would it subject to Authority consent powers the exploration for deep sea bed resources which did not involve physical contact with the sea bed itself? Probably it would. Yet, the Authority's jurisdiction should be confined only to matters directly relating to the sea bed resources. If the Authority is empowered to regulate purely water column research activities at this time, other high seas freedoms too may soon fall under its power. Abuses which may result from so confining Authority jurisdiction can be dealt with by less sweeping measures as they occur. For these reasons, article 69, Part III, should be amended to read:

"States, irrespective of their geographical location, as well as competent international organizations, shall have the right to conduct marine scientific research in the waters beyond the limits of the economic zone. The performance of marine scientific research which involves physical contact with the sea bed beyond the limits of the continental shelf or economic zone shall be done in conformity with the provisions of Part I of this convention".

15. The Law of the Sea Tribunal is designated to make decisions resolving disputes between the Authority and research states as to whether a research project is basic or applied, and whether it is sea bed or high seas research.¹⁴¹ Although the Tribunal is empowered to make binding provisional orders, there is no maximum time limit for it to reach a decision in the event it does not do so.¹⁴² A new sentence to article 38, Part I should be added:

¹⁴⁰ See discussion at III.B.2., supra.

¹⁴¹ Revised text, Part I, Art. 33.

¹⁴² See discussion at section III, B.3., supra.

"If provisional measures are not ordered under this article, the maximum period for the Tribunal to resolve disputes concerning the interpretation and application of Article 1 (ii) of Part I of the Convention shall not exceed 4 months from the date the dispute is first submitted to the Tribunal for settlement".

16. The amendments proposed above would reduce ambiguities now present in the revised text and would make the text more favorable to marine scientific research. In large part, the amendments attempt to remove those text provisions which might result in a de facto absolute consent regime. If marine scientific research is to survive, it must be removed as much as possible from the wider political and diplomatic controversies of the international arena. Research would only suffer if it were subjected to a de facto absolute consent regime and used by developing states as a lever to gain political advantage against developed research states.

Needless to say, these amendments will favor the developed research states. In return for these amendments, the research states will probably have to make some concessions to the developing coastal states. Research states should actively support stronger and more specific provisions concerned with the transfer of marine technology,¹⁴³ the creation of and participation in regional centers,¹⁴⁴ the active participation of coastal states both in project planning and on board vessels,¹⁴⁵ and the assistance of coastal states in assessing results.¹⁴⁶ Research states should more actively police and punish those that would perform obvious applied research under the guise of basic research. And research states should refrain from engaging in military surveillance under the guise of basic research.

¹⁴³ Revised text, Part III, Chapter II, Section II, and Chapter III.

¹⁴⁴ Revised text, Part III, Art. 87 and Art. 88.

¹⁴⁵ Revised text, Part III, Art. 59.

¹⁴⁶ Revised text, Part III, Art. 59.

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